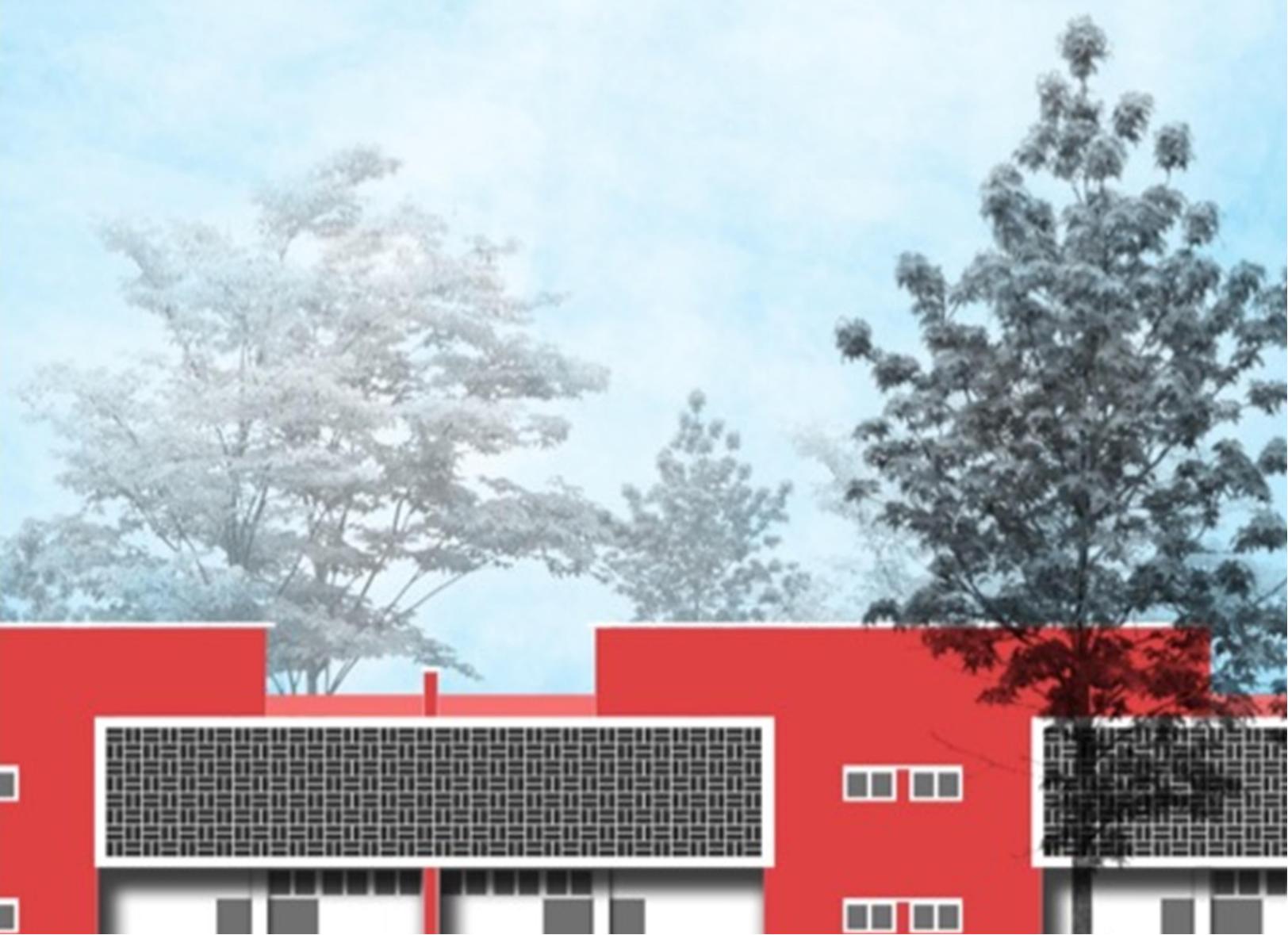


Decoding Affordable Housing

.....the way forward

Ar. Jit Kumar Gupta



Foreword



Housing has always been valued in human living because, besides being one of the three basic necessities of life, housing provides space for families to unite and grow; protects from nature and gives distinct identity and security to human living. Without housing, quality of life cannot be assured. Considering the role, importance and relevance of housing in human living, United Nations have asked nations to accept, affordable housing as the fundamental right of the individuals and has also mandated nations to evolve policies, programs, create institutions and make adequate resources available to ensure supply of affordable housing in their territories.

Despite best efforts made, housing always remains in deficit, with supply chasing demand. Housing remains largely a problem for developing nations. Because housing is both a resource and labour intensive activity. Challenge faced by the government is to increase supply of housing particularly for the lower strata of the society.

Government of India has already launched Prime Minister Awas Yojna, both for urban and rural India, to make available 28.9 million houses to provide a pucca house to every houseless and slum dweller by the year 2022.

Considering the criticality of housing, role of architects assumes importance in planning and designing cost-effective, quality housing, because architects through

innovative design solutions can help nation to achieve defined target of providing cost-effective and quality housing.

I am happy Ar Jit Kumar Gupta has come out with the book; 'Decoding Affordable Housing-Way Forward'', which focuses on different aspects of housing including planning, designing and construction. I hope the book will provide food for thought to all

The students and faculty engaged in teaching-learning architecture and all the researchers looking at ideas and options for making housing for all, a distinct reality.

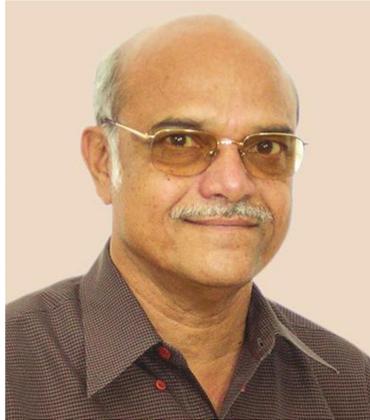
I would like to congratulate Ar. Jit Kumar Gupta for writing such a comprehensive and detailed document on housing. Ar. Gupta has already written number of books, which are available on the website of IIA. I hope more architects will come forward to write on different aspects of human living to make this world more sustainable and livable.

Ar. C R Raju

President,

The Indian Institute of Architects, India

FOREWORD



After food and clothing, housing is the basic need of the human beings, accordingly, UNO has also mandated all the nations to accept, housing as a basic human right. It has also called upon all the citizens of this planet to ask, as a matter of right, their governments to provide them with appropriate quality of shelter and create an enabling environment for empowering them to source shelter for their families. However, despite having physical, social economic and environmental connotations, housing remains elusive to large proportion of humanity, both in urban and rural areas. Globally, 828 million urbanites are living in in slums and in India, every sixth urbanite is housed in slums. Number of slum dwellers are rising with rise of urbanization and migration of people from rural to urban. In the process, cities are getting stretched and stressed under the pressure of growing urbanization and massive migration.

Slums have genesis in the inability of state and local authorities to provide appropriate shelter through formal channels of growth, development and management of cities. As per UNO, only 13 % of the 195 countries are able to effectively meet the challenges of housing. Looking at the entire context, role and importance, of housing it becomes important that issues and roadblocks related to housing are appropriately and effectively considered, evaluated and addressed.

Despite pronouncing four national housing policies and launching number of programs and schemes during the five year plans, challenges posed by housing remain largely unaddressed and unanswered. Mission approach adopted under

JnNURM and PMAY, to address the problems of housing in India, results have not been very encouraging due to rapid growth of population, poverty and rural-urban migration.

Housing remains most dynamic challenge facing humanity, communities, state and nations, ever evolving, ever devolving and never static and defined. Considering the complexity of housing, being both resource, capital and labour intensive, it will be rational and logical to look for new options and strategies to achieve the universal agenda of Housing for All.

I feel happy that book; '*Decoding Affordable Housing-Way Forward, written by Jit Kumar Gupta*', makes an honest attempt to look at the entire context of housing, existing, its relevance for human living, promoting economy, employment; bringing out various issues and roadblocks facing the housing sector in India and define options to create large housing stock for achieving the goal of housing to all. I am also happy that issues related to cost and options to make housing cost-effective over its entire life span, have also been addressed with clarity and detail. Book also looks at the issues related to sourcing land for housing at most affordable price and tackling problem of slum, which have been appropriately detailed. Policies adopted at the national and international levels, regarding housing options which can be leveraged to overcome the problems posed by housing shortage have also been made part of the book to make it more inclusive and self-contained.

I feel the book contains enough material and food for thought for professionals, faculty, students, researchers, administrators and agencies engaged in practice, academics in planning, designing and construction of housing, to look objectively and holistically at the entire gamut of housing.

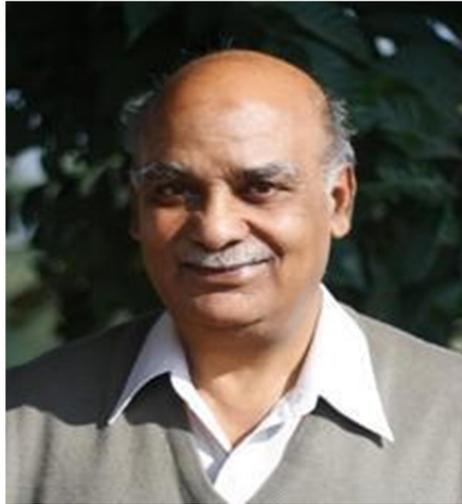
I appreciate the sincere efforts made by Jit Kumar Gupta, for preparing a comprehensive and detailed document on one of the most vital and critical aspect of human living - Housing.

Prof. Dr. D. S. Meshram

President

Institute of Town Planners, India, New Delhi

PREFACE



Housing remains most valuable, considering its multiple implications in defining life, liberty, dignity, quality and productivity of human living. Housing remains central to development of individuals, communities, societies, states, nations and planet. Considered as one of three basic human necessities, shelter has occupied and shall continue to occupy critical space in defining quality of life. Besides taking care of life and liberty, shelter remains major driver of economic development besides generator of large-scale employment. With more than 290 industries involved in producing goods, components and services used in making of housing, shelter is known for its role and importance in promoting industrialization and urbanization. Occupying largest space in cities and having largest count in the built environment, housing is known to define the personality and basic character of the cities. Cities are globally known for quality of housing and quality of life they provide to its residents.

Providing space for the family to share and live together, housing is also viewed and valued for its connectivity with health and happiness when rationally planned, designed and constructed. Mandated and valued, by United Nations in its various declarations, as one of the basic human necessities of life, 'providing housing for all', remains the universal agenda of all nations. However, providing shelter for all, remains the most formidable challenging, gigantic and difficult task facing, the governments of nations, since housing remains both cost-intensive, labour /resource intensive and time-consuming activity. Led by massive and uncontrolled rural-urban migration, rapid

urbanization and families becoming structurally small and compact, housing demand always remain evolving, devolving, never static and never definitive/ finite.

With 3 billion people, about 40 per cent of the world's population, needing access to adequate housing by 2030, every day 96,000 new affordable and accessible housing units, will be required to be added (UN Habitat). Additionally, an estimated 100 million people worldwide are homeless and one in four persons are now living in harmful conditions posing threat to their health, safety and prosperity. Access to housing remains precondition for access to employment, education, health, and social services. For addressing the current housing challenges, all levels of government need to put housing at the centre of urban policies by placing people and human rights at the forefront of urban sustainable development (UN Habitat).

Looking at the physical, social, economic and environment connotations, housing remains both vital and critical for any society and community to remain safe and secure. Remaining most complex and defying all possible solutions, housing as a sector needs to be, critically and objectively, studied, analyzed and evaluated, for finding appropriate and rational solutions. Housing the poor remains the most difficult and challenging task for all developing economies. Despite best of the efforts made, housing for majority of the urban poor and slum dwellers remains a distant dream and a mirage. Despite being major contributor to urban economy and employment, socially and economically disadvantaged section of urban pyramid, have never been considered integral and essential part of planning and development of urban settlements. Cities believe in exclusion and they are invariably at war and on the path of perpetual collusion with its poor citizens. Nations need to relook at the existing policies and programs and create supportive policies and enabling environment for empowering individuals, communities and parastatal agencies to create large stock of affordable housing in the urban areas. Rental housing, as an issue, as an option and as a strategy, for providing shelter to large section of urban population, would require serious consideration, evaluation and focused attention. Strategy should revolve around creating multiple options for housing in urban areas to suite the varied requirements of the heterogeneous social and economic segments of the urban population. For bridging the ever widening gap between demand and supply and having a realistic and rational solution to the problem of affordable housing and achieving the universal objective of Housing for all, India must tread on to, '*Accept the right to appropriate shelter* as the

basic human right for its billion plus population, both existing and future, but it must move away from the concept and ideology of, '*creating ownership based shelter in the domain of affordable housing*'.

In the given context, this book makes an attempt to look holistically at the various facets of housing, including its role and importance in making human living qualitative and issues related to cost, land, slums, construction technologies. In addition, book also searches and lists issues which create roadblock in promoting housing; enumerating options which can be leveraged for creating large stock of affordable housing. In addition, book also lists various policies and the programs evolved and implemented at national and state levels, in the past through the framework of five-year plans. Besides looking at the housing policies, followed locally and globally, book also details out critical role played by various organizations and agencies including HUDCO, National Housing Bank, Building Materials and Technology Promotion Council, Housing Boards, Development Authorities etc. created at national and local levels, which are actively involved in making housing, possible and affordable.

The Book titled, '*Decoding Affordable Housing- Way forward*', which is tenth in series, is dedicated to the community of learned professionals, practitioners and researchers, engaged in the art and science of teaching and practicing professions of architecture, physical planning, urban development, urban management, construction and urban governance. Earlier nine eBooks focused on, planning of state of art healthcare facilities; Housing for All in Urban India- Myths and Realities; Architectural Teaching- Learning- Way Forward; Making Cities Great Place to live; Managing Unique Heritage of India- Approaches & Options; Making and Unmaking of Chandigarh- A City of Two Plans; Planning for Sustainable Cities; Sourcing Land for Urban Development- Issues and Options and Reinventing Amritsar- A City of Great Virtues, Myths and Realities. It is hoped, this book on Housing, will help students, professionals, researchers and readers to understand, appreciate, analyze and evaluate the complexities and intricacies of shelter in the context of human living and working in a holistic manner. However, book does not claim to be the absolute and most comprehensive book on the subject of housing. It may be missing number of vital and relevant contexts, facts, figures, issues, policies, programs and approaches. Considering the ever evolving, devolving nature of subject, there exists numerous opportunities / options to make value addition and

subtractions to the written text, to make it more comprehensive, focused and self-contained.

Housing as a subject of study and analysis is commanding global attention. All national governments are engaged in working out strategies and options to improve the quality of housing being offered to its citizens. Critical role and importance of qualitative housing has come out in focus in the current environment/scenario created by the pandemic Covid 19. Housing is being increasingly valued to overcome the grave challenges posed by the natural disasters. Government of India, has already launched, 'The Prime Minister Awas Yojna', both for urban and rural population, with the objective of achieving housing for all by 2022, when India completes 75 years of its independence. Scheme has undergone major change by adding rental housing as a large component of providing shelter to migrants visiting and working in cities, in order to avoid repeat of situation caused by mass movement from cities, as happened recently. Valuable material has been brought out by the Government of India related to various facets of housing including housing policies, planning, designing and promoting state of art globally recognized cost-effective and time -efficient construction technologies to promote affordability in housing sector. Government of India, has also recently come out with a model rent act in order to promote rental housing on large scale. Few of these documents including studies made at global level by various agencies, have been made part of the book, which are gratefully and sincerely acknowledged and appreciated.

In the making, compiling and composing this book, I would like to express and record my appreciation and gratitude to Ar. Yamini Gupta, Assistant Professor, Chitkara School of Planning and Architecture, for rendering valuable support to make this eBook a distinct reality. Her wonderful dedication, sincerity and commitment in making this book is gratefully acknowledged and appreciated.

Last but not the least, I would like to dedicate this eBook to the sacred memory of my mother, Late Smt Leela Gupta, who as a teacher, made me where I stand today in my life, despite all odds and hardships she faced in bringing me up and making me educated to the extent possible; and to my Late father, Sh Ved Parkash Gupta, whose benevolence I was deprived of, in my early childhood. I would be failing in my duties, if I don't acknowledge the valuable and unqualified support given by my wife Alka

Gupta and my Children Akhil, Nikhil, Sapna and Aparna, who have always supported me in this endeavor of writing this book.

Jit Kumar Gupta

Former Advisor, Town Planning,

Punjab, Urban Planning and Urban Development Authority, Chandigarh

August 21, 2021

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Chapter-1

Housing and its Context

Introduction

Shelter being a basic human necessity, there's nothing critical and fundamental in human living than having a pucca roof over a person's head. As per Menon, in his foreword to "Making Affordable Housing A Reality in Cities" - A world in which only a few can afford housing is not sustainable. Everyone deserves a safe place to live: it can transform the quality of life of individuals and families. Today, however, most cities around the world are facing major challenges in providing safe and adequate housing for their people, especially cities that are growing rapidly and where the affordable housing options are limited'. According to UN figures, only 13% of the world's cities have affordable housing (UN HABITAT, 2016). In 2014, McKinsey estimated that 330 million urban households were living in substandard housing or were financially stretched by housing costs (McKinsey Global Institute, 2014). This number is projected to rise to nearly 440 million households, or 1.6 billion people, by 2025 – and 2.5 billion people by 2050. In Africa, over 50% of the population live in substandard conditions; whereas in India and China, nearly a quarter of the population live in informal settlements (Florida, 2017). Studies have shown that cities in less developed countries are found to be significantly less affordable (28% less affordable) than cities in more developed countries. (Kallergis, et al., 2018). Looking at the global canvas, providing affordable shelter to all its residents remains the greatest challenge for all the nations, communities and governments. Cities are increasingly realizing the need for action. In 2016, Habitat III in Quito adopted the New Urban Agenda, requiring states to promote "national, sub-national and local housing policies that support the progressive realization of the right to adequate housing for all by 2030. It encourages an integrated and inclusive approach to housing that interlinks education, employment, health, basic and social services, through collaboration among governments, civil society organizations, major interest groups and the private sector, nationally both internationally and regionally. Well-being of both individuals and families, is substantially affected when the need for satisfactory housing is not met. Access to adequate housing has long been viewed as a basic human right and is considered to be an integral factor for the enjoyment of other economic, social and cultural rights. According to the United Nations (UN) Committee on Economic, Social and Cultural Rights, satisfactory housing consists of: legal security of tenure; availability of accessible

services, facilities and infrastructure; habitability; accessibility (eg. access to employment, health services, schools, etc.); cultural adequacy; and affordability.

For a shelter-less person, getting a house is known to bring about a profound social change in his/her status, safety, security and welfare, endowing them with an identity and integrating them with social milieu. As provider of social security, distinct identity and assured quality of life, securing ownership of an appropriate home has emerged as the lifetime ambition of every individual and family. Spending more than one-third of its life within four walls of the home, housing has emerged as the major determinant of quality of life, health and hygiene. Besides physical, social and health connotations, housing has major economic implications for both human beings and nations. Being one of the key promoter of industrialization, with more than 290 industries involved in producing materials used in the construction, goods and services, housing has been found to be one of the largest contributors to the economy besides providing large employment to both skilled and unskilled manpower. Considering its multiple connotations and distinct advantages, providing housing has emerged as priority for both society and nation.

As per UN mandated, Fact Sheet No.21, The Human Right to Adequate Housing; the right to adequate housing forms a cornerstone of the Global Shelter Strategy. The right to adequate housing is universally recognized by the community of nations . . . All nations without exception, have some form of obligation in the shelter sector, as exemplified by their creation of housing ministries or housing agencies; by their allocation of funds to the housing sector; and by their policies, programs and projects . . . All citizens of all States, poor as they may be, have a right to expect their governments to be concerned about their shelter needs, and to accept a fundamental obligation to protect and improve houses and neighbourhoods, rather than damage or destroy them. Adequate housing is defined within the Global Strategy in terms of: adequate privacy, adequate space, adequate security, adequate lighting and ventilation, adequate basic infrastructure and adequate location with regard to work and basic facilities-all at a reasonable cost.

Habitat III in the year 2016, adopted the New Urban Agenda which mandated states to promote, 'national, sub-national and local housing policies that support the progressive realization of the 'Right to adequate housing for all,' by 2030. The task was mandated to be achieved by adopting an integrated and inclusive approach to housing that interlinks education, employment, health and basic and social services through collaboration

among governments, civil society, organizations, major interest groups and the private sector, nationally, internationally and regionally. According to the United Nations (UN) Committee on Economic, Social and Cultural Rights, satisfactory housing consists of: legal security of tenure; availability of accessible services, facilities and infrastructure; habitability; accessibility (e.g. access to employment, health services, schools, etc.); cultural adequacy; and affordability.

Considering the international mandate to focus on providing adequate housing for all and following the global pattern, number of steps were taken and housing policies were put in place by the Government of India. First such policy was positioned in the year 1988, which aimed at providing shelter to all, with the objective that every family must have a dwelling unit of appropriate quality and space, duly supported by basic amenities of life. This was followed by National Housing Policy, 1994 which focused on transition of public sector role from provider to facilitator. The policy also enlarged the scope of housing by making it integral part of neighborhood. Both these policies focused on addressing the issue of housing in the urban and rural areas. However, National Urban Housing and Habitat Policy 2007, was the first policy, which made urban housing as the agenda and the theme, emphasizing the need for providing and promoting housing on a large scale in urban areas with priority going to EWS and LIG categories. June 25, 2015 marks a watershed in the history of urban housing with Prime Minister of India launching Pradhan Mantri Awas Yojana-Urban (PMAY-U), to provide housing to all urbanites by the year 2022, when India completes 75 years of independence. The objective of the Yojna is to utilize the national policy framework not only to provide just shelter for the urban poor and meet the Habitat goal of *slum-less cities* but also to provide healthy and enabling urban environment, to help, enable and empower marginalized section of society to come out of the poverty. Based on the efforts made, housing sector is being given high priority and accordingly ranks high on the agenda of state and central Governments.

Role of rural-urban migration has been considered critical in widening the gap between demand and supply of the housing in urban India. Studies made have shown that migration constitutes fair proportion of urban population growth. In India, majority of migrants are from lower economic strata of financial pyramid with poor capacity and ability to rent a house etc which makes securing appropriate shelter for majority of urban residents more difficult. Considering the prevailing high rents in urban areas, it becomes impossible for the lowest-income seniors, people with disabilities, families

with children, and low-wage workers to pay rent and make ends meet, harming low-income people disproportionately.

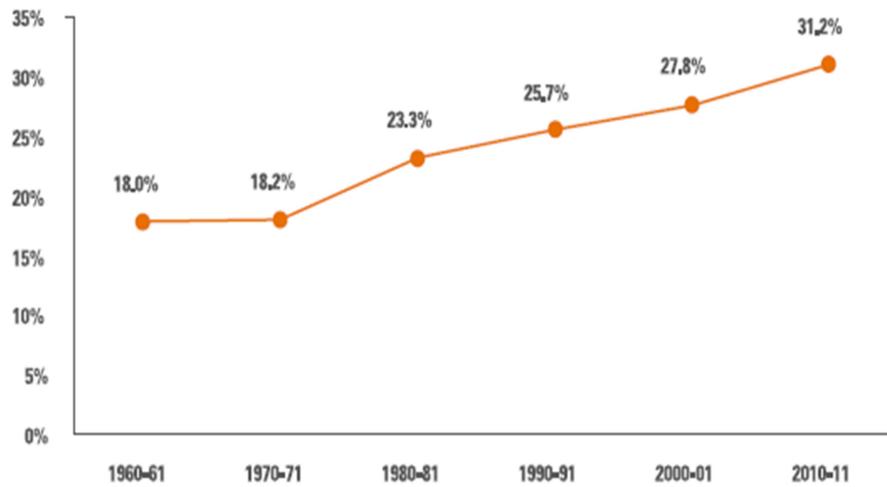
Looking at the ever-rising land and building material prices besides large financial resources required for creating appropriate shelter through legal means, the poor urban residents and rural migrants have no option but to encroach upon available public and derelict land in the city to create temporary and makeshift arrangements due to poor financial capacity. This leads to mushrooming of slums, Jhuggi- Jhompris and shantytowns in urban areas. This pattern of urban growth has high visibility in large urban centers with 54% of population living in slums in Mumbai whereas Kolkata's share is placed at 33%. In India more than 60 million people are residents of slums and shanty towns and the proportion is increasing rapidly.

The makeshift shelter, lacking in the basic necessities of life and proper air, light and ventilation leads to poor health and hygiene, with poor quality of life emerging as the natural corollary of urban living for these migrants. With shelter made on the encroached public/private land, poor are said to be under perpetual fear of being displaced by the parastatal agencies with possible destruction of makeshift shelter. The fear of demolition acts as a major deterrent for poor to improve their shelter, with savings available at their disposal, leading to ever increasing housing shortage with gap between demand and supply getting wider and wider. Accordingly, providing adequate shelter for the urban migrants becomes all the more critical for orderly development of urban areas and providing appropriate quality of life.

Indian Population Dynamics

Housing demand and pattern of population distribution are known to be closely linked. Faster rate of population growth and changing social structure are the factors which impact housing demand in any city/state/nation. Rapid Rural-Urban migration in growing economies invariably leads to ever growing demand of shelter in the urban context. Changing social structure, breaking of joint families, downsizing of families, mobility of population in search of job and education invariably leads to the need for creating large housing stock in urban areas. With fast changing urban population dynamics, majority of cities are not in a position to create appropriate typologies of adequate shelter for its rapidly growing population, leading to emergence of large number of developmental issues.

Urbanization Growth in India



Source- Census of India

Looking at the fast pace and dynamics of urbanization and following the global trends of rapid urbanization with more than half of global population living in cities, Indian cities are also growing at an unprecedented rate, presenting an incredible opportunity for the growth and development of both local and national economies, employment, infrastructure and services. With Census 2011, recording population of Urban India at 377.10 million & urbanization level of 31.16%; India has emerged as the second largest urban system globally after China. According to Census 2011, Urban population of the country is distributed in 7935 urban settlements which include; 4041 Statutory Towns; 3894 Census Town; 475 Urban Agglomerations and 981 Out-Growths. Census 2011 is credited to be a landmark in the demographic history of India for two distinct reasons involving, for the first-time urban India added more population (91 million) as compared to its rural counterpart (90 million) and number of towns and cities recorded a growth of more than 50% during the decade 2001-2011 from 5161 in 2001 to 7935 in 2011. However out of the total increase of 2774 urban centers, largest increase was recorded in the number of census towns, which was placed at 2532(91.3%) as against increase of merely 242 (9.3%) in statutory towns, clearly indicating that Indian urbanization remains distorted for the reason Census Towns have no urban status and they continue to be treated as rural settlements for all intent and purposes by the government for various schemes and programs. The issue needs to be resolved and rationalized to reflect a clear picture of Indian urbanization.

Based on the prevailing annual urban growth rate of 3.18% as against 1.22% for rural India, it is estimated that by the year 2031, urban India will house 590 million people out of a total population of 1400 million and by 2050, urban and rural India will share parity in human numbers, with population of 800 million and total human count placed at 1600 million (McKinsey Global Institute Report- India's Urban Awakening: Building Inclusive Cities, Sustaining Economic Growth).

Census data for the year 2011 reveals existence of large variations and disparity among states and regions with regard to level of urbanization and distribution of urban population which is marked by both dualities and contradictions, showcased by high degree of concentration in large/metropolitan cities with every 6th urbanite living in 4 super- metros of India namely, Mumbai, Kolkata, Delhi and Chennai; 42% urban residents housed in 53 metropolitan cities and more than 70% urbanites preferring class 1 cities. Concentration of population in urban centers is becoming more and more pronounced with number of urban centers going up from 5161 in 2001 to 7935 in 2011 and million plus cities (Metropolitan Centers) recording 50% increase, with numbers going up from 35 in 2001 to 53 in 2011. The new entrants to the list of metropolitan cities include; Srinagar UA , Union Territory of Chandigarh UA, Jodhpurs UA and Kota Rajasthan, Ghaziabad UA Uttar Pradesh, Ranchi UA Jharkhand, Raipur UA and Durg-Bhilainagar UA Chhattisgarh, Gwalior UA Madhya Pradesh, Vasai Virar and Aurangabad UA Maharashtra, Kozhikode UA, Thrissur UA, Malappuram UA, Thiruvananthapuram UA, Kannur UA and Kollam UA Kerala, and Tiruchirappalli UA Tamil Nadu. Union territories of Jammu and Kashmir and Chhattisgarh now also have million plus city/UA, Kerala now has as many as 7 million plus cities/UA, a quantum jump from the situation in 2001 when Kochi UA was the only million plus city/UA existing in the state.(MOHUD website). Looking at the ongoing trends of growth and development, it is estimated, number of metropolitan centers in the country will be 85 in 2031 and 100 in 2051. These cities will be housing large proportion of Indian urban population. Out of 33 ten million plus cities of the world, three cities namely Mumbai, Kolkata and Delhi are located in India. As per estimates made by the United Nations in its report, 'World Urbanization Prospect, The Revision 2014', the number of such cities will go up to 7 in 2031 and 9 in 2051 with Delhi ranking second largest among urban agglomerations in the world, after Tokyo.

Looking at the context of urbanization among states and union territories, it has been observed that centrally administered territories are more urbanized as compared to states and among states majority of large populated states have low level of urbanization when compared with states having less population. It appears compact states having less area remain more urbanized as compared to state shaving large area

and large population. North India, is traditionally known to be less urbanized, as compared to southern part of the country. Hill state of Himachal Pradesh continues to occupy lowest rank among states and union territories in the percentage(10%) of urbanization.

Among all the States and Union territories, the National Capital Territory of Delhi and the Union territory of Chandigarh are rated as the most urbanized entities with 97.5 percent and 97.25 percent urban population respectively, followed by Daman and Diu (75.2 percent) and Puducherry (68.3 percent). Among States, Goa, occupies the highest rank in the country in urbanization and is now recognized as the most urbanized State with 62.2 percent urban population, marking a significant increase in urbanization since 2001 when urban population of Goa was placed at merely 49.8%. Kerala, as a state, has also made significant progress in the domain of urbanization with urban population placed at 47.7 per cent (2011) as against 25.9 percent a decade ago (2001). Among the North-Eastern States, Mizoram has emerged as the most urbanized state with 51.5 per cent population residing in urban settlements, though in terms of absolute contribution to total urban population in the country, Mizoram's contribution is merely 0.1 percent. Similarly, state of Sikkim, which was just 11.0 urbanized a decade ago became almost 25 percent urbanized in 2011. Among major states, Tamil Nadu continues to be the most urbanized state with 48.4 percent of the population living in urban areas followed by Kerala (47.7 per cent), surpassing state of Maharashtra (45.2 percent). The proportion of urban population continues to be the lowest in states of Himachal Pradesh with 10.0 per cent followed by Bihar with 11.3 percent, Assam (14.1 percent) and Orissa (16.7 percent). In terms of absolute number of persons living in urban areas, Maharashtra continues to lead with 50.8 million persons which comprises 13.5 percent of the total urban population of the country. Uttar Pradesh accounts for about 44.4 million, followed by Tamil Nadu at 34.9 million.

Looking at the emerging population scenario, large concentration of population will be witnessed in the class- 1 and million plus cities in future. Accordingly, these cities are going to face a crisis of population and crisis of poverty in future, along with unending growth of slums, propelled largely by concentrating poverty and large number of migrants. Since land prices remains in these cities high, beyond the affordability of majority of poor migrants, therefore these cities believe in marginalizing and exclusion of the poor from the formal process of development and housing. Accordingly, it will be critical that concentration of population in few urban centres need to be avoided by framing rational and realistic policies for promoting diversion of population in small and medium size cities. This would require focusing on small and medium towns in

terms of providing basic and essential infrastructure, enabling environment and incentivizing setting up industries and creating job opportunities in these centres. This strategy of developing cities, other than metro, will help in minimizing concentration of population in large cities. In smaller cities, it is always easier and economical to create adequate stock of housing because of lower prevailing land cost and easy availability of developed land at affordable price.

Regulating rapid migration from rural India will also be critical for rationalizing rapid growth of cities and towns, because migration is known to contribute around 29% of total urban population growth in the country. This could to a large extent can be made possible by effectively using the mechanism of Regional Planning instead of Urban Planning, which is known for its distinct advantage of promoting urban and rural development in tandem and not at the cost of one and another. Adopting Regional Planning will be critical to achieve the balanced growth, rational population and employment distribution and optimum use of resources in the states and the country. In addition, it will be relevant to focus on states which have low level of urbanization and high degree of poverty and lack of education and skilled manpower. These states need resources, skilling and opportunities of gainful employment in order to minimize their dislocation from rural areas to urban settlements. States which have low level of urbanization, need to adopt a dual strategy of development. Such states would require large industries to be set up by incentivizing to create jobs and promote urbanization besides adoption of a strategy of clustering of rural areas under the mechanism of Deen Dyal Upadhya RuUrban Mission. If all village communities/settlements are linked with the urban areas through the process of clustering of villages, this country can easily fulfill the mission of Mahatma Gandhi of developing villages as self-sufficient, self-contained and self-reliant units. Skilling rural India will hold the key to minimize migration to the urban India.

India, also needs to concentrate on evolving rational and realistic policies, launching focused programs and educating masses to reduce the rapid growth of population. Experience has shown that education remains the greatest panacea to lower/reduce the population growth rate in any community and nation. Kerala has clearly demonstrated the efficacy and effectiveness of education to rationalize the growth of population in the state, with 100% literacy. Education and population growth are known to be negatively regulated and accordingly, states must pursue the goal of making all its citizens literate so that they can understand, appreciate and promote the role and importance of having small and compact family to minimize the rapid and uncontrolled growth of towns/cities in contents and size.

Housing Shortage

Considering the pattern of physical growth, Indian cities are no different from the global cities where growth and development is marked by deprivation and opulence. Despite distinct advantages and critical role, urban centres have, they have not been growing in a logical, planned and rational manner. Emerging urban scenario on Indian canvas portrays; large number of slums over-shadowing the city growth; where slums and state-of-the-art buildings rub shoulders; where poverty and prosperity compete; where unplanned development has emerged as the order of the day; where informal sector govern the growth and development of cities and where basic amenities and services are eluding the majority of urban residents. Urban centres continue to face problems of acute housing shortage and rapid uncontrolled growth, resulting into haphazard expansion with sub-standard infrastructure, adversely impacting the quality of life of majority of urban residents. The existing inadequacies have resulted into uncontrolled rapid growth and proliferation of informal sector. Unprecedented rates of urbanization and population growth have made housing affordability a concern around the world. Poverty, population, pollution and inadequate housing have emerged as the major issues, challenge and greatest threat to the urban living.

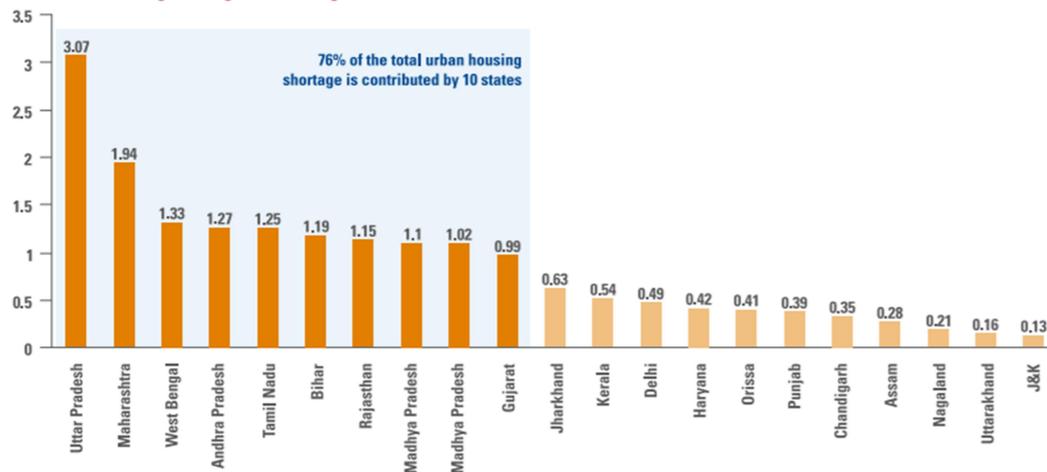
Technical Group constituted by Ministry of Housing and Poverty Alleviation (MHPUA), estimated urban housing shortage at 18.78 million dwelling units in 2012, out of which 95.6 per cent belonged to LIG and EWS categories. The shortage amongst the middle-income groups (MIG) and above was estimated to be 4.38 percent. Besides those living in obsolescent houses, 80 percent of these households were living in congested houses and had requirement of new houses. The report also highlights that nearly one million households were living in non-serviceable katcha houses, while over half a million households were found to be in homeless conditions. Based on current trend of increase in backlog of housing, 30 million houses were projected to be required by the year 2022 ,to achieve the national goal of providing affordable shelter for all.

As already stated, India's urban population registered a decadal growth of 32 percent rising from 285 million to 377 million between 2001 and 2011. It is opined that this trend is likely to persist on the back of robust economic development across the country. KMPG in its projection has estimated that by 2050, 900 million people will be added to Indian cities. The rapid pace of urbanization, owing to the rural-urban migration is putting a strain on the infrastructure in the cities. As urban development takes place, a growing concern for India's urban planners is the massive urban housing shortage

plaguing the country. The shortage, prominent within the EWS (economically weaker sections) and LIG (lower income groups), is estimated at 18.78 million households in 2012. In the given scenario, it becomes critical to fill the existing gaps in the country's strained urban infrastructure and in particular, housing. Primarily, it would be important to address the need in the EWS (economically weaker sections) and LIG (lower income groups), which currently account for 95 percent of urban housing shortage in the country. Of the total urban housing shortage, nearly 62 percent houses are self-owned, while 38 percent families live in rented homes. Out of the total estimated shortage of 18.78 mn units; 3%(0.53mn) households are known to be homeless whereas 5% (0.99 mn) live in unserviceable(katcha) houses; number of household living in obsolescence houses are placed at 12% (2.27mn) whereas households living in congested houses requiring new houses were counted to be 80% (!4.99mn) of the total shortage. Thus, major shortage belongs to the category of congested houses.

Shortage of housing is also not spread uniformly all over the physical space in the country. Large variation in shortage has been witnessed in the country among different states depending upon population and level of urbanization. Out of 28 states in the country, 10 States are known to contribute three-fourths of the urban housing shortage. The State-wise data shows a mixed picture where both developed as well as less developed states have families living in poor housing conditions. Uttar Pradesh has largest count of housing shortage, numbering over three million homes followed by Maharashtra (1.97 mn), West Bengal (1.33 mn), Andhra Pradesh (1.27 mn) and Tamil Nadu (1.25 mn). The top 10 states, in terms of urban housing shortage, contribute 14.3 million or 76 percent of housing shortage.

State-wise housing shortage in 2012 (Fig in million)



State-wise housing shortage in 2012 (Fig in million) Source: Report of the Technical Urban Group (TG-12) on Urban Housing Shortage 2012-17, Ministry of Housing and Urban Poverty Alleviation, September 2012

Despite the fact that large volume of housing stock has been created since the involvement of private sector but shortage of housing has increased over the years because majority of housing created falls under the category of higher and upper- mid housing segments, for the reason these categories fetch high premium over the low-income housing. Housing for the poor and EWS categories are essentially being looked after by the parastatal agencies and to some extent by the private developers, who are required to provide housing stock for economically weaker sections to meet the legal obligation of license granted to them for setting up colonies/ townships. But in majority of cases such obligation is discharged in the shape of plots, which are beyond the affordability and capacity of the poor to pay for the high cost of land and make construction of the minimal shelter. Accordingly, these minimal opportunities are siphoned off by the speculators and high-income categories. With limited capacity and resources available with parastatal agencies, housing for the poor has remained in perpetual neglect and shortage. Ever rising cost of land, cost of construction and large number of externalities have put housing beyond the affordability and reach of the majority of urban residents. Operational mechanism of housing market has pushed large number of urban migrants on the fringe, excluding them from formal process of owning/ renting an appropriate shelter. However, considering enormous shortage of housing in these categories, existing shortage can be leveraged as an opportunity to create large housing stock for LIG/EWS categories, based on their affordability.

Affordable Housing for Poor

Globally cities are in crisis when considered in the context of availability of affordable housing. In 2014, McKinsey estimated that 330 million urban households were living in substandard housing or were financially stretched by housing costs (McKinsey Global Institute, 2014). This is projected to rise to nearly 440 million households, or 1.6 billion people, by 2025 – and 2.5 billion people by 2050. In countries which are plagued by riots, internal disorders or have a problem of unrest in neighboring countries, large scale migrations/influx of refugees have been witnessed in the urban settlements. In these urban areas, large size camps mushroom for accommodating the migrants. Many refugees share accommodation or live in non-functional public buildings, collective centres, slums and informal types of settlements. Conditions often remain substandard and providing shelter poses major challenge. It has been estimated that more than 6.6 million refugees and people in refuge-like situations live in camps, among them 4.6

million in planned/managed camps and about 2 million in self-settled camps. While camps can be practical, particularly during emergencies, encampment results in a range of problems, including aid dependency and isolation. (UNCHR) In Africa, over 50% of the population live in substandard conditions; whereas in India and China, nearly a quarter of the population live in informal settlements (Florida, 2017). As per UNO Habitat Report 2016, only 13% of world's cities offer affordable housing. World Economic Forum, has estimated that by 2030, three billion people on this planet will need improved housing.

In its report, '10 Ways cities are tackling the global affordable housing crises', World Economic Forum, has brought out;

'Unprecedented rate of urbanization across the world has led to increased demand for good, affordable housing. A recent survey of 200 cities polled around the globe has revealed that 90% of them were considered unaffordable when applying the widely-used standard of average house prices being more than three-times median income. Affordability is not just about the ability to buy or rent a home, but also about being able to afford to live in it. This definition of affordability goes beyond meeting expenses related to operations and maintenance, taking into consideration transport, infrastructure and services. If a home is economical enough to buy and maintain but located too far from work or school, it cannot be said to be affordable. Factors contributing to lack of affordability vary from city-to-city, but broadly include housing costs rising faster than incomes; supply of houses not keeping up with demand; scarcity of land and demographic changes such as population growth, ageing and shifts in household composition.

Affordable Housing, as a concept, approach, strategy and opportunity, has been gaining currency and attracting attention of providers and developers involved in housing because of the focus of the government to create larger stock of housing for the economically weaker sections based on their affordability. However, affordability cannot be precisely defined because of large number of variables and determinants involved into the making of affordability.

Unpacking affordability involves study of large number of factors impacting the issue of supply and demand in the domain of housing. Affordability is not limited to merely the cost involved in being able to afford to buy or rent a house, but also ability to keep the house/ afford to live in it. Financial affordability of the house essentially is said to revolve around four key factors involving not only house purchase price, ability to finance down payment but also involves operational cost of the house and ability to financially service the loan. Going beyond meeting expenses related to operations and maintenance, affordability also involves access to transport, infrastructure and services.

Houses ,even when costing less but located far from livelihood/ opportunities/amenities, cannot be called affordable because of the cost and time involved in day-to-day travel. Lack of affordability remains city specific and varies not only from city to city but also location to location within city. Affordability can be largely linked to housing costs, marginalizing household incomes, demand outpacing supply of houses, land scarcity and demographic changes involving migration, income, population growth, ageing and changes in household composition. In order to make urban settlements people centric and supportive of quality of life, cities must act to address affordability if they want to avoid a mass exodus of key workers and other talented individuals. Communities develop only when the needs of all residents are met. Ensuring affordable homes is a critical step in that direction, and provides a holistic perspective on the ongoing discussion about how best to make affordable housing for all a distinct reality (Insight Report on Affordable Housing). Considering the complexity, affordable housing has been defined differently by different agencies/institutions as detailed below;

- 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” (UNHABITAT,2011)
- ‘RICS Report on Making Urban Housing Work in India’, defines affordability as provision of ‘adequate shelter’ on sustainable basis, ensuring security of tenure within the means of the common urban households. Further, Affordable Housing is that which is provided to those whose needs are not met by the open market.
- KPMG Report on Affordable Housing- A key Growth Driver in the Real Estate Sector’ has defined affordable housing in terms of three main parameters, namely income level, size of dwelling unit and affordability.
- US Department of Housing and Urban Development defines housing affordability in terms of expenditure of household on housing as proportion of annual income that should not exceed 30% of the total income.
- Task Force on Affordable Housing set up by Ministry of Housing and Urban Poverty Alleviation, 2008, has defined affordable housing in terms of, size of dwelling and household income.
- JNNURM Mission has defined affordable housing in terms of size of dwelling units involving super built-up area/carpet area and EMI/Rent not exceeding 30-40% of gross monthly income of the buyer
- Government of India has put a ceiling of 30 sq.m of carpet area along with other conditions as the limit for EWS category housing under PMAY

- Jones Lang LaSalle has defined affordable housing in terms of volume of habitation instead of area, provision of basic amenities, cost of the house (including purchase cost and maintenance cost) and location of the shelter. This definition enlarges the scope and dimensions of the concept of affordable housing by:
- Adopting volume based approach instead of area, for the size of the dwelling unit, providing more flexibility in designing of the house.
- Adopting provision of the minimum physical and social infrastructure on prescribed norms, as the basis to ensure appropriate quality of life.
- Making cost of shelter broad based by including operational and maintenance cost for a reasonable period to the actual cost of the house.
- Making project attractive and affordable by limiting the cost and travel time between place of work and place of living

Based on the studies made and analysis carried out, highest gap between demand and supply of housing is found to be in the annual income range of Rs 2-3 lakhs because of the limitations imposed by minimum disposable income surplus placed at 30-35%. This considerably reduces the capacity of this income group to own shelter, which is highly cost-intensive. Based on the defined norms and the concept given above, the cost of the dwelling unit in the affordable category calls for rationalization, in order to bring shelter within the affordability limits. The cost of house can be made more rational and affordable; if developer's margin is lowered down; cost of construction is reduced using state of art/ cost effective technologies; using cost-effective local building materials; materials made from waste and production of houses on a mass basis leading to economies of scale. Affordable housing is said to be essentially a volume game and not a margin game. However, location, cost of land, FAR, density, number of dwelling units permitted per unit area and government charges will continue to be major determinant of cost of dwelling unit. Considering the present status, housing can be made affordable by creating enabling environment; using mechanism of cross-subsidization; adopting project based approach; actively involving beneficiaries; using state of art and innovative technologies; inventing cost-effective materials and putting in place supportive policies of the Government.

Common challenges in housing affordability:

According to *Insight Report on,' Making Affordable Housing A Realty in Cities*, major challenges facing in housing affordability include;

- Housing costs rising disproportionately to household incomes, particularly in the lower income households of the society in cities with inadequate supply of social/public housing.
- Ever widening gap between demand and supply of affordable housing due to limited incentives available to private sector for developing such housing.
- Scarcity of land for affordable housing due to lack of alignment among cities, states and federal agencies on how land is to be valued and taxed.
- Energy poverty, due to high operational cost and low household income, high energy prices and poor building energy efficiency makes housing unaffordable.
- Demographic changes arising out of, Reduced Household size leading to large increase in the number of households and large housing demand; Rapid Population growth arising out of rapid in-migration, education, better healthcare facilities and better job opportunities; Ageing population, increasing numbers of low-income senior citizens adding to demand for affordable housing, while senior citizens who still reside in large family homes contribute to the suboptimal allocation of housing units.

Housing costs remains a complex issue involving large components including cost of land (costs of purchase, titling, registration duties, obtaining planning approval, and any necessary cost of environmental remediation or relocation); cost of providing infrastructure/services involving water systems, electricity grids, heating and cooling networks, roads, security systems, sanitation systems; and cost of construction of buildings etc.(including labor and materials cost), transportation cost, government levies, management cost and taxes.



Image--Major factors creating road-blocks in promoting affordable Housing

Known to have physical, social, economic, environmental, health, safety, security, identity and quality of life connotations for human living, providing adequate shelter for all in urban areas, ranks high among the priorities defined by various national and state governments, locally and globally. "Housing for All", as the universal goal to be achieved by all nations, has also been mandated by the Habitat-II. However, considering the dynamics, ever evolving and devolving nature, coupled with existence of large number of externalities, housing has become mirage and remains elusive for large number of urban residents. As major consumer of resources, requiring land, men, materials, machinery and financial investment, providing adequate housing has emerged as the most problematic and challenging task among three defined basic human necessities of food, clothing and shelter, eluding majority of urban residents, pushing large number of urban migrants and excluding them from formal process of owning/ renting an appropriate shelter. Despite addition to large housing stock in the urban areas, the gap between demand and supply for affordable shelter has been widening in the lower rank and file of the society. With more than 99% shortage prevailing in the economical weaker sections, urban housing shortage for the year 2022 has been placed at 30 million dwelling units. Enormity and complexity of housing problem in urban areas can be largely attributed to; non-availability of accurate database pertaining to prevailing housing shortage; land speculation; administrative glitches; inadequate financial resources; outdated construction technologies; ever rising cost of materials; poor project management; ever increasing taxes and charges levied; marginalized role of private sector etc. Resolving issues related to housing in urban India and creating adequate stock of affordable housing, would essentially involve making land market more efficient; actively involving private/co-operative sectors; removing existing roadblocks and rationalizing all the processes which are known to hamper the creation of affordable housing; to make housing for all a distinct reality.

Chapter-2

Role and importance of Housing

According to The World Urban Forum III; 'The world is facing a global housing crisis. In cities around the world, almost 1 billion people live in substandard housing without clean water or adequate sanitation. More than 14 million refugees and internally displaced people live in tents or other temporary shelters. Millions of homeless men, women, and children live in the streets of Washington, DC; Sao Paulo, Brazil; Johannesburg, South Africa; Mumbai, India; and other cities. And the problem is getting worse: Every week more than a million people are born in or move to cities in the developing world, driving up the need for new and better housing. The international response to the housing crisis has been muted. While many international donors have helped develop effective models for housing policies and programs, the scale of their application has not been large enough to significantly affect housing outcomes. Many international institutions have turned away from the housing sector over the past 15 years. Some successful programs were not widely replicated, while others withered as donor funding shifted toward other priorities. The result has been assistance strategies that missed important opportunities for advancing economic, social, and civic development. And many national and local housing institutions have not maintained the commitment or sustained level of intervention needed to make a substantial difference in housing outcomes. The result is a growing crisis. Housing is a key input in economic, social, and civic development. Many housing-related activities are known to contribute directly to achieving broader socio-economic development goals. Housing investment remains valuable and a major economic driver, both in developed countries and developing countries. In the United States, it has been estimated that housing directly contributes 14% of gross domestic product (GDP) and triggers another 6% in downstream expenditures. Lending for housing helps develop primary and secondary financial markets. Worldwide and especially in low-income countries, housing construction creates job opportunities for migrants to cities. Legalization of informal settlements and registration of housing and other real property helps "unlock" fixed capital for productive investment and builds local property tax bases.

It is commonly accepted that the well-being of both individuals and families is grossly impacted when the need for satisfactory housing is not met. Unsatisfactory fulfilment of housing needs, may cause poor health outcomes resulting in an increased financial burden on the healthcare system. It also typically results in significantly reduced

educational opportunities while other less essential activities including cultural, recreational and leisure activities, are dramatically suppressed or cut back altogether. Furthermore, inappropriately high housing costs will impede the movement of a skilled workforce to the community and cause lower paid workers and post-secondary students to consider moving to other, less expensive communities. Consequently, both business concerns and educational institutions in the community will be affected. Given its relevance to an individual's well-being, it is not surprising that for most people the world over, homeownership remains most importance and valuable. Traditionally, homeownership holds a special place in the people psyche as it is perceived as integral to both the stability of family life and the creation of wealth.

Housing has become the defining economic issue of our times. In addition to being a fundamental need of an individual, housing is an economic engine for the low-income families as it plays a vital role in the growth and development of the family, the community and the country. For many low-income families a house is more than just a shelter. It has given them the opportunity to work out of the comfort of their space and change their lives for the better. Stable, affordable housing is critical to breaking the cycle of poverty. A decent home opens the door to improved health, better performance in school, greater economic opportunities and increased community cohesion. Imagine what India would look in 2022 when everyone has a decent place to live. Failure to reach that goal would be tragic. Because the reality is that if children don't live in decent homes with proper sanitation, the odds of their staying healthy plummet. If they are not healthy, they don't get educated; and if they don't get an education, they don't get decent jobs, meaning they won't be able to care for their families or break out of the stranglehold of poverty. Solving the housing crisis is the only way to end poverty worldwide. In order to achieve that, housing has to be at the center of sustainable development (Rajan Samuel)

Looking at the entire context of growth, development and quality of life a nation bestows on its population, housing is considered as the most valued ingredient. Housing is known globally for its complexity and multidimensional implications for the nations, society and communities. Adequate housing remains closely connected with economic development, generating employment, promoting industries and creating opportunities for lower sections of society to have better career options in life and overcoming poverty. 'Housing for all,' remains the agenda and priority for all governments known to be people centric and committed to promote general welfare. Inadequate housing is considered to be major promoter of inequality, poverty, poor quality of life depriving in the process, majority of people from large number of welfare

schemes launched by government for promoting the welfare of the have nots. Accordingly, housing is considered to have multiple connotations for the nations and society, as briefed below;

- Good housing and process of overall socio-economic development remain positively linked. In addition to providing, security, safety and raising the quality of life, housing generates and creates supportive conditions which are considered human centric
- Access to adequate and satisfactory housing has long been viewed as a basic human right and is considered to be an integral factor for the enjoyment of other economic, social and cultural rights. Satisfactory housing consists of; legal security of tenure; availability of accessible services, facilities and infrastructure; habitability and access to employment, health services, schools etc. (United Nations Committee on Economic, Social and Cultural Rights).
- Globally, there exists acute shortage of affordable home for the low-income families, adversely impacting their productivity, quality of life, economic growth and active participation in the welfare programs launched by various local, national and international agencies. Ensuring everyone a safe, accessible and affordable housing can be major propeller for empowering poor and securing their active participation in national building for both physical, social and economic growth besides taking care of major urban ills related to infrastructure, services, healthcare and unplanned development. Failure to settle the problems of land distribution and housing in the world's cities threatens not only . . . the developing world — it also threatens world stability.
- People with appropriate housing are known to perform better and have higher order of protection against health hazards and pandemics as compared to those without housing.
- Housing is known to reduce pressure on healthcare services by senior citizens, when having access to affordable housing with supportive services; as against those who don't have access to housing with the same amenities.
- Housing quality remains vital for the rational growth and orderly development of a society. Housing quality is closely linked to quality of prevailing physical conditions, quality of the social and physical environment in which the home is located besides quality of air, home safety, available space per occupant and housing design, which are considered vital for human growth and development
- Housing remains critically linked to productivity, operational efficiency, economic development and is known to significantly impact national and local economies in several ways besides making major contribution to annual GDP.

While good and adequate housing can enhance economic performance and place competitiveness, poor housing can lead to segregation, exclusion, poor environment and spatial concentrations of poverty.

- Globally, in majority of countries, housing is considered and treated as an economic commodity, with the property acting as an asset accumulating passive wealth for the owner leading invariably to emergence of prolific and perpetual shortage of housing at every level and pushing in the process, many individuals, to seek shelter in the informal markets.
- Affordable housing is known for its capacity to provide safety, security, identity, space and opportunity to children in low-income households to, maintain their health and well-being; achieve financial goals and reducing costs to society by improving and succeeding academically. Housing remains central for healthy growth and development of children/family. Poor housing is known to leave its mark on mental health of the occupants for years to come.
- Housing besides providing shelter and raising quality of life is known to be closely associated with process of overall socio-economic development, generating employment, promoting industries and creating conditions which remain supportive to the achievement of social objectives involving health, sanitation and education.
- Housing remains key to provide large scale employment opportunities to the rural and urban workforce, both skilled and unskilled.
- Housing essentially provides quality and valuable space for family to be together, for interacting, playing, studying, for entertainment, learning about family culture and traditions besides learning behavioral pattern and for sleeping.
- Considering the fact that more than 290 types of industries are involved in producing components used in the construction of buildings, housing remains major promoter of industrialization in any country,
- Investment in housing is known to have multiplier effect of; generating wealth, promoting economy and employment in any city/region.
- Housing is universally valued by all nations for its capacity, role and importance in promoting the public good and to create a healthy, vibrant and productive society.
- Housing is known to have great role in shaping any society, its quality, culture and economy.
- The right to adequate housing forms a cornerstone of the Global Shelter Strategy.

- The indivisibility and interdependence of all human rights find clear expression through the right to housing. Having access to adequate, safe and secure housing substantially strengthens the likelihood of people being able to enjoy certain additional rights. Housing is a foundation from which other legal entitlements can be achieved. (UNH)
- Shelter is a vital survival mechanism in times of crisis or displacement. It is also a key to restoring personal security, self-sufficiency and dignity.
- Adequate housing is universally viewed as one of the most basic human need. Adequate housing is known to be the index, used for assessing the growth, development and welfare of a society.
- Adequacy of housing and living conditions remain closely linked to the degree to which the right to environmental hygiene and the right to the highest attainable level of mental and physical health can be enjoyed.
- Housing is the single most important environmental factor associated with disease conditions and higher mortality and morbidity rates. (WHO)
- Housing is the space where more than one-third of human life span is spent.
- During the current pandemics, Covid-19, the role and function of housing as a space for mere living, has undergone total change with the addition of functions like, working, care of body and spirit, education, healthcare etc. being done from the same space.
- Housing remains the major planning, development and management component in a city, occupying largest proportion of the land and having largest count among buildings in the city besides defining its personality/culture.
- Demand for housing is never static. It remains dynamic, ever evolving and devolving, impacted by large number of social, economic, cultural, physical, economic factors, peculiar to a place and society. .
- Housing accounts for the largest proportion of the investment in any city.
- Majority of intra-city travel and trips originate and terminate in housing. Housing remains the focus of all human activities

Looking at the entire context, housing remains valuable and irreplaceable for individuals, family, community and state, not only in the context of social, physical, economic, environmental, civic and psychological aspects but also for the overall development of the nations, locally and globally. Housing remains a great leveler and promoter of equity in the society and among the human beings. It has multiplier effect and is known to be promoter of prosperity. It contributes enormously to the development of human beings both intellectually, socially and physically. Housing has

vital role in making nations and communities great by improving the human quality index. Housing is also known to be promoter of good health. Good housing is known to save nations lot of resources which they are otherwise required to spend on healthcare. Major natural disasters have been seen to have minimal impact on communities which have adequate and proper housing.

Looking at these multiple connotations, *World Urban Form III* in its report *Housing for All: Essential to Economic, Social, and Civic Development*, has defined the relevance of the housing for the communities and the nations in following terms;

Housing, as a Driver of Economic Development; Developed Economies; Developing Economies involving;

- Macroeconomic impacts of housing account for a significant portion of annual GDP.
- Generates expenditures outside the housing sector
- Housing and real estate asset classification leads to greater market efficiency, stability, and liquidity
- Housing construction in low-income neighborhoods creates stimulus to promotion of small businesses
- People are more likely to use their homes as places of employment
- Cultural and personal value of housing
- Microfinance for housing that may be bundled with loans for business development
- Housing as a Key to Poverty Alleviation, Health, Humanitarian Relief, and Reconstruction;
- Promotes Poverty Alleviation
- Works like a strong motivator for savings and investment
- Generates extra income from rental housing
- Brings people to jobs
- Creates asset base for rural poor with few other resources
- Absorbs rural immigrants

Health

- Healthy children need healthy homes
- Clean housing is critical to prevention and care of AIDS, tuberculosis, and malaria
- Overcrowded homes are crucibles for disease

- Helps humanitarian Relief and Reconstruction
- Helps recovery from natural and man-made disasters
- Promotes Reconstruction and economic recovery

Housing as a Foundation for Democracy, Governance, and Security

- Housing helps promote Community and Public Participation
- Housing needs catalyzes civic activities
- Acts like a stimulus for community-based organizations
- Helps Empowering women
- Helps Decentralization and the Democratic Process
- Experience for elected leadership
- Local government capacity building

Provider of Security

- Economic security
- Social security
- Community stability
- Alternative dispute resolution

Impact and Roles of Housing in Developed Economies;

The housing sector affects national and local economies in several important ways.

- Housing markets have significant macroeconomic impacts; Home building accounts for a notable portion of annual GDP. In addition, housing expenditures in mature economies respond quickly to interest rate changes. As a result, the housing market is often referred to as the handmaiden of monetary policy.
- Housing generates expenditures outside the housing sector itself, thus contributing to the strength of an overall economy. These expenditures arise from two causes. Housing represents a significant store of individual wealth, and increases in wealth are highly correlated to consumption. Housing formation, even without wealth effects, stimulates significant expenditures on both housing-related and non-housing-related services and goods.
- In Western countries, housing and real estate are seen as a distinct asset class. This fact leads to greater market efficiency, stability, and liquidity.
- Housing is a basis for taxation — often local government taxation — and is thus a significant contributor to the fiscal health of local governments and their capacity to deliver basic urban services.

Significant Contribution to GDP

Due to its size, the housing sector has a major impact on any country's macroeconomy. For example, for the year 2000 in the United States, the combination of fixed investment in residential real estate and housing service expenditures amounted to 14% of GDP. Added to direct expenditures on housing are expenditures to support the production and distribution of housing-related services: water supplies, waste water treatment, solid waste disposal, street paving, parks, and other basic elements of urban infrastructure. These account for about 6% of GDP.

Tool for Monetary Policy

Housing expenditures of this magnitude have a macroeconomic effect, as consumers of housing react to changes in prices and interest rates. In the United States, the United Kingdom and several other countries, housing prices in the past several years have appreciated while the respective central banks forced interest rates to historically low levels, thus permitting new home owners to enter the market and existing homeowners to withdraw their equity in the form of loans secured by second mortgages or cash-out re-financings of first mortgages. This increase in funds available for consumption has fueled demand for both domestic and imported goods, thus contributing to increases in GDP. In 2001, consumer spending is known to have increased significantly due to increased home sales and re-financings.

Builder of Wealth

Housing leads to consumer expenditures through a phenomenon called the "wealth effect." In this respect, housing is not alone; other forms of wealth such as stocks and bonds, also generate wealth effects. A recent study in the United States⁶ found the wealth effect on consumer spending for both equities and housing were roughly the same, yet the wealth effect for housing was realized much more quickly. The data from this study indicated that 80% of the long-run wealth effect of housing was realized in one year, as compared with five years for stocks. A study by Case, Quigley, and Schiller, analyzing data from the United States and 14 other countries, also suggests an increase in consumer spending due to increases in housing values.

More Equitable Distribution of Wealth

Housing wealth contributes to increased consumer spending because it is more equitably spread throughout society than other forms of wealth. In the United States, data from 2001 indicate 68% of households own their own homes. Furthermore, home ownership is not concentrated among the wealthy. The wealthiest 1% of homeowners control only 13% of the nation's home equity. This contrasts markedly with the corresponding figures for stock ownership: The country's wealthiest 1% own 33.5% of the country's stock.

Effect on Local Economy

Data from the United States show the extent to which housing is a driver of the national economy. The National Association of Realtors reports a multiplier of 1.34 to 1.62 for every dollar spent on direct housing activity. Furthermore, with respect to jobs, for every job in housing construction, 2.448 other jobs are generated in other industries. By some measures, up to 40% of a household's income is spent on housing-related purchases. Much of that spending is local, resulting in stronger local economies as well. A recent newspaper report on the broader impact of the housing market on the economy of the United States showed a positive association between growth in the housing market and employment increases in the appraisal, building services, architectural, financial, contracting, and material supply sectors of the economy.

Non-Housing-Related Expenditures

Housing formation also generates non-housing-related expenditures that are drivers for the economy. The major class of expenditures is related to family formation. Life-cycle expenditures related to the arrival of children in a family are triggered by housing formation activities and drive expenditure for clothing, furniture, and education.

Market Efficiency, Stability, and Liquidity

Housing in western financial systems, and some developing economies, provides an asset base that contributes to greater market efficiency, stability, and liquidity. While housing obviously provides shelter and in some cases a place where work is performed, housing is treated in the financial markets as an asset, and the financial markets have developed the sophisticated infrastructure necessary to deal with it as such. Open

information, strong financial systems, and solid institutions all contribute to market stability, which transforms activities such as speculation into positive impacts on the macro economy and otherwise smooths, to some extent, real estate cycles. Furthermore, real estate assets, in a mature economy, are not unitary, but are in fact divided into different markets. These various markets follow different cycles; the impacts of these cycles on the macro economy will be market specific. The Western real estate market is more stable and liquid because the risk of investing in the sector can be hedged. This is of critical importance, given the role housing plays in capital formation, as well as the consumption effects (both in the housing sector and outside the sector), as noted above.

Support for Economic Flexibility and Responsiveness

Well-operating housing markets support flexible labor markets. U.S. workers are able to move from communities with declining economic basis to those with employment prospects because of a ready supply of housing to rent or buy. This has been a major factor in maintaining the low unemployment rate in the United States relative to many European countries with less well operating housing markets.

Local Government Finance

Housing, through property taxes, is a significant contributor to local government finance and thereby to the provision of essential services, such as water, sanitation, transportation and education. The traditional property tax base is the market value of the property, and as housing prices rise, property assessments rise. The tax base is further strengthened by new construction. The typical contribution of residential properties to the municipal tax base is 43%. To give an example of the potential financial contribution of housing to municipal revenues, assuming a 1% tax rate and assessment at 100% of market value, during 2001, the total was \$185 billion from new residential construction alone. Of course, many jurisdictions assess at only a fraction of the full value of the property, while in other states value increases are limited. Yet as this example shows, the revenue potential of the residential property tax is substantial.

Impact and Roles of Housing in Developing Economies

Housing is important in the developing world for many of the same reasons that it is important in the developed world. Housing is a significant component of developing countries' economies. A review of housing policy in developing countries by the World

Bank showed investment in housing ranged from 2% to 8% of GDP and represented between 15% and 30% of fixed capital formation. In addition, housing is a store of wealth. A study of three countries — China, India, and Indonesia — indicated that more than 40% of the wealth of urban dwellers in those countries is in their housing. A study of the housing market in South Korea shows that up to 55% of consumer wealth is in housing, excluding underlying land values. Housing provides shelter, obviously, but it also serves other needs in developing countries. Housing is a location for business and provides other intangible emotional and cultural benefits. As in the developed world, housing activities in developing countries have economic benefits beyond the housing sector. Studies in the developing world show the same kind of multiplier effect demonstrated by the U.S. data. Tipple reports the multiplier generated by housing construction is 1.0, meaning that for every dollar spent in a developing country on housing, another dollar is spent in other sectors. This estimate, however, may be overly conservative; other indicators suggest the actual multiplier may be larger. Strassman found substantial labor multipliers, and the multiplier is generally higher in countries with high labor content. More recently, Rietveld, for example, found multipliers of 1.8 in Indonesia.

Labor-Intensive Domestic Production

Housing in developing countries, especially low-income, single-family housing, is generally constructed with domestically produced goods, which results in a greater benefit to the local economy than would use of imported materials. Furthermore, research has shown that less expensive housing is actually more labor-intensive than more expensive housing. This means that by constructing housing more cheaply, not only can more people be provided with homes, but more low-wage workers can be employed, benefiting them directly and benefiting many others who gain from the multiplier effect.

Stimulation of Small Business

Research has shown that housing construction in low-income neighborhoods in the developing world is a stimulus to creation of small businesses; much housing construction is done by small firms, largely in the informal sector. While some housing is self-constructed, owners in informal neighborhoods generally weigh competing opportunities when deciding whether to build themselves or to use the assistance of small construction “companies” operated by relatives, neighbors, or other members of

the local community. The use of small firms gives these firms an opportunity to gain experience in the market and to develop capacity to take on larger jobs. Because of constant in-migration from rural areas, the need for housing continues to expand, leading to more opportunities for housing construction by these small firms. Housing thus becomes a contributor to the creation and expansion of small businesses.

Home-Based Income Opportunities

People in developing countries are more likely to use their homes as places of employment, and by providing houses, the potential for creating additional work opportunities is expanded. In fact, Perlman identified six additional functions of housing. In her view, housing functions as shop, factory, source of rental income, financial asset, entry point into the urban economy, and storage space or warehouse. In Asia, housing is viewed by households as a unique socio-economic asset, and many Asian businesses see their real estate assets as having a strategic importance beyond a physical place in which to conduct their business.

Cultural Value of Housing

It is precisely the role of housing beyond shelter that renders market-oriented approaches somewhat difficult in some areas of the developing world. Whereas in many Western countries housing is treated almost exclusively as an asset, the situation is far more nuanced in other cultures. Some African groups, for example, place such a high and personal value on housing, they do not sell it. Cultural differences and informal settlements systems also suggest that other Western reforms — development of a secondary mortgage market, municipal bond financing, improved financial markets, better bank regulation and supervision, and bankruptcy and foreclosure reform may require different approaches.

Unlocking Asset Value in Housing

DeSoto has discussed the need to free the “dead capital” locked in housing and other real estate assets because mortgage financing is not available, whether because titles are not properly registered or because mortgage markets do not function. In middle-income countries, real estate reforms may lead to better land registration systems and assist in creating a viable mortgage market. These options may not be currently available in poorer countries or in informal settlements.

Microfinance for Housing

Innovative programs have been developed, however, to bring lending opportunities to those who do not currently have them. Microfinancing is being used increasingly for housing loans, with terms affordable to those with modest incomes. Features of housing microfinance include a maximum 2-year term for improvements or a maximum 5-year term for land purchase; collateral that is usually not required, although co-signers may be necessary; loans for housing that may be bundled with loans for business development; and microfinance housing loans that are specifically targeted to low-income salaried workers, micro-entrepreneurs, or the poor.

Community-Led Finance for Infrastructure

Another innovative program, the Community- Led Infrastructure Finance Facility (CLIFF), has helped more than 2,700 families in India with shelter needs, and has funded two sanitation projects benefiting some 215,000 families. CLIFF provides funding to organizations within the informal sector directly, bypassing, but yet supporting, programs available from communities or banks. By using CLIFF funding, organizations in the informal sector can attract other funding, thus leveraging CLIFF funds and making them even more productive and beneficial. The program is being expanded to Kenya.

Development of Land and Real Estate Systems

The recent innovations in housing finance may solve another problem related to “dead capital,” namely, ignorance of the financial benefits that real estate may provide. It is not unusual, in developing or transitional countries, to meet individuals who ignore land registration laws because they simply see no benefit in registering title to their properties. Yet without registration, loans cannot generally be secured by real estate, and the equity real estate represents cannot be freed for other uses. The owner of a beauty salon in Serbia saw no reason to register her property. She was, however, in need of funds to expand her business. When she was told she could secure financing based on the value of her property, but only if it were properly registered, she then understood the importance of registration and compliance with real estate laws. As more and more people take advantage of microfinance and other targeted loan programs, real estate markets further expand, thereby freeing capital for development.

Development of Primary and Secondary Financial Markets

The development of capital markets to support housing and collateral investments in urban infrastructure has been a major factor in the West in creating more open, accountable, and honest local governments. Capital markets scrutinize urban financial practices far more closely than can other levels of governments or citizens. Local governments failing to meet the standards of lenders and underwriters in the municipal credit markets quickly find themselves shut out of these markets. At the same time, active mortgage credit markets promote the effective enforcement of building codes and safety and hygiene standards. Active mortgage markets also provide an important long-term investment for both public and private pension funds — providing the elderly with a more secure income in old age. As more and more countries adopt partial funding for their pension systems, the role of municipal credit and mortgage markets is growing.

The Entitlements of Housing Rights;

Housing should not be viewed in the narrow context comprising merely of few walls and a roof made of brick or mortar. Housing has much wider connotations, impacting human living and dignity. Accordingly, housing needs to be viewed in the larger context comprising of all basic undisturbed right to shelter, amenities and infrastructures associated with human living, which not only provides assured quality of life but also empower and enable people living in the house, to be happy, healthy and more productive. These essentials would include basically providing; secure tenure; assured water supply, sewerage, sanitation; healthcare and educational facilities ; adequacy of living space; availability of materials for construction; taking care of vulnerable sections of social pyramid; making cost of services and amenities used affordable and locating housing at places which don't impact the health, hygiene and dignity of the occupants.

According to the, '*Fact Sheet No.21, The Human Right to Adequate Housing,*' brought out by UN states that one of the barriers to achieving housing rights has been the absence of a universally recognized definition of the set of entitlements comprising this norm. This hurdle was perhaps the result of perception than genuine legal analysis. In recent times, a number of steps have been taken to refine legal approaches to this matter. Most notably, General Comment No. 4, of the Committee on Economic, Social and Cultural Rights, on the Right to Adequate Housing defines this right as being

comprised of a variety of specific concerns. Viewed in their entirety, these entitlements form the core guarantees which, under international law, are legally vested in all persons.

1. *Legal security of tenure*

All persons should possess a degree of security of tenure which guarantees legal protection against forced eviction, harassment and other threats. Governments should consequently take immediate measures aimed at conferring legal security of tenure upon those households currently lacking such protection. Such steps should be taken in genuine consultation with affected persons and groups

2. *Availability of services, materials and infrastructure*

All beneficiaries of the right to adequate housing should have sustainable access to natural and common resources, clean drinking water, energy for cooking, heating and lighting, sanitation and washing facilities, food storage facilities, refuse disposal, site drainage and emergency services.

3. *Affordable housing*

Personal or household costs associated with housing should be at such a level that the attainment and satisfaction of other basic needs are not threatened or compromised. Housing subsidies should be available for those unable to obtain affordable housing, and tenants should be protected from unreasonable rent levels or rent increases. In societies where natural materials constitute the chief sources of building materials for housing, steps should be taken by States to ensure the availability of such materials.

4. *Habitable housing*

Adequate housing must be habitable. In other words, it must provide the inhabitants with adequate space and protect them from cold, damp, heat, rain, wind or other threats to health, structural hazards and disease vectors. The physical safety of occupants must also be guaranteed.

5. *Accessible housing*

Adequate housing must be accessible to those entitled to it. Disadvantaged groups must be accorded full and sustainable access to adequate housing resources. Thus, such disadvantaged groups as the elderly, children, the physically disabled, the terminally ill, HIV-positive individuals, persons with persistent medical problems, the mentally ill, victims of natural disasters, people living in disaster-prone areas and other vulnerable groups should be ensured some degree of priority consideration in the housing sphere. Both housing law and policy should take fully into account the special housing, needs of these groups.

6. *Location*

Adequate housing, must be in a location which allows access to employment options, health care services, schools, child care centres and other social facilities. Housing should not be built on polluted sites nor in immediate proximity to pollution sources that threaten the right to health of the inhabitants.

7. *Culturally adequate housing*

The way housing is constructed, the building materials used and the policies underlying these must appropriately enable the expression of cultural identity and diversity. Activities geared towards development or modernization in the housing sphere should ensure that the cultural dimensions of housing are not sacrificed. These extensive entitlements reveal some of the complexities associated with the right to adequate housing. They also show the many areas which must be fully considered by states with legal obligations to satisfy the housing rights of their population. Any person, family, household, group or community living in conditions in which these entitlements are not fully satisfied, could reasonably claim that they do not enjoy the right to adequate housing as enshrined in international human rights law.

Chapter-3

Issues in Developing Affordable Housing

India like Britain is a home-owning nation, where housing is considered an investment asset for individuals rather than a social asset for society as a whole, which is unfortunate. As an investment, buyers pour their wealth into property on the understanding that they will benefit from rising values. The resulting price distortions has led to – among other things – localized skill shortages as key workers are forced out by rising prices, unable to rent or buy (**The Conversation**), besides creating large number of physical, social and environmental issues. In addition, housing, is known for its peculiarities of being both labour- and capital-intensive activity with land, materials and construction constituting major components of housing cost. Considering the multi-lateral implications of the housing, there exist large numbers of economic, regulatory and urban challenges in developing appropriate stock of affordable housing. Major constraints in providing affordable shelter include; ever rising cost of land and cost of construction as constraints that have emerged on the supply side whereas creating ownership, identifying/quantifying accurately the real beneficiaries and lack of access to home finance are the major demand side constraint. Based on the existing scenario, major issues identified in developing adequate housing can be enumerated as under:

a) **Low availability of developed land**

Low availability of developed land remains a major challenge in the domain of creating adequate housing stock in India. With 2.4% of global land and 17.7% of world population, India is under perpetual shortage of land needed to meet the basic requirements of more than 1.21 billion Indians for food, clothing and shelter. With rapid urbanization and industrialization, asking for more and more land to be brought under non-agricultural uses, the pressure on the land is increasing rapidly. With low land-man ratio coupled with ever rising demand and numerous constraints emerging out of speculation, legal framework, planning tools and building bye-laws, the supply of developed urban land is diminishing very fast and accordingly, cost of land rising very rapidly, making the cost of shelter highly unaffordable for majority of urbanites. Major issues leading to shortage of urban land have been identified as:

- i. Excessive parastatal control on the development of land;
- ii. Lack of marketable land parcels;
- iii. High degree of encroachments on public land;

- iv. Poor land information system;
- v. Cumbersome legal and procedural framework for sourcing land;
- vi. Restrictions imposed by the planning mechanism including master plans, zonal plans.
- vii. Irrational building regulations, leading to inefficient utilization of valuable urban land.
- viii. Restrictive government policies and approach.

b) Rising Threshold Cost of Construction

Followed by the cost of land, cost of construction constitutes major proportion of cost of house. Studies made by KMPG regarding cost of housing has revealed that; unlike premium residential projects, where pricing is largely guided by land costs, prices of affordable homes are primarily driven by the cost of construction. Construction costs form nearly 50 percent to 60 percent of the total selling price in affordable housing projects while for luxury projects this figure ranges between 18 percent to 20 percent. However, due to rapidly rising cost of building materials, outdated construction technologies, wastage of materials, cost of labour, lack of skilled manpower, high cost of transportation, multiple government levies, globalization and liberalization of economies, the cost of affordable housing is rising rapidly. Hence, construction cost minimization remains vital and critical in making affordable housing projects viable and affordable. Raw materials, including steel, cement, sand, bricks, etc, have witnessed price escalation ranging from 20-50 percentage in the recent past. Success of the National Rural Employment Guarantee Act (NREGA) scheme, has led to the reduction in availability of labour for construction making construction costs higher due to considerable rise in wage levels. Contrary to land prices, which decline exponentially as projects move away from centrally located to peripheral areas of a city, construction costs fall at a gradual rate from luxury projects to low-income housing projects. In order to make the housing cost-effective and affordable, it will be critical to minimize the cost of construction. There exists enormous scope and opportunities to optimize and minimize the cost of construction.

c) High degree of Government charges

Role of parastatal agencies remains critical in determining the cost of housing due to large number of approvals required for the construction projects and fees to be paid for such approvals. Approvals range before the start of the projects and goes on till the project is completed and, in some cases, sometimes after the projects gets completed

and made operational. Charges levied by the parastatal agencies start with granting change of land use, approval of the layout and building plan, licensing fee, approval for completion and occupation of buildings, internal and external development charges, registration of land and registration charges for the finished house, malba fee, labour cess, fee for environmental clearance etc., which are major contributors to the escalation of the cost of the house. These would need rationalization and brought to the realistic level in order to promote affordability in the housing sector.

d) Rigid land use planning

Existing pattern of urban planning has done more damage than good to the urban fabric. Master Plans, Development Plans, Controlled Area Plans prepared for the rational growth and development of the city and periphery do not provide space for most of the urban residents and migrants. The informal sector and poor find no place in the planning process/strategies. This leads to their exclusion and their demand for shelter and employment remaining unfulfilled. For making affordable housing a distinct reality, mechanism, approach, intent, content and scope of these plans need to be re-defined by making poor and informal sector, integral part of city planning and development process.

e) Irrational Building Bye-Laws

Pattern and extent of land utilization in urban areas is closely linked to the building regulations governing the city/ area. Land-use regulations include minimum lot sizes, minimum parking requirements, maximum floor-to-area ratio or floor space index (FSI), maximum height permitted, ground coverage, setbacks, basement, distance between buildings etc. These regulations are known to have considerable impact on the utilization of the land. These can be relaxed or made more rational to address defined housing needs based on city demographic trends. Looking at the prevailing population density, Indian cities are known to have some of the most restrictive FSI in the world (1.5 in Chennai, 3.25 in Bengaluru and 3.5 in Mumbai when compared to 20 in Tokyo and 25 in Singapore (IDFC Institute,2018). Existing Building bye-laws and sub-division regulations are fast leading to emergence of large number of operational inefficiencies in land utilization, poor space utilization, use of cost-effective and state of art building materials and construction technologies. These regulations will need, critical and objective review, revision and redefinition on priority for optimizing land resource, adopting cutting edge building materials and construction technologies.

f) Delayed Project Approvals

Red tape, corruption, complicated building codes and processes involved in the approval of the projects can significantly raise construction costs. Study made of 600 cities in 180 countries of the developing world found that, it takes an average of 16 procedures and five months to obtain a construction permit, costing enormous money and seven steps and two months to register a property, costing 7% of the property value (Monkkonen & Ronconi, 2015). India is known globally for complexity and multiplicity of laws besides large number of agencies governing the system of approvals. Complicated procedures, cumbersome processes, involvement of large number of personnel, duplications of processes/procedures and lack of decentralization of powers, invariably results in delay in approving the projects and building plans (16-24months), leading to time over- runs and cost over- runs . In India, residential housing projects can require up to 150 approvals from different city, state and national agencies (Abraham, Batra, & Gandhi, 2017). Even a single approval can delay or block a project, and public officials may demand unofficial as well as official payments for these approvals. Delays in project approvals are estimated to add 25-30% to the project cost. For making affordable housing a distinct reality and cost-effective, project approvals must be put on fast track and made time bound..In 2017, India introduced the Real Estate Regulatory Authority (RERA) Act in an attempt to increase transparency and efficiency in the construction sector. However, these provisions have the effect of making it easier for large developers with significant credit reserves to fund housing projects compared to small developers. However, the Act does not have contingencies for delays caused by slow approvals from regulatory bodies (Sinha, 2018)

g) Inadequate Access to Cheaper Housing Finance

Making available adequate funds for constructing affordable housing remains critical because no project can take off without making available adequate resources for the project to go forward. Affordable housing has been suffering from not only inadequate funds but also its access to the beneficiaries along with high cost of funds. Lack of access to cheaper housing finance for low-income groups has its genesis in the non-availability of large number of documentations involved in approvals based on providing securities, proof of assured sources of income and residential address etc. which needs rationalization and simplification for increasing access to such housing.

h) Multiplicity of Agencies involved

Studies made by the KPMG and NAREDCO (2012) has revealed that real estate projects are required to pass through 150 tables in about 40 departments of central, state and urban local bodies before approval is granted which invariably delays the projects and makes housing cost-inefficient. Surely, for making affordable housing a reality, the approval process would require major reforms in terms of redefining and simplification of the approval process and eliminating large number of agencies which have no/little role in the housing sector.

i) Outdated and irrational legal frame work

Existing legal framework has put spokes in creating adequate housing stock in the country. Rent Control Act has emerged as the major road block in creating adequate rental housing stock. There is a growing need to revisit existing Rent Control Acts, which are proving to be a deterrent in the development of rental houses and redevelopment of areas with old properties. By formulating more clear and defined guidelines within building bylaws and rules for Floor Space Index (FSI), zoning and development plans the local urban authorities in India can reduce the difficulties faced in planning for construction projects in India. Legal framework would need on priority, rationalization, review and revision to make optimum utilization of land and creating an supportive/enabling environment to make housing for all a distinct reality.

j) Marginalizing Private Sector

Considering the magnitude of the backlog, resources involved and spread of the housing shortage, it appears a difficult task for the government to create adequate housing stock of its own. Involvement of all the stakeholders will be critical for achieving the goal of housing for all. A Role of private sector, which has been marginalized, will be critical in creating large housing stock for the poor considering the resources, innovations, technology and operational efficiency available with private sector. 'Thrust on encouraging private sector participation in affordable housing, traditionally the domain of the Government, could provide the answer to India's urban housing predicament. But as things stand, affordable housing remains a challenging proposition for developers. Issues continue to persist in land availability and pricing, project approval processes and other areas which make low cost housing projects uneconomical for private developers. (KMPG)'. Involving private-sector players will go

a long way in keeping abreast with emerging solutions in construction techniques and materials; work with government to ensure an adequate flow of skilled labour and help in finding new solutions for financing and innovative tenure models.

k) Outdated technologies and poor project management

Inefficient project management practices and lack of investment in technology, research and development can contribute to low productivity in small and large developers alike. Outdated technologies and conventional methods of construction besides poor project management have invariably led to the promoting wastages, causing delays in construction and raising the cost of dwelling units. Considering the large number of dwelling units to be constructed in the affordable housing category, there exists sufficient options to promote cost-effectiveness by standardization, producing housing components on mass scale, leveraging economy of scale etc. Barcelona, faced a problem of skilled manpower where Barcelona Housing Systems has designed a modular and standardized manufacturing system in which prefabricated components manufactured off-site are assembled by non-skilled workers on-site (Barcelona Housing Systems, n.d.). In California, start-up Trace Air has developed software that analyses photos from a construction site and compares them with blueprints to determine work progress. In India, Brick Eagle is an incubator for small-scale real estate entrepreneurs, providing venture capital and knowhow to local builders with land in 20 cities (Surendar, 2018; Mitter, 2018).

l) One Solution fit all Approach

Considering the existing scenario, it is observed that present approach to housing shortage does not look at the fine grains of housing typologies required to meet the housing shortage and is limited only to the EWS and LIG housing. Considering the large number of migrants and persons who come to urban areas for working, learning and staying for a short period, formal housing should not be the only choice and option for shelter. For such residents, rental housing, creating temporary shelter and hostel type accommodation would suffice which requires lesser resources and funds for creation. Thus, a variety of living spaces need to be created to overcome the shortage of living space.

m) Lack of Research and Development

Housing in India suffers from issues related to innovations, quality and productivity for the reason that there is hardly any kind of research being undertaken on various components of housing to make it cost-effective, time-efficient and qualitative. Major cause of housing maladies have their roots and genesis in the absence of adequate studies in the area of housing typologies, building materials, building technologies, standardization of building components, pre-fabrication, pre-casting and other related issues which ,if appropriately addressed, can lead to creation of large housing stock on the affordable basis. Few institutions, which exist, have failed to deliver the result due to various internalities and externalities. Despite the fact, Development Authorities and Housing Boards, created in different states, are mandated to promote state of art and cost-effective construction of housing, by promoting research in creating/sourcing new building materials and improving prevailing construction technologies, are known to have hardly done any work in this area. With limited and negligible manpower deployed in these organizations to look at these aspects, innovations in housing remains a distant dream, leading to adoption of traditional, outdated and cost/ labour intensive practices for the construction of housing by these agencies. No separate and specific allocations are made to promote research in the annual budget of these organizations. This calls for reinventing the wheel of construction to make it more cost-effective and time efficient with least consumption/optimum utilization of the resources and generator of the minimum waste, by promoting appropriate research and development in the area of housing construction. There is need to focus and accord high priority to research and development by creating dedicated institutions at regional, state and national levels, duly supported with adequate resources and manpower, to launch affordable housing on fast growth trajectory

n) Absence of Adequate and Reliable Data on Housing

India, as a nation, is still in search of adequate and reliable data, both qualitative and quantitative, which can realistically showcase existing scenario with regard to housing shortage, existing housing stock, housing need and demand, congestion, derelict housing and housing requiring replacement, up-gradation and improvement. Absence of factual and accurate data has led to creating mismatch in policy framework and ground realities, making policies and program with large number of limitations, inadequacies in projections made for housing needs at national, state and local level. Creation of adequate and reliable data bank would be critical for making realistic

assessment of status of housing and putting in place rational policy framework at local, state and national level.

o) Absence of Reliable Data about Beneficiaries

In addition to lack of data on the existing housing stock, India as a nation also suffers from the malaise of inaccurate and unreliable count about the demand side. In the absence of which, most of the programs put in place have failed to achieve the objective of creating adequate housing stock. Absence of reliable data about the beneficiaries, has also led to large number of malpractices emerging in the allotment of houses. In large number of cases, it has been found, houses allotted were transferred to higher economic class and housing stock was manipulated, misused, abused and speculated by the allottees. In order to have realistic and pragmatic solution and approach to affordable housing, accurate availability of data about beneficiaries will be critical.

p) Large number of Vacant Houses

Urban India faces a peculiar problem and dilemma in terms of duality and contradiction, particularly in Metropolitan cities, having high demand for housing and large stock remaining vacant. On one hand India faces a large deficit in housing, whereas on other side large number of built-up houses, ready for occupation, are lying vacant. As per data made available by Census of India for 2011, in Pune every sixth house was found to be vacant (17.87%) whereas in Mumbai every tenth house remained unoccupied (10%). Chennai among mega cities was better placed with only 3.32% houses found to be vacant. Jaipur, Kochi, Bhopal and Rajkot were found to have more than 13% housing stock lying vacant. Looking at the entire context, large vacancies existing in housing stock can be attributed to number of factors including; multiple ownership of housing, looking housing as an investment, speculation or legal framework governing the renting of houses. Accordingly, it will be appropriate to frame realistic policies, programs and operational framework to bring vacant houses into the urban market, to overcome the prevailing acute shortage in housing.

q) Ignoring Rental Market

Globally, Rental housing forms major chunk of housing stock to meet the shelter related demand in the urban settlements. Cities, because of their capacity to create large employment, act like a job market, where people migrate in search for better

opportunities and options for life and livelihood. Cities offer lot of flexibility in sourcing and changing jobs and accordingly known to provide great mobility to people. Accordingly, very few people come to stay permanently in a particular city unless employed in government service or jobs which are stationed at one place. Majority of people who come to cities for education and jobs, look for good options of rental housing for a limited period only. Accordingly, it will be important to create large stock of rental housing in all the urban settlements. Rental housing in India, has suffered largely due to prevalent outdated, obsolete, irrational laws favouring only tenants. This has led to very little stock of rental housing created in the country and where created, owners prefer to keep them vacant due to large number of issues faced in getting the vacant possession or getting increase in rent. Overcoming shelter related problems in the urban context will require promoting rental housing on a large scale.

r) Unskilled Manpower

Shortages in skills are driving up costs in many countries. In a survey by PwC and the Society of Chartered Surveyors Ireland (SCSI), it has been concluded that skill shortage was the single biggest obstacle to construction. Contractors cited lack of skilled labour and the rising cost of staff as a major concern, with bricklaying costs increasing by 25% in six months (PwC, 2018). India's real estate sector continues to grapple with the issue of manpower shortage. This shortage can have an adverse impact on the delivery and cost of affordable housing projects. Despite the fact construction industry remains one of the largest employers of the manpower in the country, deploying one -sixth of the total workforce (35million) and contributing 8-10% of the gross domestic project, still construction sector is manned largely by unskilled manpower. Prime reason of construction industry facing huge shortage of manpower, is the absence of any formal system of skilling the manpower employed. Construction sector remains only option for any unskilled person and rural migrant, to have easy access to employment without any skill. However, deploying large proportion of unskilled manpower has its implications in making construction sector highly inefficient, unreliable and vulnerable. It creates large issues of quality of construction besides theft, loss in material and productivity. All construction typologies need special and dedicated skill sets to undertake and complete projects within given time frame and defined cost besides ensuring quality of construction. Considering huge investment going into construction sector, unskilled manpower is known to cause major loss in terms of productivity and materials. Since housing forms major component of construction sector, it will be critical to skill the manpower deployed in the housing construction appropriately for making housing

qualitative, cost-effective and affordable. There is need to enhance the education and training capacity offered through various schemes to meet the demand of the large percentage of unskilled workers in the construction sector. This calls for creating a pool of trained manpower to bridge the gap between demand and supply to create large housing stock at the most competitive cost within a minimum time frame

s) Checking Uncontrolled Urban Sprawl

Urban sprawl, as a phenomenon of development/expanding of cities in India, has done more damage than good so far as land utilization in/around urban areas is concerned. Uncontrolled urban sprawl leads to large scale conversion of valuable agricultural land lying on the fringe of the cities, into non-agricultural uses. Studies have shown that urban land cover has been growing more quickly than the urban population ie twice the rate of population growth due to decreasing density of the built environment, large scale dependence on personal vehicles, norms favouring low-density housing, adopting pure land-use planning , economic incentives favouring low-density development, higher property taxes for multi-family units than single family etc.(ULI, 2018).This practice needs to be checked on priority, in order to ensure optimum utilization of available land resource

Chapter-4

Sourcing Land for Housing

Land remains the most critical component, to make affordable housing for all, a distinct reality. It also forms largest proportion of the cost of housing. Accordingly, sourcing land has to be carried out with lot of care and caution for creating large stock of affordable housing at most competitive pricing. Globally, parastatal agencies, private developers and promoters are using innovative methods of sourcing adequate land at most competitive price without much hassles and devoid of subsequent litigations. Land has been observed to be the subject of major litigation in developing countries having large dependence on agriculture due to its intrinsic value for human beings and for physical development. Largest litigation in the Indian context relates to cases, which have genesis in land, its title, area, extent, cost and ownership. Therefore, sourcing land remains at premium in all human endeavors in general and for urban development/housing in particular. Land ownership pattern in the world varies considerably from nations to nations and among societies of the world. Majority of land remains under private ownership followed by state ownership. Since all development hinges on the availability of adequate/appropriate land, so many vital projects get stalled /delayed to the non-availability of the appropriate land at desired location. Land has also emerged as the major money spinner in developing countries due to permission needed for change of land use from agriculture to non-agriculture, requiring state permission. Granting land rights have also emerged as the major agenda for all political parties in the democratic setup. Accordingly, sourcing land for urban development is becoming both complex and cost-intensive. As per prevailing practices, generally three types of methodologies are being used for sourcing land. Each system has their own distinct features, applicability, relevance, advantages and limitations. Methods used for sourcing land for urban development includes;

- Land pooling,
- Negotiated settlement
- Compulsory/ formal acquisition.

i. Land Pooling

Land pooling, as a method for sourcing land for urban development/housing, has been used globally on large scale, for its distinct advantages over the other methods of sourcing land. Scheme is based on the principle of making land owners as partners in

the urban development process and to share benefits of urban development, without landowners losing the entire land owned by him. In this process, land is contributed /pooled by the landowner and state plans the same and redistributes the planned/developed land to the landowners. It does not dispossess the land owners of his land ownership, provides him opportunity to be part of development process by contributing part of his land, but in return, get his land planned and developed, duly supported by provision of state of art infrastructure and services, fetching him higher price of the developed land along with compensation for the land contributed for the planned development/infrastructures/amenities in the scheme area. Carrying the strength of sanctioned scheme under the defined legal framework by the government agencies in a transparent manner, providing freedom to sell his land in the market, as and when considered appropriate, land pooling fetches high return from the land allotted to landowner under the scheme and creates a win-win situation for both landowners, development agencies, city, communities, environment, quality of life and ecology.

Land pooling Scheme is generally made applicable to undeveloped land having potential of urban development and multiple ownership. Scheme is generally considered appropriate for the land which has potential for development, located close to urban areas, remains scattered, have fragmented/ multiple ownership, largely unplanned, having few structures and generally not found suitable for private-sector development; where older urban structures need to be reorganized; and there is need for promoting planned development and making additional provision of infrastructure and services. After identifying the land, land pooling scheme is notified for the identified area by the parastatal agencies. Land of all owners falling within the scheme is then pooled and planned, based on the provisions made in the Development/Master Plan of the city and pre-defined norms and standards for infrastructure/services/density etc. The planning process includes sub-division of the land into planned parcels, area defined for roads, open spaces, community buildings, commercial spaces, education, healthcare etc. The agency returns major proportion of the developed land to the original owner, equivalent to the market value of the owner's original undeveloped land, adding the cost of infrastructure investment. Generally, the land deduction ranges from 30-40%, which gets vested with local authority/development agency and includes the land under roads, open space and community spaces involving healthcare facilities, community centers, educational institutions, commercial spaces and public buildings.

Land pooling scheme is less cumbersome, as the process is voluntary and does not deprive landowner entire land owned by him. Scheme also does not involve any

acquisition on the part of the development agency. Scheme is also self-financing and accordingly does not involve any up-front cost to the development agencies. Part of the developed land is also retained by the development agencies for the construction of affordable housing for the poor. It also ensures planned development of the land and provides an opportunity to local bodies/development agencies to recover cost incurred in building infrastructure. Scheme requires all the connected landowners to voluntarily sign ownership rights over to a single agency or government body, which in turn develops the land by building basic infrastructure such as roads, sewage lines, electricity and water connections. If administered properly, scheme could increase equity in land distribution. However, scheme has also few limitations. The intent to pool land, if leaked, can result in cartels being created. Governments would have to regulate buyers to prevent this. Scheme takes considerable time for notifying and finalization, due to cumbersome procedures defined; large number of approvals required at different stages and frequent transfers of officers designated for the scheme, defeating the very purpose for which the scheme is framed. Litigation remains rampant in the scheme arising out of ownership /land valuation disputes. Scheme can also lead to large scale land speculation, with landowners keeping the developed land, waiting for land prices to rise. Speculators may choose to keep on hold the land planned/allocated, rather than develop low-income housing for obvious reasons. Developing infrastructure does not guarantee the development of land. Land pooling scheme has great potential for sourcing land, if the scheme is revised, reviewed and redefined, keeping in the view local culture, landowners' perception and awareness about the need and importance for creating large stock of affordable housing.

ii. Negotiated Settlement

The system of negotiated settlement for sourcing land is made operational when the seller wants to sell and is looking for financial compensation rather than retaining a stake in the land and when the government wants to provide an opportunity to negotiate through a market transaction rather than expropriation. Under this system, agency buying land works towards reaching an agreement with the landowners that land has to be transferred based on the financial compensation and there is a little possibility of continued use of land by the selling party. This system is used when land is already notified for the acquisition, only compensation is to be fixed for the land being sourced. It involves mutual consensus between the landowners and the agency buying the land. However, process despite being simple, requires skilled negotiators and valuation surveyors, skills that may be in

shortage at the government level, as well as collaboration from current owners. Affected parties are not forced to accept compensation at the book rate defined by the governing body and can claim higher compensation as negotiated. Trading parties have to comply with a framework that details aspects of assessment, negotiation, settlement and implementation. This could also include conducting studies on land for appraisal, loss valuation and assessing impact from events such as flooding. The process has disadvantage in the context, that land sourcing agency has to pay higher compensation for the land as compared to the prevailing market price for obvious reasons. However, it remains relevant that possibilities of all future litigation with regard to the land sourced remains eliminated and land vests with the authority without any encumbrances. There also exists no possibility of variation in the land prices in future.

iii. **Formal Acquisition of Land**

Formal acquisition method of sourcing land is made operational when voluntary methods and negotiated settlements are no longer an option and access to land is deemed imperative by the development agency. This system is used under the state power of *Eminent Domain*, which is exercised by the authority to procure land needed for executing projects for promoting the public interest. This system of sourcing land has been used extensively by the State Government/Development Authorities, in the past, using the provisions of the Land Acquisition Act, 1894, to source land for all development projects and laying essential public services/infrastructures, development of new cities/townships, setting up of industrial estates, educational/healthcare institutions etc. But after the repeal of the said Act, 'The Right to Fair Compensation and Transparency in Land Acquisition and Rehabilitation and Resettlement Act, 2013', the process of acquiring land through compulsory acquisition has slowed down considerably, for obvious reasons of rehabilitation and resettlement added in addition to paying fair compensation to the landowners. Under this process, agency acquiring land has not only to compensate owners for the value of their plots but also to ensure his resettlement and rehabilitation. In the formal land acquisition process, land is acquired by force and landowners loses all his right over the land to be acquired. In this process, under the old law, landowners is deprived of his land rights which pass on to the acquiring agency. This system has the distinct advantage of passing on the ownership of land immediately to the acquiring agency on payment of compensation for the land at market value instead of the considerable wait times of recovering land through negotiation. System entails compelling owners to sell land or involuntary eviction,

thereby displacing residents through the enforcement of statutory powers. However, under this system, landowners continue to litigate demanding higher compensation for land acquired in successive courts and land prices go on increasing based on the decisions made by the successive court. Further in this system, there is lot of space available with the officer vested with power to fix price to be paid as compensation for the land to be acquired. Law has also provision to source land on emergency basis, where land is immediately transferred to the acquiring agency. However, provision needs to be used in exceptional cases, which should be able to withstand the testimony of law.

Compulsory acquisition of land has its social and physical connotations which brings the landowners on the roads with little money in their hands, given as compensation, but without any gainful employment. Accordingly, it would be critical, if land oustees are allotted land available with the government in lieu of land acquired along with funds for rehabilitation and development of land so that they can continue to be farmers in their own right. This all needs to be worked as a project for rehabilitation of the landowners as integral part of sourcing land. In addition, state should also provide opportunities for skill development of the land oustees, depending on their qualification, capacity, capability and aptitude, who could then be gainfully employed. State could also think of providing employment of landowners in the project, for which land is being acquired, through the appropriate skilling of the land oustees. However, in case of such acquisition, landowners must be allowed to cultivate the land, till it is needed for development. This can avoid enormous loss, which state suffers by keeping such lands undeveloped for large number of years.

Land acquisition does not necessarily lead to the construction of affordable housing on large scale. In areas where demand for affordable housing is high, land owners may be tempted to generate higher revenue from commercial or industrial use, or may choose to hoard their land in the hope that it increases further in value. Even when the land is publicly owned, it may be politically difficult to balance the objectives of improving housing supply and increasing revenues by encouraging commercial or industrial activity. Public land ownership also holds the key to affordability in cities where middle- and lower-income families are unable to compete with corporate investors, but community housing providers and city governments could collectively purchase or repurchase large quantities of housing stock (Fidler & Sabir, 2019). Long-term planning, coordination and transparency among government will be necessary and critical to optimize the use of land. (Insight Report on Making Affordable Housing a Reality)

Leveraging Zoning, Densification, Intensification, TOD, Mixed Land Use

Globally, city governments have made use of two simple tools to either promote or restrict the supply of the housing in the urban context. These mechanisms include; zoning and regulation, which have been leveraged at the local level, either to restrict housing supply leading to widening gap between demand and supply and inflating prices of housing units, or for promoting growth and increased supply of housing stock, resulting in stabilized housing prices. These instruments despite being available and used in the urban planning in India, have never been considered as an option to regulate and rationalize the supply of affordable housing in the urban sector. Indian cities must also make optimum use of these tools to create enabling environment, which should help in ensuring adequate supply of affordable housing on continued basis.

Planning has important role cast in rationalizing the use of land for various purposes and accordingly has been used by many cities innovatively, not only to promote planned development of human settlements but also to rationalize, preserve, protect and optimize use of land. Many cities are known to set boundaries/limits on the extent of urban growth, by defining the limits of urban settlements., beyond which no urban development/building activities or sub-division of land is permitted. This principle has been used not only to eliminate the possibility of any urban sprawl but also to minimize the impact of urban development on agriculture, forestry, bio-diversity, flora& fauna. Such restrictions on the supply of land for development are known to drive up the market cost of housing. Greenbelts around Seoul and London, growth boundaries in Auckland and urban land quotas in China are all examples of this (Fuller, 2017).The proximity of agricultural or business zones also has an impact on housing prices. Through zoning and urban planning, each city must try to balance its land-use objectives to achieve a healthy, economically and socially vibrant community that is also affordable for a diverse array of residents.

Intensification and densification

Intensification and densification are the two important concepts which have been used on a large scale in the context of residential zoning. *Intensification* implies focusing and undertaking the development of all vacant/unused land available within the city, rather than developing peripheral /farmland. It is a pan city approach, which holistically looks at the rational use of the entire land in the city, without focusing on particular area/zones. It aims at fully utilizing the available land falling in the urban areas, for the purpose defined in the Development/Master Plans. It is inward looking option of urban development, without allowing city to expand beyond the defined limits. This process

has distinct advantage in terms of optimum utilization of the urban land; making rational use of urban services provided for the community; limiting the need for travel and rationalizing the distribution of amenities and services in the city. Intensification also ensures rational distribution of population in the city, keeping check on congestion in parts of the city and making available urban services on equitable basis to all the urban residents. Intensification, as a process must be clearly enunciated and practiced by all cities to rationalize its growth and development and to make its land market operationally effective and efficient.

On the other hand, *Densification in the context of urban development* refers to increasing the number of households in a given area by making optimum use of available space, both horizontal and vertical. In intensification, all underused/unused/vacant land available in the urban limits are taken up for development, whereas in densification, the scope of operation of building is confined to a limited/defined area only, which has the capacity to accommodate higher intensity of built space, based on available capacity and infrastructures. Densification remains complementary and supplementary to intensification of the city. Unlike intensification, which involves pan city approach, densification remains area specific strategy. Densification, if not done rationally, can lead to high degree of congestion and chaos, adversely impacting quality of life of the residents. Densification holds distinct advantage and is known to eliminate the use of personal cars and promote pedestrianization/cycling besides making optimum use of available urban land. Densification is also known for its capacity to make cities compact and operationally efficient besides, economical to operate. It also helps in promoting better social interaction, leading to creating socially cohesive communities. In densification, the typology of building remains generally flatted and high rise, based on higher floor area ratio with higher densities and higher building heights. Densification is known to limit the choices so far availability of housing typologies is concerned. Densification has been used extensively in New York city, by permitting studio apartments on the flat terraces of existing high-rise buildings, which helped in creating large stock of affordable housing within the city. Singapore prepared a road map by identifying all plotted development existing in the island and converting them into flatted development to create large housing stock to meet the housing demand of growing population. Singapore also resorts to selective densification of low-density development and converting them into high density residential area, through selective densification. Densification, should be made applicable in cities which are landlocked and have no scope of physical expansion. It can be made applicable in cities based on detailed study and analysis. The strategies of intensification and densification not only

help to contain urban sprawl and making optimum use of urban land resource but also help in realizing economies of scale in delivering city services by concentrating the population, and encouraging the use of mass transit, walking and cycling (Neptis, 2010).

Transit -Oriented Development

In order to rationalize the development and making them compact, cities are now increasingly adopting strategies of closely linking and integrating transportation with development. In this pattern of development, called- Transit-Oriented -Development, different urban land-uses are organized/arrayed along the identified major lines of traffic & transportation and communication. Development envisioned is invariably dense, high rise and a mix of different and compatible land-uses. Transit-oriented development (TOD) remains, basically and primarily, an urban densification strategy that involves upgrading urban transit infrastructure and making provisions for additional development rights for affordable housing near transit areas. Delhi in its Master Plan has also adopted TOD as a concept for rationalizing its future growth and development; to reduce the melting of the city and to check its uncontrolled expansion. However, cities need to take context-specific steps to avoid an escalation of prices, leading to gentrification and the pricing out of mass transit users (Balachandran, 2018). TOD also has the advantage of creating opportunity of adding to the stock of affordable housing by mandating reservation of certain defined quota of housing for affordable housing in the development rights given under the mechanism of TOD on the pattern followed by the Los Angeles County Metropolitan Transit Authority, which has developed an innovative solution: The Metro Affordable Transit Connected Housing Program (MATCH) -- a public-private lending partnership with a policy that 35% of all housing built on its land must be affordable to households earning less than 60% of the area's median income (Riggs, 2018).

Inclusionary zoning

Many cities have used the mechanism of inclusionary zoning as a policy instrument, for promoting the supply of affordable housing in the cities. Mandatory inclusionary zoning requires developers to build a specified number of affordable homes, negotiated with the planning authorities, as a proportion of development value, in lieu of approval granted for setting up new township/housing colony. In certain cases, for building and making available affordable housing, developers are incentivized to become partners in program/schemes evolved by the government. Incentives to developers under the

scheme could include: Modifying planning standards based on performance; Bonus systems that relaxes development controls such as floor area ratio, height, density, building setbacks, ground coverage, number of dwelling units, external/internal development charges, relaxation in covered areas or parking controls in exchange for constructing dedicated affordable housing. Fast-track planning approval, or reduction, exemption or refund of planning application fees, infrastructure charges or rates are other options which have been made available to developers to incentivize them to become partners in making addition to affordable housing stock. (AHURI, 2017). Inclusionary zoning is now being practiced in all the states, however pattern varies from plotted development to built-up houses. PMAY(U), also provides for taking up dedicated schemes for affordable housing, in collaboration with the private developers, with the stipulation that affordable housing component of defined area, should not be less than 35% of the total housing stock created under the scheme.

Mixed-use developments

Options for urban development has been ranging from pure land use planning to mixed land use planning. All old towns have developed, following the analogy of mixed land uses. These cities remain most vibrant and sustainable. However, with the advent of technology and invention of faster modes of travel, it was considered prudent to follow the path of pure land use planning, to overcome the emerging urban problems of pollution, noise, parking and congestion. However, over a period of time, it was felt that pure land use planning is largely responsible for fragmenting the cities into distinct activities zones, earmarked for living, working, trade and commerce, industry, institutions, leisure, entertainment etc., which not only divided the city but also led to large amount of travel for the people, due to increased distances between essential components of human living. In this pattern of development, mobility emerged as the major issue and challenge. Cities were found to be collapsing under the burden of transporting large proportion of population over large distances on day-to-day basis and hosting large number mechanized vehicles required for transportation. Travel & traffic emerged as the major issues and worst gifts of urbanization. In order to rationalize the urban development and making human life more rational, it was felt mixed land use could be a better option, as compared to pure land use planning, if the cities and land uses are planned rationally and realistically. Mixed-use developments range from a single building to large-scale neighbourhoods that include residential, commercial, retail, recreational, green and other kinds of spaces. Adoption of mixed-use development has historically been slow due to anxieties about noise, smells and loss of

privacy in residential areas mixed with commercial and industrial areas, but this is changing as the benefits become more apparent (Alvarez, 2017). Mixed-use development can help to: reduce commute times to work and travelling time to shops; revitalize neighbourhoods by creating a sense of community and safety; accommodate higher housing densities, as there is likely to be less opposition to increased density in commercial spaces than in existing residential spaces; create new housing opportunities in areas where only commercial or light industrial uses are allowed (Riggs, 2018). Mixed use development also holds the distinct advantage of making cities more compact and vibrant, as compared to cities planned on the analogy of pure land use planning. It can help in reducing travel and traffic besides promoting walkability and cycling. Mixed land use communities are known to be more vibrant and safer besides permitting 24x7x365 use of land for various urban purposes. Mixed land use developments are also known for distinct advantages of providing multiple options of affordable housing.

Green field Development& Brown field Development

While sourcing land, invariably question arises, which land would be most appropriate for developing the affordable housing. Besides, cost/location of land other, factors which needs consideration, study and analysis would be; cost of development of infrastructures, travel distance/time from place of living to place of working; availability/cost of modes of travel; accessibility to urban infrastructure etc. It is not only the affordable housing which would be critical but affordable living, which will be more relevant for the residents of such category housing.

Looking at the entire context of siting of affordable housing, options would be either to go for a green field development or brownfield location. Green field option, would require looking at a new site, planning of the site, providing infrastructure and then creating housing on the land sourced. In the case of Brownfield development, an existing site, available in the city, is used for creating affordable housing. Both the approaches have relative and distinct advantages and limitations. Some of the cheapest housing has been created in the major cities after relaxing its zoning to enable greenfield development. Acquiring greenfield land is typically easier and cheaper, though the cost advantages are somewhat offset by the need to build new infrastructure – roads, water, sewers, electricity etc. In Houston, an estimated 57% of commuters drive alone to work, and only 1.5% of the population prefers walking or cycling (Novo Nordisk (Cities Changing Diabetes), 2017). Greenfield development is said to hold some distinct advantages in terms of ; freedom in planning and making choices of typologies of

housing; defining the structure of the housing; creating larger-sized homes and infrastructures, as land supply is not constrained; Easy to scale projects and achieve economies of scale; Clean-slate development with no baggage of previous land-ownership and state of the land acquired for housing development. Besides these distinct advantages, Green field development also has the burden of some limitations in terms of; Increased commuting times as economic opportunities/jobs are located in core cities; High costs of setting up urban infrastructure and services, especially when development projects are few to justify costs in infrastructure; Usually developed on arable lands project could adversely impact existing environment, ecology, wildlife, bio-diversity, flora& fauna with species losing their habitat and increased urban sprawl encouraging sedentary lifestyles. Thus, it will be vital to carry out the cost-benefit analysis of new development before choice is made of the site and the options finalized. Green field option can be relevant when the raw land is cost-effective, easily available, located close to urban infrastructures and places of employment; involving minimum travel, and hold capacity to be made self-contained and self-reliant in daily needs of the residents.

Brownfield Development

Brownfield development refers to development made on the existing sites available within the city which are vacant, derelict and underused. This option of development has validity where availability of land is limited or sourcing raw land will be very expensive and unsuitable for development; site removed far away from basic needs of the residents /sources of employment. New York City has opted for brownfield development and made large additions of affordable housing due to prevailing limited capacity of the city, which has made development and, in turn, housing more expensive. But such housing created on brownfield sites has distinct advantages in terms of; providing easier access to urban infrastructure and services, encouraging the use of public transit systems. The Moovit Public Transit Index revealed that the average distance people walk to work or home for New York City is about 700 meters, with only 19% of commuters travelling over 1 km to reach their destination (Moovit, n.d.). Decisions on urban expansion undertaken under Greenfield development can impact overall affordability, as the costs of urban infrastructure have been found to be strongly related to population density. Study of about 8,600 municipalities in Brazil, Chile, Ecuador and Mexico, has revealed that per capita expenditure on urban services was lowest at a population density around 9,000 residents per square kilometer – which was a higher density than in 85% of the cities studied, highlighting the “cost of non-

densification” (Libertun, 2018). Brownfield development is known for its distinct advantages to the residents and the city in terms of ; reduced sprawl and encouraging land re-use; easier connectivity to available urban and reliable public transport Infrastructure; encouraging high-density living ;making better use of land allocated to housing; easier access to more job opportunities; revitalization of previously vacant or abandoned neighborhoods besides making optimum use of available land and infrastructures. However, brownfield development has its limitation which can be defined in terms of; high cost of housing owing to increased demand in cities; promoting gentrification and exclusion, pushing those with lower means to urban fringes; inherent problems/ challenges faced in redevelopment of existing land; access to machinery in congested areas, etc.

Chapter-5

Urban Slums

URBAN SLUMS- Genesis, Issues and Options.

Human settlements are linked so closely to existence itself, represent such a concrete and widespread reality, are so complex and demanding, so laden with questions of rights and desires, with needs and aspirations, so racked with injustices and deficiencies, that the subject cannot be approached with the leisurely detachment of the solitary theoretician.”– Pierre Elliott Trudeau, UN Conference on Human Settlements, Vancouver, Canada, 1976

Introduction;

In the UN Conference on Human Settlements, held in *Vancouver, Canada, 1976*, the then Canadian Prime Minister, Pierre Elliott Trudeau, redefined the ideas of urbanization by focusing on well-being of slum-dwellers and their rights and aspirations for a dignified life. One year later, The UN General Assembly established the UN Centre for Human Settlements as an immediate response with the aim to create a way to combine spatial planning with the social, cultural and economic aspirations of the informal settlers.

Slums first appeared in the 18th century in growing industrial cities, as the rural poor moved to the city to find work, but then got stuck in illegal suburbs. It is globally recognized that process of urbanization, by which cities and towns grow and develop, has also number of ‘by-products’, including pockets of poverty and neighborhood decay, universally called ‘slums. Formation of slums and process of urbanization have been found to have high degree of positivity and connectivity. Globally, it has been observed that increase in urban growth, has invariably led to growth of slums. In fact, slums have been rightly called the shadow of urbanization. UN-Habitat reports that 43% of urban population in developing countries and 78% of those in the least developed countries are slum dwellers.

Studies made and analysis carried out globally, has suggested that urbanization has invariably led to creation of slums due to lack of capacity/competency, inefficiency and lack of will on the part of local governments to effectively and efficiently manage process of urbanization. Non-availability of adequate, appropriate and affordable housing for large number of migrant workers without any place to live, has invariably led to mushrooming of slums.

Rapid urbanization is known to drive economic growth, create numerous options for gainful employment in the urban areas which causes poor, unemployed, under-employed people, to seek working and investment opportunities in urban areas. However, as evidenced by poor urban infrastructure and insufficient housing, the local government sometimes are unable to manage this transition. This incapacity can be attributed largely to the lack of sufficient funds/ resources/experience with the urban local institutions of governance, to handle problems brought by massive migration and rapid urbanization. In majority of cases, local governments remain unconcerned with the uncontrolled influx of immigrants during the process of urbanization, believing that slums would finally disappear under the impact of rapid economic growth in urban areas. This belief has led to large scale mismanagement of rapidly spreading slums under the impact of rapid rural-urban migration propelled by unregulated urbanization.

Urbanization is known both for dualities and contradictions. If urbanization can lead to rapid economic growth, it is also known to create economic stagnation/ low growth, leading to emergence of high degree of unemployment, non-availability of sufficient financial resources and inconsistent urban planning policies, which remain the prime reason for the growth of slum. In such adverse circumstances of stagnant economies, an increase of 1% in urban population is known to result in an increase of 1.84% in slum prevalence.

Growth of slums, its location, structure, and fabric has been changing over a period of time. Dynamics of slums has also been seen to have close relationship with the urban economy, land values, existing topography, prevailing political philosophy, quality of urban governance, planning and development practices in operation. Before the 19th century, rich and poor people lived in the same districts, with the wealthy living on the high streets, and the poor in the service streets behind them. But in the 19th century, wealthy and upper-middle-class people began to move out of the central part of rapidly growing cities, leaving poorer residents behind. Slums are often associated with Victorian Britain, particularly in industrial English towns, lowland Scottish towns and Dublin City in Ireland. Friedrich Engels described these British neighborhoods as "cattle-sheds for human beings".

Slums come in all shapes, sizes and have various names, yet they all mean the same thing: an overcrowded residential urban area largely characterized by sub-standard and poor-quality housing, lack of open spaces, poor living conditions, absence of poor basic services and squalor. The word 'slum' first came into use in the 1820s. It was used to denote certain locations across London which were known for having the poorest quality housing and the most unhygienic conditions. These locations were reputed for

being the breeding grounds for marginal activities including many criminal activities and drug abuse. Slums are known to be the most neglected parts of cities where housing and living conditions are appallingly poor. (Cities Alliance Action Plan). By the end of the 19th century, it had started to imply 'a street, alley, court', situated in an overcrowded district and inhabited by lower class or poor people. During the 1880s, Housing Reform movement in England, introduced the idea of 'slums' - meaning a house that is "materially unfit for human habitation", which led to the delimitation of 'slums' on city maps for planning, by marking out pockets of poverty.

Today, the word 'slum' is broadly used to describe poverty led housing arrangements all over the world. In developing countries in particular, the term 'slum' has come to mean informal housing. Although each country has its own way of naming them, the word 'slum' has become universal; imposing a certain status upon those who live there: American English calls them hood/ ghetto. In India, slums have different connotations in different parts of the country. In Mumbai, they are called; chawls, Jhopadpatti ; whereas in Delhi they are named as 'Jhuggi-Jhonpari'; bustees in Kolkata; 'Cheris' in Chennai and 'Keris' in Bangalore. In Karachi, Pakistan, they are called *katchi abadi*. Size and structure of slums varies from city to city and country to country. Most of the world's largest slums seem to be located across the developing world. The developing world is known to house the major proportion of the world's working age population. With marginalized agriculture sector due to; lack of irrigation facilities, traditional agricultural practices, poor quality of soil, low land-man ratio, poor marketing facilities, poor accessibility to urban markets , inadequate storage facilities, large scale under-employment ,unemployment and disguised employment prevailing in the rural areas invariably propel large scale migration to the cities, where the informal economy is known to create space and provide livelihood to the distressed migrants. However, without adequate measures to draw these semi-skilled and unskilled population into the mainstream formal sector, these urban poor invariably give rise to slums. Slums, as by-products of urbanization, are born out of imbalanced outcomes of urban development. They are largely triggered by aggressive policies adopted by nations ignoring the intricacies of the individual's relationship with the home and the community. At the end of Second World War, large scale migration from rural to urban areas was witnessed in France. This demographic and economic trend rapidly raised rents of existing housing as well as expanded slums. Government passed laws to block increase in the rent of housing, which inadvertently made many housing projects unprofitable and increased slums. Due to increasing urbanization, slums became common in the 19th to late 20th centuries in the United States and Europe. Slums are

still predominantly found in urban regions of developing countries, but are also still found in developed economies. The world's largest slum city is found in the Neza-Chalco-Ixtapaluca area, located in the State of Mexico.

Defining Slums

Known to have origin in London, word slum meant "room" in English parlance, which subsequently was replaced around by Black slum meaning 'back alley or street of poor people in the year 1845. Slum are also known as shanty town, favela, ghetto etc. in different countries. The word slum has always been considered to have negative connotations. Using word slum for an area is invariably seen as an attempt to label the area as illegal, unauthorized and sub-standard. Slums are known to be areas infected by all vices and little virtues. Despite housing considerable proportion of urban population, making valuable contribution to the urban economy, creating large number of employment opportunities and providing workforce for creating/making operational, basic urban services, slums remain most degraded and neglected areas of the urban settlements. While slums differ in size and other characteristics, they invariably lack reliable sanitation, supply of clean water, reliable electricity and other basic services. Slum residences vary from shanty houses to professionally built dwellings which, because of poor-quality construction and/or lack of basic maintenance, have deteriorated over a period of time. Although slums, remain usually located in urban areas, they can also be located on urban fringe/peri-urban areas where housing quality is low and living conditions are poor. Accordingly, they have always been defined by individuals institutions/ organization/ scholars/ researchers/academicians/ parastatal agencies etc. with negativity. Various definitions globally used for slums include;

- Slums are illegally built, densely populated urban areas with very poor living conditions and quite often plagued by violence.
- A slum, commonly called Jhuggi-Jhopris in India, is residential area where the dwellings by reason of over-crowding, lack of ventilation, light and sanitary facilities, unhygienic conditions and other set of factors are detrimental to safety, health and morals.
- A slum is typically a heavily populated urban residential area consisting, for the most part, of densely clustered, decrepit housing units in a degraded or inadequate infrastructural situation, mostly occupied by poor people.

- A slum is a highly populated urban residential area consisting of densely packed housing units of weak built quality. The infrastructure in slums is often deteriorated or incomplete, and it's primarily inhabited by impoverished people.
- Slums' means a house that is "materially unfit for human habitation (Housing Reform movement in England)
- Slum is a contiguous settlement where the inhabitants are characterized as having inadequate housing and basic services.
- Cities Alliance Action Plan describes slums as, neglected parts of cities where housing and living conditions are appallingly poor.
- A compact area of at least 300 population or about 60-70 households of poorly built congested tenements, in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities are termed as Slums (Census of India,2011).
- Census of India 2011 also explained slums as, "Residential areas where dwellings are unfit for human habitation by reasons of dilapidation, overcrowding, faulty arrangements and design of such buildings, narrowness or faulty arrangement of street, lack of ventilation, light, or sanitation facilities or any combination of these factors which are detrimental to the safety and health
- The slum is reckoned as an inevitable part of modern urbanization where urban poor are active agents serving the non-slum dwellers and contribute to economic growth.
- Urban slums are settlements, neighborhoods, or city regions that cannot provide the basic living conditions necessary for its inhabitants, or slum dwellers, to live in a safe and healthy environment.
- The United Nations Human Settlements Programme (UN-HABITAT) defines a slum settlement; which cannot provide one of the basic living characteristics involving; durable housing of a permanent nature that protects against extreme climate conditions; sufficient living space, which means no more than three people sharing the same room; easy access to safe water in sufficient amounts at an affordable price; access to adequate sanitation in the form of a private or public toilet shared by a reasonable number of people and security of tenure that prevents forced evictions.

Slums in the Global Context

- Slums exist in many countries and have become a global phenomenon. A UN-Habitat report states that in 2006 there were nearly 1 billion people settling in slum settlements in most cities of Central America, Asia, South

America and Africa, and a smaller number in the cities of Europe and North America. The United Nations also predicted that most population growth will be recorded from the metropolitan areas themselves in the future, with 165 million additional individuals projected to live in urban areas by 2030. It is estimated that the 1 billion who live in slums and informal settlements will grow to 3 billion by 2050 without more action.

- In 2012, according to UN-Habitat, about 863 million people in the developing world lived in slums. Of these, the urban slum population at mid-year was around 213 million in Sub-Saharan Africa, 207 million in East Asia, 201 million in South Asia, 113 million in Latin America and Caribbean, 80 million in Southeast Asia, 36 million in West Asia, and 13 million in North Africa. Among individual countries, the proportion of urban residents living in slum areas in 2009 was highest in the Central African Republic (95.9%), Chad (89.3%), Niger (81.7%), and Mozambique (80.5%)
- Rio de Janeiro documented its first slum in 1920 census. By the 1960s, over 33% of population of Rio, 45% of Mexico City and Ankara, 65% of Algiers, 35% of Caracas, 25% of Lima and Santiago, 15% of Singapore, lived in slums. By 1980, in various cities and towns of Latin America alone, there were about 25,000 slums.

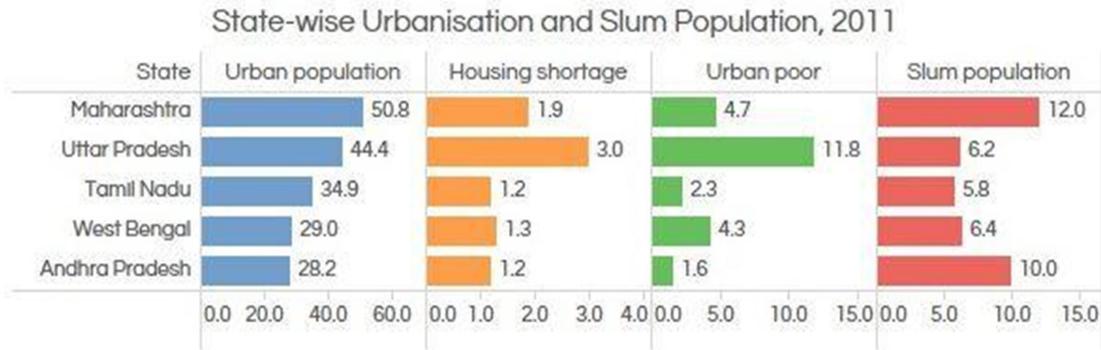
Slums in the Indian Context

- Slums under Indian Census have been categorized and defined to be of three distinct typologies including: Notified Slums; Recognized Slums; Identified Slums
- All areas in a town /city notified as 'Slum' under any Act including are termed as Notified Slums.
- All areas recognized as 'Slum' other than formally notified as slum under any act are known as Recognized Slums.
- Slums exist in majority of Indian towns and cities with 2 out of 3 towns reporting the existence of slums. Out of 4041 Statutory Towns, Census 2011 reported Slums from 2,543 Towns. 63% of Indian towns recorded the existence of slums in 2011.
- In terms of Census Enumeration blocks, number of Slum Enumeration Blocks (SEBs) recorded were about 1.08 lakh in the country. Largest number of Slum EBs was reported from state of Maharashtra (21,359). State alone contained about one-fifth of identified slum blocks.
- Largest number of slums in the country fell under the category of Identified slums, followed by Notified slums. Recognized Slums were found to be

minimum. Based on categorization, Notified Slums numbered 37,072 (34.30%); Recognized Slums were 30,846(28.50%) and Identified Slums count were placed at 40,309(37.20%);.

- Total number of Households in India reported to be living in slums in the year 2011 were of the order of 137.49 lakh; out of which 49.65 lakh HH (36.1%) lived in Notified Slums; whereas Recognized Slums count was placed at 37.96 lakh HH(27.6%); and Identified Slums had 49.88 lakh HH(36.3%);
- Slum household distribution was found to be uneven in the country. State of Andhra Pradesh was found to be the worst placed in the country in terms of providing quality of life to its citizens, with every third household being a slum dweller. Northern states were better placed in terms of number of slums. Existence of slums and level of urbanization were not found to be co-related at the state level. Top 5 States in the country reporting Slum Households included Andhra Pradesh (35.7%); Chhattisgarh (31.9%); Madhya Pradesh(28.3%); Odisha (23.1%);West Bengal (21.9%)..
- State of Kerala was found to be best placed with minimum number of slums household-- 1.5% of total households in the state. Chandigarh, despite being the best planned city, reported every tenth household living in slums. Bottom 5 States reporting Slum Households included; Chandigarh (9.7%); Gujrat (6.7%); Jharkhand (5.3 %); Assam (4.8 %); Kerala (1.5 %);
- Despite level of urbanization standing at 31.16%; India, reported to have high incidence of slum dwellers. Every sixth urbanite was reported to be slum dweller in 2011. As against total household of 789 lakhs, slum households were counted to be 137 lakh (17.4%) and non-slum households were placed at 652 lakhs (82.6%).
- Size of the city was found to have positive co-relation with the slum population. Large concentration of slum households were found to be concentrated in metro cities, Every third resident of metropolises was a slum dwellers as against every sixth in the urban India. 46 million Plus Cities held 52lakh slum households (38.1%) as against 85 lakh (61.9%) in other cities.
- Mumbai, recorded large slum population with every second resident of the city living in slums. Dharavi, largest slum settlement in India, is also located in Mumbai. Capital city of Delhi had only every seventh urbanite a slum dweller. Proportion of Slum Households in Metros were found to be - Greater Mumbai (M Corp) 41.6%; --Kolkata (M Corp.)- 29.6%, Chennai (M Corp)-28.5% , Delhi MC (U)- 14.6%, %, as compared to other cities.
- Distribution of Urban population, existing housing shortage, urban poor and slum population in five major states of India is shown below. From the table it

can be observed that poverty and slums are positively co-related ie higher the level of poverty, larger will be the proportion of slum population. It can also be inferred from the table that larger the housing shortage, larger will be the number of slum-dwellers. Further, slums are also known to be positively related to level of urbanization.



Causes Promoting and Expanding Slums

- Growth of slums has been a phenomenon which is witnessed globally. Starting with industrial revolution in the so-called developed countries, culture of slums has engulfed entire humanity. Slums are seen as integral part and product of the process of urbanization and urban growth. It is largely attributed to problem of poverty and inability of local institutions to effectively meet the emerging challenges of urbanization. But poverty is not an urban problem, it is a human problem. It has emerged as an urban problem because of concentration of large number of poor in the urban spaces. Urbanization perse is not bad, but when not managed and regulated properly, it can be major cause of ills facing the urban areas. Primarily and essentially, slums and affordable housing remain negatively co-related. Economist summarizes this as, "good housing is obviously better than a slum, but a slum is better than none."
- Slums are known for having genesis in combination of large number of demographics, physical, social, economic, environmental and political environment prevailing in the community, state and nations. Factors which are responsible and known for the emergence, growth, development, spread and sustainability of Slums have been enumerated in terms of; rapid rural-to-urban migration, poor planning, economic stagnation , depression, poverty, high degree of unemployment, informal economy, colonialism and segregation, politics, natural disasters, social conflicts, mismatch between demand and supply of housing, low availability of affordable housing, high land cost, irrational

housing policies, poor financial base, low level of urbanization, low land-man ratio, large dependence on agriculture, low urban priority, low allocation of resources, neglect of rural areas, absence of regional planning etc.

- **Rapid and Massive Urbanization;** Rapid urbanization, primarily and essentially, led by industrialization and duly supported by rapid growth of population, rural- urban migration and shift in economic policies and programs, has cumulatively resulted in the growth of slums. Mushrooming of slums in the urban context has genesis in large-scale squatting of unskilled/ poor migrants coming from rural areas in search of better living conditions. It is the combination of both push and pull factors, which are largely responsible for rural to urban migration. With poverty pushing the rural poor and urban areas pulling them with the hope of gainful employment and better economic opportunities, they enter into no-man land. Largely employed informally with low wages, with no security of job; these workers with low affordability are too poor to rent a house and pay for the urban infrastructure, have no option but to look at the shelter which has low financial cost, even when devoid of basic amenities. These squatter settlements, over a period of time, become slums. In whatever way the slum grows, slum dwellers form part of the urban economy. Nevertheless, as more and more people make this transition, the space left to accommodate them becomes less and less. Urban development cannot keep up with the rising numbers of informal settlers, and no agency, institution and parastatal agencies want to be made responsible for the slums or their inhabitants. Slums thus continue to mushroom and grow as integral part of the urban development process.
- **Rapid Migration;** Globally, rural economy is primarily hinges , gravitates and leveraged by land and agriculture in all the developing economies, as against the urban economy, which has its roots, origin and genesis in the secondary and tertiary sectors, largely dictated by industry and services. With low availability of land-man ratio, lack of irrigation facilities in majority of rural areas, poor connectivity; lack of access to urban market and non-remunerative prices of the produce, agriculture has rarely proved to be an economical viable option to promote prosperity. This has led millions of rural work force to find work in the informal economies of the cities as their only choice. Accordingly, millions move to the cities on daily basis in search of finding any informal job including domestic assistance, driving middle-class vehicles, taxi driving, construction

work, etc. In the already packed urban infrastructure, this causes overcrowding, congestion and slums. Rural to urban migration is one of the primary drivers of growth of slums in Indian cities. As per Census, 2011, migration remains one of the prime causes of rapid population growth with every fifth person added to urban population during 2001-2011 was a migrant from rural area. In the face of massive influx of rural population, urban centres, which are ill equipped to support additional population, fail to cope up with high influx of people which ultimately leads to emergence of numerous physical and social problems including housing shortage, unemployment, illegal growth, encroachment on public land, haphazard and unplanned development, lack of basic amenities and essential public services along with development of slums. Migration to cities led by people because of connection with relatives/families already living in slums in urban areas, also leads to further expansion of these slums.

- **Poverty;** *Poverty* and slums have always remained positively connected. Where poverty prevails, slums find place in that space. Considering the high rate of poverty, unemployment and lack of other amenities prevailing in the rural areas, large proportion of rural population tends to migrate to urban areas, in search of better economic opportunities and improving the quality of life for themselves /family. With available shelter and civic amenities in majority of the urban areas, failing to match the ever-growing demand led by rapid population growth/uncontrolled migration, the prevailing gap between demand and supply of adequate housing creates adequate space/reason for the development of the slums in the urban areas. Cities in fact don't create space and positivity to welcome/accommodate immigrants, leading to emergence of slums. Urban poverty encourages the formation and demand for slums. With rapid shift from rural to urban life, rural poverty migrates to urban areas. The urban poor arrives with hope, and very little of anything else. They typically have no access to shelter, basic urban services and social amenities. Slums are often the only option left for the urban poor to find shelter in the city. Slum dwellers typically inhabit marginal locations such as dumping grounds mainly due to the low purchasing power in formal land markets when compared with high-income groups. Further, the urban poor lack the access to formal financial resources to help them purchase new homes or maintain a new life in a new housing unit.
- **Stagnating Economy;** Slow growth rate, rapidly growing population and reduced per capita income, invariably leads to increasing poverty in both urban

and rural areas. Rising rural poverty also encourages migration to move and march towards urban areas. A poorly performing economy is known to, increases poverty and rural-to-urban migration, thereby creating favourable environment for slums to come up/mushroom and grow.

- **Low availability of Affordable Housing;** The ever-widening gap between growing demand for affordable urban housing and insufficient supply has encouraged the formation of slums. Whenever the demand surplus is not met by formal sectors, this gap is typically filled by an informal dwelling such as a slum. Reporting estimated 24.9 million shortage of dwelling units at the end of 10th five year plan by the Technical group set up by the Government of India; including 99% shortage reported to be in the category of affordable housing, there exists large gap between demand and supply of housing in the affordable category in the urban areas. Many cities, neither have, nor offer enough low-cost housing options for large number of rural-urban migrant, who come to cities in search for jobs. This mis-match has left little option for the urban poor/migrants to seek shelter in the formal housing market, leading to mushrooming of illegal colonies/slums in the urban areas. Further, rural migrants, mainly lured by higher incomes, continue to flood into cities. They thus expand the existing urban slums. In addition, some rural-urban migrant worker cannot afford housing in cities and eventually settle down in the affordable slums.
- **Neglect of Rural Habitat;** With 68.9% population of India (Census,2011) living in more than 6,42,000 villages, India lives in villages and not in cities. With 2.4% global land housing 17.7 % population, globally India ranks high among nations having poor land-man ratio. With low land-man ratio prevailing in the rural areas, urban poverty is assuming alarming proportions. Primarily driven by dependence on agriculture, Rural India remains largely under-employed/unemployed for majority of the year, leading to emergence of high degree of poverty. Village accordingly, remains under-developed in large number of cases and face perpetual shortage of basic amenities/ facilities besides opportunities for gainful employment. Lack of facilities in rural India forces people to migrate and increases pressure on urban areas, causing unplanned, haphazard and sub-standard growth of cities including mushrooming of slums. In fact, majority of urban problems/ills including mushrooming of slums, have its genesis in the perpetual neglect of the rural areas.

- **Overcrowding;** Overcrowding remains one of the major causes of growth of slums emerging from large scale conversion of good housing into poor quality of housing due to concentration of people in a limited space. Urban areas are known to follow a pattern of development, which is largely characterized by overcrowding of buildings on the land and overcrowding of people in the buildings. Slums are usually caused by overcrowding in big cities emerging from lack of space available for living and prevailing high cost of land due to large number of people migrating to the cities. Overcrowding in the urban context remains associated with and is considered as the outcome of the low availability of space per person as compared to specified norms, high occupancy rates and habitation of same space by different families. Many slum dwelling units remain overcrowded, with large number of people sharing limited space, used for cooking, sleeping and living. Large number of the urban dwellers in Mumbai reside in one room and thousands sleep on the footpath. About 40% of the households of the metropolis reside in the slums. Overcrowding has become the norm for urban living and has been found to have high degree of positive correlation with the population of the settlement. Mega cities like Mumbai, Kolkata, Delhi, Bengaluru, Hyderabad, Pune etc. are known for the overcrowding, congestion and consequently for large concentration of slums.
- **Shortage of developed land;** Land remains the basic platform where all human activities are performed. All human activities are also essentially both users and consumers of land. Accordingly, land remains critical for human living and working. Non-availability of adequate urban land remains the greatest challenge in the urban context and also the basic cause for majority of maladies existing in the urban areas. Due to high concentration of people and activities, land as a resource remains highly stressed, in terms of both price and availability, in the urban areas, leading to creation of large gap between demand and supply. Shortage of developed legal land for housing in the urban areas, leads to high land prices and remains the basic/major cause for mushrooming of slums.
- **High land Prices;** Perpetual shortage of land in urban areas leads to making land expensive in the urban market. Accordingly, urbanization forces many people to live in slums when it transforms agricultural land into urban areas and increases land value. Urbanization invariably involves large conversion of land from agriculture to urban uses. With industries, investment and urban activities coming into the area, many other related activities start competing for the space,

leading invariably to increase in the value of land. High prevailing land prices leads to exclusion of large proportion of poor and migrant population from accessing land for creating appropriate shelter for themselves and their families, through formal and legal systems. The gap between people's low income and the high land price forces migrants/people to look for other options and construct cheap informal settlements, known as slums in the urban context. Conversion of agricultural land also leads to loss of employment for large rural workforce, making them surplus and unemployed. Left to fend themselves they have little option but to seek jobs in urban areas as rural-urban migrants. Prevailing high land prices in the urban areas beyond their affordability leads to exclusion of the urban poor out of the formal land market; creating environment for encroaching on land and illegal occupation of available urban areas for creating informal housing, even when devoid of basic amenities /services.

- **Urban Villages;** Villages coming into the urban fold due to expansion of urban limits/ falling in peri-urban areas get invariably overcrowded due to offering/creating options of low rent accommodation to work force operating in urban areas, without adequate /basic support infrastructures/ municipal services, creating slum like conditions which become slums in due course of time. Makoko – One of the oldest slums in Nigeria, was originally a fishing village settlement, built on stilts on a lagoon. It developed into a slum and became home to about a hundred thousand people in Lagos. In India also, large number of so-called urban villages, have been virtually converted into slums under the developmental pressure of urbanization and rapid urban development. Urban villages are known to offer cost-effective and soft development options as compared to other urban areas, due to laxity of urban laws, non- descript and poor enforcement of building regulations governing the development. In order to avoid the conversion of villages as urban slums, these villages need to made integral part of urban planning, development and management process.
- **Poor maintenance;** Poor upkeep, maintenance, overcrowding and dilapidation have been known to be the prime reasons which convert even good housing into slums, due to perpetual neglect. Large housing stock in good standing in urban India has suffered this fate due to prevailing low rent perpetuated by prevailing outdated rent laws, which makes uneconomical for homeowners to rationally maintain the house in good conditions on regular basis. Continued neglect of proper maintenance and upkeep of housing perpetuated by the

tenants has also resulted in decay and damage to good housing stock. Good maintenance and upkeep needs to be made integral part of any housing, in order to avoid good housing stock getting converted into slums. In this context, tenants and owners, both need to be made jointly responsible for maintaining the house in a good living conditions in order to minimize the loss of good housing.

- **Vote Bank Politics;** In Indian context, democratic process based on promoting vote-bank theory, also remains largely responsible for cropping up large number of slums in urban areas. Since slum population constitutes a consolidated and an easy to capture vote bank, various political parties want them to stay and support them to remain in power. It is for this qualified political patronage that all election manifesto of various political parties, while contesting elections, provide for retaining/rehabilitating the slums, where they exist. This is the prime reason due to which one can find large number of slums existing/growing in all mega/metropolitan cities of India. As per *Wikipedia*, many local and national governments have, for political interests, subverted efforts to remove, reduce or upgrade slums into better housing options for the poor. Throughout the second half of the 19th century, for example, French political parties relied on votes from slum population and had vested interests in maintaining that voting bloc. Removal and replacement of slum created a conflict of interest, and politics prevented efforts to remove, relocate or upgrade the slums into housing projects that were better than the slums. Similar dynamics are cited in favelas of Brazil, slums of India, and shanty towns of Kenya. Some of the largest slums of the world are in areas of political or social conflicts. Scholars also claim that politics also drives rural-urban migration and subsequent settlement patterns. Pre-existing patronage networks, sometimes in the form of gangs and other times in the form of political parties or social activists, inside slums seek to maintain their economic, social and political power. These social and political groups have vested interests to encourage migration by ethnic groups that will help maintain the slums, and reject alternate housing options even if the alternate options are better in every aspect than the slums they seek to replace.
- **Prevailing High Rents;** Due to wide gap existing between demand and supply of affordable housing in urban areas, the rents of the available houses remain very high, which are beyond the affordability of the urban poor/ migrants. Accordingly, in search of shelter, migrants remain on the prowl to find any available vacant land, public or private, for creating temporary hutments. With

the passage of time and with more and more people joining the locality, area soon takes the shape and develop into the slum.

- **Irrational Rent Law;** Prevailing regime of rent related legal framework also remains largely responsible for creating slums in Indian cities and towns. As per Census 2011, more than 10% of the housing stock available in India remains vacant. In certain large cities, every sixth dwelling house is lying vacant. There exists dichotomy and contradictions in the housing market, on one hand India faces huge shortage of housing stock whereas on other side large housing stock remains vacant, locked and unoccupied. Prevailing rent laws, which, primarily and essentially, remain tenet oriented, are largely known to be responsible for this prevailing dualities and contradictions, which have forced and added large number of people living in slums. Existing rent related legal regime needs review, revision, rationalization and redefinition for bringing all vacant houses into the urban market and creating an enabling environment for putting in place large stock of rental housing, in order to make housing for all a distinct reality and making cities slum free.
- **Exclusion of the Poor from Planning process;** One of major reason for mushrooming of slums in urban areas, is the non-availability of adequate land for their housing. Planning tools deployed and all the developed plans prepared for the cities, in the shape of Master Plans/ development Plans, to rationalize their orderly and planned growth, generally provide little space and options for creating adequate area for providing shelter and work for the poor/migrants/informal sector. This exclusion from the planning process leads to acute shortage of land for creating spaces for shelter and work. Unable to find adequate and appropriate place/space in the city fabric for their working and shelter, urban poor/migrants become vulnerable to the prevailing market forces. High land prices exclude them from formal planning, development and management processes. Cities do not recognize them as their part and parcel and they are left to fend for themselves. In order to minimize slums, informal sector needs to be included and made integral and essential part of urban planning, development and management process.
- **Declining share of Agriculture in GDP;** Population increase in India has been recorded to be at a much faster pace as compared to total amount of arable land in the post-independence period. Contribution made by the agriculture sector to the national economy and GDP has been gradually declining and getting muted,

marginalized and considerably reduced. Contribution of agriculture, which accounted for 52% of its GDP in 1954 was recorded as only 19% in 2004. With reduced wealth available to increasing rural population, standing at 833 million in 2011, rural areas are faced with reduced/diluted/ marginalized income and high degree of poverty stress, leading to large scale migration to urban areas. Many people migrate to urban areas because cities promise more jobs, better schools for poor's children, and diverse income opportunities than subsistence farming in rural areas. Rural–urban migration propelled by declining income and increasing economic vulnerability, remains one of the major causes attributed to the formation and expansion of urban slums.

- **Connectivity with Jobs;** Mushrooming of slums has been observed to have high degree of positivity and connectivity with the areas having large concentration/availability/opportunities of jobs. Concentration of jobs have invariably been observed in the urban settlements as compared to rural hinterland and among urban areas in large metropolises, as compared to smaller ticket cities. Within urban settlements, concentration of options for employment have been observed in the commercial/institutional/industrial/office complexes and in the residential areas housing upper end of economic pyramid of population. Accordingly, in Mumbai, large concentration of slums has been found to be in close vicinity of skyscrapers and wealthier parts of the city, a location that provides jobs and easy commute to those living in the slums. In order to minimize the slums, it will be appropriate that creating affordable housing must be made integral part of such development.
- **Social Conflicts;** Social conflicts, both locally and globally, have been found to be one of the many causes of mushrooming of large sized slums. Millions of Lebanese people formed slums during the Lebanese Civil War from 1975 to 1990. Similarly, in recent years, numerous slums have sprung around Kabul to accommodate rural Afghans escaping Taliban violence. India also has large share of slums arising out of social conflicts.
- **Natural disasters;** Major natural disasters in poor nations often lead to large scale migration of disaster-affected families taking place from areas crippled by the disaster to unaffected areas. This forced migration arising from the natural calamities invariably lead to creation of temporary tent city and slums, or expansion of existing slums. These slums tend to become permanent over a

period of time, because the residents do not want to leave for various reasons. Growth of slums near Port-au-Prince after the 2010 Haiti earthquake, and slums near Dhaka after 2007 Bangladesh Cyclone Sidr, are the visible examples of displacements caused by natural disasters

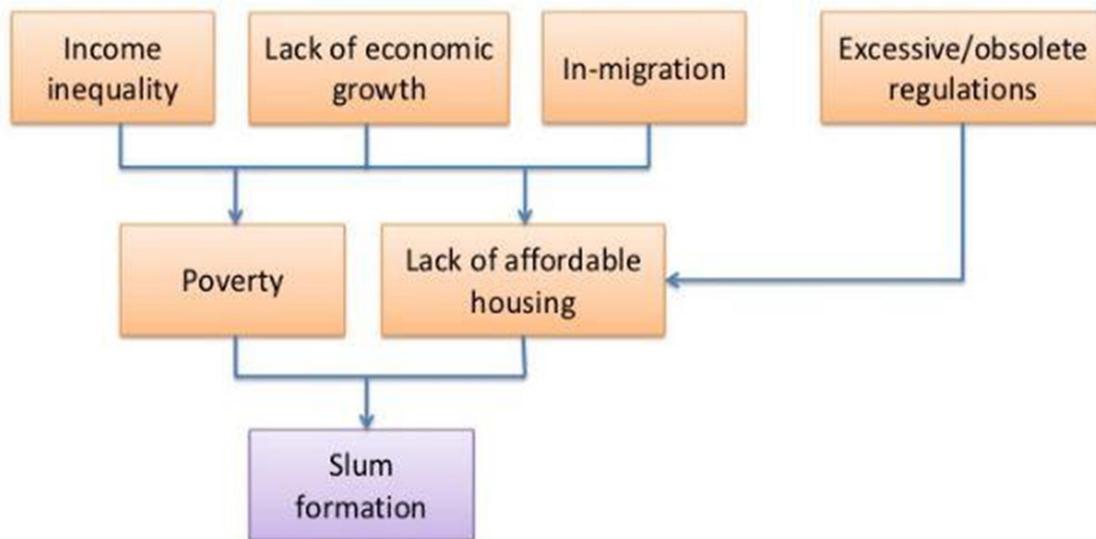
- **Rapid growth of informal sector;** The World Bank and UN Habitat has worked out global scenario of slums in the absence of nation not taking up economic reforms and have finally concluded that, assuming no major economic reforms are undertaken by nations, then it is estimated that more than 80% of additional jobs in urban areas, of developing world, may be low-paying jobs in the informal sector. Everything else remaining same, this explosive growth in the informal sector is likely to be accompanied by a rapid growth of slums. Accordingly, urban settlements of developing economies will face the unprecedented crisis of mushrooming of slums in the years to come.
- **Irrational Housing Policies;** Lack of affordable low-cost housing and poor urban planning invariably encourages the supply side of slums. The Millennium Development Goals proposed that member nations should make a "significant improvement in the lives of at least 100 million slum dwellers" by 2020. If member nations fail to achieve this goal, 90% of the world total slum dwellers may remain in the poorly housed settlements by 2020. Choguill claims, that existence of large number of slum dwellers indicates a deficiency of practical housing policy. Whenever there is a significant gap in growing demand for housing and insufficient supply of affordable housing, this gap is typically met in part by slums. Insufficient financial resources and lack of coordination in government bureaucracy are two major causes of poor house planning. Financial deficiency also explain lack of affordable public housing for the poor since any improvement of the housing in slums and expansion of public housing programs involves large investment and great increase in the government expenditure. The problem can also lie on the failure in coordination among different related departments in charge of economic development, urban planning, and land allocation. In some cities, governments assume that the housing market will adjust the supply of housing with a change in demand. However, with little economic incentives, existing housing market is more likely to develop middle-income housing rather than low-cost housing. The urban poor gradually become marginalized in the housing market where few houses are

built to sell to them., leading to creating incentives for mushroom growth of slums.

- **Policies of Colonization promoted by Britishers;** Large number of slums existing globally has genesis and remain the outcome and product of policies, programs and culture of irrational and biased urbanization brought in by Europeans colonist during the nineteenth century, which in the name of creating new urban centres, to promote their financial interests, followed differential policies/ planning norms and standards for rulers and ruled; regarding locals inhabitants as temporary migrants needed for labour; providing them barest minimum of accommodation with poor quality of basic infrastructure and services. Over a period of time with migratory labour force getting permanently settled with their families gradually migrating to the urban centre, the slums started coming due to poor affordability to buy houses. Slums in Kenya are the outcome of thesis policy.
- **Development of large sized Projects;** Development of major large size commercial, industrial, institutional projects taken up by public, private and parastatal agencies are also known to be responsible for growth of slums. Large scale development taken up in the post-independence period regarding setting up new capital cities, special economic zones and large industrial units, attracted large work force for their construction, also led to mushrooming of slums created by the migrant labour involved in the construction of these projects, in the absence of any shelter made available to them. Mushroom growth of slums in capital cities of Chandigarh, Gandhinagar, Bhubaneshwar and industrial cities of Bhilai, Rourkela have genesis in this process.
- **Unplanned Segregation of Land uses;** Largest slum in India, Dharavi has genesis and is the outcome of policy of promoting segregation, followed between residential and polluting industries imposed by the colonialist British Regime when tanneries, pottery and other economy located within Mumbai were shifted outside and established inside and around Dharavi. With shifting of industries and poor moved , working as servants in colonial offices and homes and in the foreign owned tanneries and other polluting industries near Dharavi , a small and non-descript village Koliwadas, without any infrastructure, including roads, sanitation, public services or housing,; grew as a shanty towns, which was easy to commute for work. By 1947, when India became an independent nation, Dharavi had blossomed into Bombay's largest slum.

- **Poor infrastructure,** Social exclusion and Economic stagnation; Social exclusion and poor infrastructure forces the poor to adapt to conditions beyond their control. Poor families that cannot afford transportation, or those who simply lack any form of affordable public transportation, generally end up in illegal/unauthorized/squat settlements, located within walking distance or close enough to the place of their formal or informal employment. Social exclusion, poor quality/unpaved streets and poor infrastructure, economic stagnation creating uncertainties and risks for the poor, encouraging people to stay in the slums /are the major cause for mushrooming of slums. Studies made globally have revealed that every 1% increase in paved all-season roads, reduces slum incidence rate by about 0.35%. Affordable public transport and economic infrastructure empowers poor people to move and consider housing options other than their current slums. A growing economy that creates jobs at rate faster than population growth, offers people opportunities and incentive to relocate from poor slum to more developed neighborhoods.
- **Informal Economy;** As per Wikipedia, many slums grow because of growing informal economy which creates demand for workers. Informal economy is that part of an economy that is neither registered as a business nor licensed, one, that does not pay taxes and is not monitored by local or state or federal government. Informal economy grows faster than formal economy when government laws and regulations are opaque and excessive, government bureaucracy is corrupt and abusive of entrepreneurs, labor laws are inflexible, or when law enforcement is poor. Urban informal sector is between 20 and 60% of most developing economies' GDP; In many cities the informal sector accounts for as much as 60 per cent of employment of the urban population. Slums thus create an informal alternate economic eco-system, that demands low paid flexible workers, something which impoverished residents of slums deliver. Accordingly, countries in which ease of doing business remain low priority and where starting, registering and running a formal business is difficult, these environments are known to be highly conducive to encourage informal businesses and slums. Without sustainable formal economy which increases incomes; create better opportunities; provide assured and secure employment, squalid slums are likely to continue.
- **Role of Labour;** Research in the latest years based on ethnographic studies, conducted since 2008 about slums, published initially in 2017, has found out the

primary importance of labour as the main cause of emergence, rural-urban migration, consolidation and growth of informal settlements. It also showed that work has also a crucial role in the self-construction of houses, alleys and overall informal planning of slums, as well as constituting a central aspect by residents living in slums when their communities suffer upgrading schemes or when they are resettled to formal housing. Accordingly, it will be critical to understand and appreciate the role of labour and work in origin and mushrooming of slums.



Characteristics of Urban Slums

United Nations Human Settlements Programme (UN-HABITAT) explain the different characteristics of slum in terms of;

- Slums are known to be characterized by poor housing units which remain vulnerable to natural disaster and destruction because affordable building materials cannot withstand earthquakes, landslides, excessive wind, or heavy rainstorms. They are dirty places without hygienic air, space or light.
- Slum-dwellers are at greater risk of disaster because of their vulnerability to Mother Nature. Slums develop at the outer edges of cities, in derelict areas, abandoned sites or on sides of roads and other cheap places
- Dense and overcrowded living quarters creates a breeding ground for transmittable diseases, which can lead to the rise of an epidemic.

- Slum-dwellers without access to clean and affordable drinking water, with no access to adequate sanitation, such as plumbing and garbage disposal, are at risk of waterborne diseases and malnutrition, especially amongst children.
- Poor slum dwellers commonly suffer from unemployment, illiteracy, drug addiction, and low mortality rates of both adults and children. Law and order is rarely maintained.
- Majority of slum dwellers remain unskilled; employed largely as unskilled workers or in the informal sector of the economy or self-employed carrying out petty trade, repairs and transport.

The distribution of slums within cities varies throughout the world. In most of the developed countries, it is easier to distinguish the slum-areas and non-slum areas. In the United States, slum dwellers are usually in city neighborhoods and inner suburbs, while in Europe, they are more common in high rise housing on the urban outskirts. In many developing countries, slums are prevalent as distributed pockets or as urban orbits of densely constructed informal settlements. In some cities, slums are not just marginalized neighborhoods holding a small population; slums are widespread, and are home to a large part of urban population. These are sometimes called slum cities. The percentage of developing world's urban population living in slums has been dropping with economic development, even while total urban population has been increasing. In 1990, 46 percent of the urban population lived in slums; by 2000, the percentage had dropped to 39%; which further dropped to 32% by 2010. After looking, critically and objectively, at the reasons leading to growth of slums, for understanding and appreciating slums, it will be important to look at their specific characteristics which distinguish them from the formal settlements, in terms of their nature, fabric, socio-economic structure, morphology, physical characteristics, services, quality of life etc.

- **Location;** Slums are known for typicality of their location. Generally making a beginning at the outskirts and with city expanding in area and size over a period of time, slums are known to get enclosed and wrapped inside the urban perimeter. New slums sprout at the new boundaries of the expanding city, usually on publicly owned lands, thereby creating an urban sprawl, mix of formal settlements, industry, retail zones and slums. This makes the original slums valuable property, densely populated with many conveniences and attractive to the poor. Locational aspect of slum is known to be related to the ownership pattern of land. Slums are typically located on least desirable lands near the town or city, that are state /private owned or have no clear land title.

Location of slums has relationship to topography, availability of water and visibility. In cities located over a mountainous terrain, slums begin on difficult to reach slopes or start at the bottom of flood prone valleys, often hidden from plain view of city center but close to some natural water source. In cities located near lagoons, marshlands and rivers, they start at the banks or on stilts above water or the dry river bed; in flat terrain, slums begin on lands unsuitable for agriculture, near city trash dumps, next to railway tracks and other shunned undesirable locations. These strategies shield slums from the risk of being noticed and removed, when they are small and most vulnerable to governing institutions. Further, slums come up in hazardous locations such as in proximity to industrial plants with toxic emissions or waste disposal sites. Initial homes tend to be tents and shacks that are quick to install, but as slum grows, becomes established and newcomers pay the informal association or gang for the right to live in the slum, the construction materials for the slum's switches to more lasting materials such as bricks and concrete, suitable for slum's topography. It has also been observed that original slums get established next to centers of economic activity including schools, hospitals; sources of employment, which the poor rely on. Established old slums, surrounded by the formal city infrastructure, cannot expand horizontally; therefore, they grow vertically by stacking additional rooms, sometimes for a growing family and sometimes as a source of rent from new arrivals in slums. Some slums name themselves after founders of political parties, locally respected historical figures, current politicians or politician's spouse to garner political backing against eviction.

- **Unhealthy living conditions and hazardous locations:** Slums are known to be characterized by living conditions which are not conducive to healthy living. Unhealthy living conditions are the result and outcome of prevailing lack/absence of basic services, open sewers, unpaved pathways, absence of potable water, uncontrolled dumping of waste, polluted environments, etc.
- **Insecure Tenure;** Absence of land tenure is one of the key characteristic, major cause and effect of the mushrooming of slums. As already stated, slums are typically located on least desirable lands near the town or city, that are state/private owned or on land with no clear title. Some immigrants carry a perception that land which is unoccupied is a land without owners and therefore available for occupation and use by anybody. In other cases, land allotted by local community /government to people for public purposes, is misused/illegally occupied by land mafia/ migrants, which later develop into slums and over

which the dwellers don't have property rights. Informal land tenure also includes occupation of land belonging to someone else. According to studies carried globally; 51 percent of slums are based on invasion to private land in sub-Saharan Africa; 39 percent in North- Africa and West- Asia, 10 percent in South Asia. In India, situation is no different. In some cases, once the slum has many residents, the early residents form a social group, an informal association or a gang that controls newcomers, charges a fee for the right to live in the slums, and dictates where and how new homes get built within the slum. The newcomers, having paid for the right, feel they have commercial right to the home in that slum. The slum dwellings, built earlier or in later period as the slum grows, are constructed without checking land ownership rights or building codes, are not registered with the city, and often not recognized by the city or state governments. Secure land tenure remains critical and vital for slum dwellers as an authentic recognition of their residential status in urban areas. It also encourages them to upgrade their housing facilities, which will give them protection against natural and unnatural hazards. Undocumented ownership with no legal title to the land also prevents slum settlers from applying for mortgage, which might worsen their financial situations. In addition, without registration of the land ownership, the government has difficulty in upgrading basic facilities and improving the living environment. Insecure tenure of the slum, as well as lack of socially and politically acceptable alternatives to slums, also creates difficulty in citywide infrastructure development, such as connecting them with rapid mass transit and laying electrical line and sewer pipe layout, highways and roads in the slums, which is considered as the government recognition of slums as a legal residential entity.

- **Substandard housing and over-crowding;** Slum areas are invariably associated with large number of substandard housing structures, often built with non-permanent materials, unsuitable for housing, in dilapidated conditions, lacking basic amenities and services offering a degraded and a poor quality of life. Slum areas are largely characterized by substandard shanty housing structures. Shanty homes are often built hurriedly, on ad-hoc basis, with materials unsuitable for housing. Often the construction quality is inadequate to withstand heavy rains, high winds, or other local climate and location. Paper, plastic, earthen floors, mud-and-wattle walls, wood held together by ropes, straw or torn metal pieces as roofs are some of the common materials used in the construction. In some cases, brick and cement is used, but without attention to proper design and

structural engineering requirements. Various spaces, dwelling placement bylaws and local building codes are invariably/extensively violated. Overcrowding is another characteristic of slums. All these dwellings have no/little concern for air, light and ventilation and accordingly remain poorly lit and ventilated, leading to creating adverse living conditions for the inhabitants. These dwelling units are generally low height structures, where entries to the structure remain generally low for creating appropriate level of privacy for the inhabitants. Most of these units have plinth level which is normally below the adjoining katcha public path, to provide height adequate enough for standing of the inhabitants. Many dwellings are single room units, with high occupancy rates. Each dwelling may be cohabited by multiple families. Five and more persons may share a one-room unit; with same space used for cooking, sleeping and living. Overcrowding is also seen near sources of drinking water, cleaning, and sanitation where one toilet may serve dozens of families. In a slum of Kolkata, over 10 people sometimes share a 45 m² room. In Kibera slum of Nairobi, Kenya, population density is estimated at 2,000 people per hectare or about 500,000 people in one square mile.

- **Inadequate infrastructure;** One of the identifying characteristics of slums is the lack of or inadequate public infrastructure. Slums remain marginalized spaces in the cities, housing poor people, for whom availability of safe drinking water, electricity, basic health care, police services, affordable public transport, urban services, sanitation sewer, paved roads, open spaces and public amenities remain a mirage and a distant dream. Old slums are known to garner political support and get some of the basic infrastructure such as paved roads and unreliable electricity or water supply. Slums usually have no formal locations/addresses and remain characterized by narrow alleys, crisscrossed by open drains/sewers that do not allow vehicular traffic to pass. Absence of formal system of managing garbage always leads to garbage accumulate on streets/ in front of houses or thrown on the backyard of slums. The lack of infrastructure has genesis in the informal nature of settlement and outside the domain of formal urban planning process. In large number of cases slums are known to have been destroyed/damaged by frequent fires which plague these areas. In many countries, local and national government often refuse to recognize slums, because the slum are located on disputed land, or because of the fear that official recognition will encourage more slum formation and seizure of land illegally. Recognizing and notifying slums often triggers a creation of property rights, and

requires that the government provide public services and infrastructure to the slum residents. With poverty and informal economy, slums do not generate tax revenues for the government and therefore tend to get minimal or slow attention. In other cases, the narrow and haphazard layout of slum streets, houses and substandard shacks, along with persistent threat of crime and violence against infrastructure workers, makes it difficult to layout reliable, safe, cost effective and efficient infrastructure. According to Census 2011, among the slums in India; 58% have open or no drainage; 43% must bring water from outside their communities; 26% do not have access to clean drinking water; 34% have no latrine within premises; 19% open defecate and minimum two electricity outages occur per day. Looking at the enormity of services and cost involved, making provision of such services remains biggest deterrent for parastatal agencies. With poor financial base, urban local bodies are always reluctant to improve the living conditions from their own resources. Slums are considered as urban liability and not an asset and accordingly remain ignored and marginalized in the urban priorities.

- **Vulnerability to natural /man-made hazards;** Slums are often placed among the spaces in the urban context which remain vulnerable to natural disasters such as landslides and floods. In cities located over mountainous terrain, slums begin on slopes difficult to reach or start at the bottom of flood-prone valleys, often hidden from plain view of city center but close to some natural water source. These strategies shield slums from the risk of being noticed and removed when they are small and most vulnerable to local government officials. However, the ad hoc construction, lack of quality control on building materials used, poor maintenance, and uncoordinated spatial design make them prone to extensive damage when they are faced with natural disasters. These risks are likely to be intensify under the impact of climate change. Globally, slums remain vulnerable to extensive damage and human fatalities from landslides, floods, earthquakes, fire, high winds and other severe weather due to their locational/development hazards. Some slums risk man-made hazards such as toxic industries, traffic congestion and collapsing infrastructure. Fires are another major risk to slums and its inhabitants, with streets too narrow to allow proper and quick access to fire vehicles. Location on derelict/low lying/floodable/vulnerable/unhealthy/disease prone land/sites and their pattern of development and growth remain the guiding factor to promote their vulnerability to various disasters.

- **Unemployment and informal economy;** Due to lack of skills and education, many slum dwellers face high rates of unemployment in the competitive job markets. The limited availability of job opportunities makes them get engaged in the informal economy, inside the slum or in developed urban areas near the slum. Experience gained by working in the informal economies/ professional skills eventually make many secure find jobs in formal economies. However, slums are known to be notorious for various illegal activities involving; drug trade and distribution in Brazil's favelas; production of fake goods in the colonies of Tijuana; smuggling in katchi abadis and slums of Karachi and production of synthetic drugs in the townships of Johannesburg. The slum-dwellers in informal economies run many risks. The informal sector, by its very nature, leads to income insecurity and lack of social mobility. There remains absence of legal contracts, protection of labor rights, regulations and bargaining power in informal employments.
- **Violence;** Slums are known to be notorious places infected by social problems involving; crime, violence, illegal trade, rape, drugs trade, drug trafficking, brewing, prostitution, gambling, weapons, smuggling etc. Empirical data suggest crime rates are higher in slums than in non-slums, with slum homicides alone reducing life expectancy of a resident by 7 years. UN-Habitat reports suggests slums are largely more exposed to crimes with higher crime rates. However, crime is not the direct resultant of structure of slums, rather crime remains one of the symptoms of slum dwelling; thus, slums consist of more victims than criminals. Criminals in the slums invariably make gangs to carry out their illegal activities in an organized manner. Often multiple gangs fight for control over revenue in slums.. Slum crime rate correlates with insufficient law enforcement and inadequate public policing. In many cities of developing countries, law enforcement lags behind urban growth and slum expansion due to ineffective city planning and governance. Lack of formal recognition by the governments also leads to few formal policing and public justice institutions in slums. Women in slums face greater risk of physical and sexual violence. Gang and drug wars are endemic in some slums, predominantly between male residents of slums to ascertain supremacy.
- **Infectious diseases and epidemics;** Slum dwellers remain prone to large number of diseases like cholera, HIV, AIDS, measles, malaria, typhoid, drug and other epidemics. Cholera and diarrhea are especially common among young children, which are major contributor to the prevailing high mortality

rates in slums. High population densities, poor living conditions, low vaccination rates, insufficient health-related data and inadequate health service remain the major causes for health related vulnerability in slums. Slums have been historically linked to epidemics, and this trend has also continued in modern time. Slums are considered a major public health concern and potential breeding grounds of drug resistant diseases for the urban areas including nations and global community.

- **Child malnutrition;** Child malnutrition is more common in slums than in non-slum areas. In Mumbai and New Delhi, 47% and 51% of slum children under the age of five are stunted and 35% and 36% of them are underweight. These children suffer from third-degree malnutrition, according to WHO standards. The major nutritional problems in slums are protein-energy malnutrition (PEM), vitamin A deficiency (VAD), iron deficiency anemia (IDA) and iodine deficiency disorders (IDD). As per Dr. Abhay Bang, malnutrition kills 56,000 children annually in urban slums in India. Widespread child malnutrition in slums is closely related to family income, mothers' food practices, mothers' educational level, and maternal employment or housewifery. Poverty may result in inadequate food intake when people cannot afford to buy and store enough food, which leads to malnutrition.
- **Prevalence of non-communicable diseases;** A multitude of non-contagious diseases also impact health for slum residents. Large number of slum families not reporting cases or seeking professional medical care, results in insufficient data, preventing appropriate allocation of health care resources in slum areas. Health service also remain insufficient or inadequate in most of the world's slums. Emergency ambulance service and urgent care services are typically unavailable, as health service providers sometimes avoid servicing slums. Studied made globally has shown that more than half of slum dwellers are prone to visit private practitioners or seek self-medication with medicines available in the home. Unlicensed or poorly trained private practitioners run clinics and pharmacies in slums. Complex network of physical, social, and environmental factors operating in the slums contribute to the health threats/hazards faced by slum residents.

Way Forward

In developing countries, slums are known to be integral part of urbanization, growth and development of cities. Slums remain positively co-related to and known to keep pace with the growth of cities. Slums have growth dynamics which has its distinct complexities. Slums are always evolving and devolving and never static. Slums in developing countries are fast emerging as an issue, which is becoming important part of growth agenda of all governments. Slums continue to come in existence and grow in different parts of the world for reasons, which remain different, distinct and specific to particular regions. But factors which have been observed common to their growth in different regions inter-alia include; rapid rural-to-urban migration, economic stagnation and depression, high unemployment, urban poverty, informal economy, forced or manipulated ghettoization, poor planning, politics, natural disasters, and social conflicts.

Recent years have seen a dramatic growth in the number of slums as urban population has increased in developing countries. Nearly a billion people worldwide live-in slums, and as per projections made, figure may grow to 2 billion by 2030, if governments and the global community ignore slums and continue current urban policies. United Nations Habitat group believes change is possible. Strategies tried to reduce and transform slums in different countries, have met with varying degrees of success, which include combination of slum removal, slum relocation, slum upgrading, urban planning with citywide infrastructure development, and creating large stock of rental, affordable and public housing. Some NGO's are focused at addressing local problems involving; sanitation issues, health, through the mapping out of the slums and its health services, creation of latrines, creation of local food production projects, and even microcredit projects. In one project (in Rio de Janeiro), the government even employed slum residents for the reforestation of a nearby location. To achieve the goal of "cities without slums", the UN claims that governments must undertake vigorous urban planning, city management, infrastructure development, slum upgrading and poverty reduction. However, solutions for managing slums will have to be found within the fabric and reasons which propel the mushrooming of slums in urban areas. As part of discussions held between UN Habitat, NGOs and Civil Society in Nairobi for finding appropriate, realistic and rational solutions to slums and informal settlements, it was concluded that, ' for effectively solving the problem of urban slums, nations must move away from piecemeal slum upgrading and policies that result in more slums, to strategically working with local governments to provide good facilities and services in rural areas to reverse the trend of migration to urban

areas; pushing for inclusion, integration and for those living in informal settlements to be able to own their own homes; Plan for reducing poverty and inequality of services in urban and rural areas, improving the urban environment and building capacity to effectively respond to urban crises; and create partnerships, share successes and challenges and creating capacity to deal with the migration, national disasters and violence. Accordingly, way forward to make cities slum free should essentially revolve around;

- **Empowering Rural Settlements;** Since most of the urban ills and problems including mushrooming of slums, have genesis in the neglect of the rural areas, accordingly solutions for minimizing slums also lies in taking adequate care of rural settlements by promoting holistic development of rural areas. Rural areas are known to suffer from the malaise of neglect, absence of basic infrastructure and lack of employment opportunities. Accordingly, if villages are developed with adequate provision made for the basic amenities and services besides creating appropriate options for employment, surely villages will become better place to live and work and with the reduction of number of rural migrants, cities will have large reduction of urban slums. The existing state of rural infrastructure need to be tackled and improved on priority in order to manage large-scale migration from rural to urban areas. It will also remain crucial to make provision/ access to credit and services for the rural areas failing which the causes of rural poverty will continue to wear down the urban fabric. Urban poverty will become the most significant and politically explosive problem in the 21st century. Along with encouraging income-generating opportunities, it will be rational to take adequate steps in encouraging small and medium-sized enterprises in rural areas based on agricultural products. Modernization of agriculture, changing cropping pattern and growing value added cash crops, shall be vital to improve the rural productivity and rural economy.
- **Promoting Better Urban Planning;** Rational growth of cities has invariably suffered due to rapid growth of informal settlements in urban areas. Slums were not just born overnight. They were there and they are going to be there if we don't own them. Slums are the product of the very factors which promoted urbanization and urban growth. They remain there, because they are needed. They exist and grow because they have been neglected in the past and continue to face marginalization. They are a result of perpetual negligence and lack of development planning. Despite being integral part of city growth and

development, they have never been included and recognised in the planning process. Efficient urbanization would require, improving, upgrading or enhancing the basic level of infrastructures, living standards of slum inhabitants. Planning must make provision of and ensure these families, availability and access to clean water, electricity, better employment (via skills training), and create opportunity to make them live in their homes via rehabilitation. For most slum inhabitants, who are at constant risk of eviction, granting assured land rights remain critical to eliminate extreme poverty and instability. All this will require relooking and reviewing the prevailing urban planning tools, approach, thought, strategies and redefine them to include and make urban poor and slum dwellers, integral part of urban economy, employment and development process. Effective urban planning policies, based on housing rights and the right to clean environment, must be established at all levels of urban planning for alleviating poverty and making cities inclusive.

- **Rationalizing Slum areas (Improvement and Clearance) Act, 1956:** The Act aimed at mechanical improvement or complete eradication of slums. It empowers the competent authority to declare any slum area in accordance with the definition, look into possibilities of improvement or eradicate slums. Act remains muted and ineffective and has never been implemented in letter and spirit. Act needs review, rationalization and redefinition to make it more effective and efficient instrument to manage slums in the urban areas. Creating dedicated agencies with adequate manpower and resources under the Act, to monitor and manage the existing slums and to eliminate the coming up of new slums, shall be critical.
- **Limiting Slum Removal;** Some cities have followed the policy of removing slums as an option to make cities slum free. This strategy of dealing with slums is rooted in the fact that slums typically start illegally on someone else's land/property, and accordingly they are not recognized as legal by the state. As the slum started by violating another's property rights, the residents have no legal claim to the land. Slum removal by force tend to ignore the social problems that cause slums. The poor children as well as working adults of a city's informal economy need a place to live. Slum clearance removes the slum, but it does not remove the causes that create and maintain the slums. This option has to be followed in exceptional cases based on the detailed study, analysis and looking at the social problems and inconvenience caused by slum removal. Option of slum

removal remains expensive, wastage of resources, and destruction of large housing stock besides involving lot of investment and dislocation and inconvenience to the slum dwellers who face displacement. Wrong relocation can defeat the very purpose and object of slum clearance.

- **Minimizing Slum Relocation;** Slum relocation strategies rely on removing the slums and relocating the slum poor to free semi-rural peripheries of cities, sometimes in free housing. This strategy ignores several dimensions of a slum life. The strategy sees slum as merely a place where the poor lives. In reality, slums are often integrated with every aspect of a slum resident's life, including sources of employment, distance from work and social life. Slum relocation that displaces the poor from opportunities to earn a livelihood, generates economic insecurity in the poor. In some cases, the slum residents oppose relocation even if the replacement land and housing to the outskirts of cities is free and of better quality than their current house due to new location has problems related to health hazard, area prone to natural disaster, or that the alternative location is not well connected to employment opportunities. However, slum relocation in the name of urban development is criticized for uprooting communities without consultation or consideration of ongoing livelihood. For example, the Sabarmati Riverfront Project, a recreational development in Ahmedabad, India, forcefully relocated over 19,000 families from shacks along the river to 13 public housing complexes that were an average of 9 km away from the family's original dwelling.
- **Promoting Slum upgrading;** Slum upgrading, as an approach to improve condition in the existing slums, was inspired in part by the theoretical writings of John Turner in 1972. The approach focused on upgrading the slum with basic infrastructure such as sanitation, safe drinking water, safe electricity distribution, paved roads, rain water drainage system, and bus/metro stops. The basic premise on which this approach rested was that if slums are given basic services and tenure security – that is, the slum will not be destroyed and slum residents will not be evicted-- then the residents will rebuild their own housing, engage their slum community to live better, and over time attract investment from government organizations and businesses. Turner argued not to demolish the housing, but to improve the environment: if governments can clear existing slums of unsanitary human waste, polluted water and litter, and from muddy unlit lanes, they do not have to worry about the shanty housing. "Squatters" have shown great organizational skills in terms of land management, and can effectively and efficiently maintain the infrastructure that is provided. In Mexico

City government attempted to upgrade and urbanize settled slums in the periphery by including basic amenities such as concrete roads, parks, illumination and sewage providing inhabitants access to basic amenities. Most areas were connected to major roads and completely urbanized. Most slum upgrading projects, however, have produced mixed results. While initial evaluations were promising and success stories widely reported by media, evaluations done 5 to 10 years after the project completion have been disappointing. Similarly slum upgrading efforts in Philippines, India and Brazil have proven to be excessively more expensive than initially estimated, and the condition of the slums 10 years after completion of slum upgrading has been slum like. The anticipated benefits of slum upgrading, claims Werlin, have proven to be a myth. Slum upgrading remains largely a government controlled, funded and run process, rather than a competitive market driven process. conflicting politics, government corruption and street violence in slum regularization process is part of the reality. Slum upgrading and tenure regularization also upgrade and regularize the slum bosses and political agendas, while threatening the influence and power of municipal authorities. Slum upgrading does not address poverty, low paying jobs from informal economy, and other characteristics of slums. It is unclear whether slum upgrading can lead to long-term sustainable improvement to slums.

- **Providing Basic infrastructure and affordable housing** ; Globally, making adequate provision of urban infrastructure including affordable and accessible transport and public housing projects have been valued for the disappearance of major slums in the United States and Europe during 1960s and 1970s. London Underground and its expansion has been credited to reducing slums in respective cities and also to an extent, the New York City Subway's smaller expansion . As cities expanded and business parks scattered due to cost-ineffectiveness, people moved to live in the suburbs; thus retail, logistics, house maintenance and other businesses followed demand patterns. City governments used infrastructure investments and urban planning to distribute work, housing, green areas, retail, schools and population densities. One historically effective approach to reduce and prevent slums has been citywide infrastructure development combined with affordable, reliable public mass transport and public housing projects.

- **Empowering Urban Poor;** Empowering urban poor will help in inhabitants moving out of slums and reduce the mushroom growth of slums in future. Under this premise, focus should not be on merely building houses for the slum dwellers but also creating appropriate livelihood options and social and economic infrastructure to develop the livelihood. Skilling slum dwellers can be the best option used for empowering the poor and improve their capacity of higher learning made possible by skills they acquired. Urban areas offer enormous opportunities for employment in making provision and maintenance of urban services. Strategies for income generation, transport and empowerment of the beneficiaries will be critical to improve their economic status and redress possible future problems.
- **Minimizing Slums;** Adoption of a multi-pronged strategy would be desirable to reduce the incidence of Slum in urban areas involving; sourcing adequate land for creating multiple options for affordable shelter to the urban migrants; making adequate provision of clear/free title to the residents for enabling them to enjoy the privileges of using property as a tangible asset; upgrading and making provision for the basic infrastructure and services involving water, power, sewage, collection of solid waste, street lighting, safety and security; defining high-density, low-income zoning that allows individual property owners to upgrade their homes without risk; creating adequate opportunities of gainful employment; linking slums with the areas offering opportunities for employment through cost-effective and fast means of transportation. It will be critical and necessary to equip cities and local level agencies with the tools and capacities to anticipate and control urban growth and city officials to require knowledge, skills and methodologies that will allow them not only to upgrade existing slums but also prevent/avoid coming up of new slums.
- Strategies for slum may differ from place to place but goal remains the same focusing on providing slum dwellers decent and well-serviced housing, offering the poor alternatives to slums. Access to affordable, properly serviced and well-located land will always remain central to the process of resolving the problem of urban slums. Recommendations made by workshop on *City Without Slums*; held in Nairobi, Kenya, September 22-23, 2005; under the aegis of UN Habitat revolved around;
- Need to address slum upgrading in its larger socio-economic and political context,

- Localization of MDG strategies towards achieving significant improvement in lives of slum dwellers,
- Continuation of efforts of all participating cities to broaden the process of participation and consultation in the quest for innovative and durable solutions,
- Gender participation and empowerment in access to land as a priority,
- Resolution of the crisis in our cities to be solved, not by external intervention alone, but essentially through the involvement of all partners including slum dwellers,
- Consistent political support from national governments in slum upgrading policies with the supporting role of the international community,
- Need to mobilize funds in view of leveraging domestic financial resources

Government of India initiatives to tackle problem of urban slums;

- In order to minimize urban slums, numbers of steps have already been taken by the Government of India, in terms of launching numerous schemes, yojnas, programs etc. in the urban context. However, despite best of the efforts made, Indian experience in tackling experience has been diverse. It has both encouraging and discouraging outcomes. Indian cities have largely failed to effectively tackle the problem of mushrooming of slums. Slums are considered as the national problem and not as the local problem. Local agencies remain muted and always look forward to the state/national benevolence to solve the problem of slums. As per data made available by the Census, 2011, besides recording increase in number of cities having slums, slum dwellers have also increased considerably along with number of slums in urban areas. Existing trends indicate that Indian cities are going to face the greatest challenge of managing the growth of slums in the years to come. If slums in India are to be managed, governments in power will have to remain totally committed to promote inclusive development. Existing policies and programs would need a change. We must shift and put an end to our policy of creating ownership of houses, otherwise the problem of slums will never come to close. India must accept the right to shelter but never the right to own the shelter. These two need to be separated and made part of the housing policies and programs. Government must put an end to multiple ownership of houses; encourage/undertaking large scale construction of rental housing, both in private and public sector and also make law to control the rents of the rented accommodation. Rural areas need care, support, empowerment, development and provision of basic infrastructure to improve their quality of life and productivity. Ignoring villages will never permit urban

development to become rational and minimize the growth of slums in urban areas. Focus of planning must shift from Urban planning to Regional planning, so that urban and rural areas are brought on same platform of planning and development. This will promote synergy between the two and ensure balanced growth of rural and urban India. Various programs launched by national governments in the post- independence period to improve the quality of life in slums and to make cities free from slum are enumerated in brief below;

- **National Slum Development Programme (NSDP):** Initiated in 1996, NSDP provided both loans and subsidies to states for slum rehabilitation projects based on their urban slum population.
- **Valmiki Ambedkar Malina Basti Awas Yozana (VAMBAY):** Introduced in 2001, to focus on shelter for the urban poor, with 20% of total allocation for community sanitation facilities under the Nirmal Bharat Abhiyan (NBA) program
- **Basic Services to the Urban Poor (BSUP):** BSUP as an important component of Jawaharlal Nehru National Urban Renewal Mission (JNNURM), aimed at providing basic services to urban poor in 63 identified largest/important cities in India by population/administrative status /religious importance /tourism status.
- **Integrated Housing & Slum Development Programme (IHSDP):** Integrated Housing & Slum Development Programme (IHSDP) launched by Government of India by merging the schemes of NSDP and VAMBAY, with the objective of providing adequate shelter and basic infrastructure facilities to the slum dwellers in urban areas.
- **Interest Subsidy Scheme for Housing the Urban Poor (ISHUP):** The Scheme envisaged the provision of interest subsidy to economically weaker section and Low-income groups to enable them to buy or construct houses
- **Rajiv Awas Yojana (RAY):** RAY remains the flagship program of the congress government to eradicate slums and make cities free of slums by bringing them into the urban fold and making them integral part of the existing city. Launched in 2013, the scheme focused on; recognizing and merging the existing slums into the cities where they exist for enabling them to avail the same level of basic amenities, services and infrastructure as the rest of the town. RAY also mandated to redress the failures of the formal system that lie behind the creation of slums; and tackling the shortages of urban land and housing that keep shelter out of reach of the urban poor. Rajiv Awas Yojana (RAY) envisages a “Slum Free India” with inclusive and equitable cities in which every citizen has access to basic civic infrastructure and social amenities and decent shelter.

- **Mission;** RAY is based on the premise of encouraging and empowering the States/Union Territories (UTs) to tackle the problem of slums, by focusing on: recognizing and bringing all existing categories of slums, notified or non-notified including recognized and identified, within the urban fabric, ensuring parity with regard to availability of basic infrastructures, on the pattern, norms and standards, defined for the formal system; redressing the failures of the formal system that has led to creation of slums by planning for affordable housing stock for the urban poor and initiating crucial policy changes required for empowering the slum dwellers.

Objectives:

Ray was framed to achieve the following objectives;

1. Improving and provisioning of housing, basic civic infrastructure and social amenities in identified slums.
2. Putting in place appropriate reforms to address issues leading to creation of slums.
3. Facilitating a supportive environment for expanding institutional credit linkages for the urban poor.
4. Institutionalizing mechanisms for prevention of slums including creation of affordable housing stock.
5. Strengthening institutional and human resource capacities at the Municipal, City and State levels through comprehensive capacity building and strengthening of resource networks.
6. Empowering community by ensuring their participation at every stage of decision making through strengthening and nurturing Slum Dwellers' Association/Federations.

RAY was envisioned and mandated to be implemented in a mission mode by providing financial support to implementing agencies created at States/UTs/Urban Local Bodies (ULBs)/Central Government Agencies, for providing affordable housing and improving basic civic infrastructure and social amenities in each selected slum. Rental and transit housing was made admissible under the scheme. Operation and maintenance (O&M) of assets created under this scheme was also made eligible for funding. RAY was also used for extending financial support to States for creation of affordable housing stock through public-private partnership (PPP) under the Affordable Housing in Partnership (AHP) component of the scheme. The scheme was made applicable to all slums

existing within the city, irrespective of their location, ownership of land on which they are located and also made applicable to “urbanized villages” inside the planning area of the city master plan. Ray was known to be a novel scheme and an approach which was known to be universal so far addressing holistically the problems of slums in urban India. However, scheme did not make much impact and headway due to inadequate data, lack of resources, capacity, capability and political will to address the issues of slums in India.

Affordable Housing in Partnership (AHP)

The Government has also approved the scheme of Affordable Housing in Partnership (AHP) under Rajiv Awas Yojana (RAY) on 03.9.2013 to increase affordable housing stock, as part of the strategy to eliminate formation of slums.. Central support was provided at the rate of Rs. 75,000 per Economically Weaker Sections (EWS)/Low Income Group (LIG) Dwelling Units (DUs) of size of 21 to 40 sqm. in affordable housing projects taken up under various kinds of partnerships including private partnership. A project size of minimum 250 dwelling units was made eligible for funding under the scheme. The DUs in the project could be planned, designed and constructed to be a mix of EWS/LIG-A/LIG-B/Higher Categories/ Commercial components, of which at least 60 percent of the FAR/ FSI was mandated to be used for dwelling units of carpet area of not more than 60 sq.m. Under AHP Scheme, a total of 21 projects from 3 States (Karnataka, Gujarat & Rajasthan) for construction of 24141 DUs were sanctioned.

- **Pradhan Mantri Awas Yojana-** “Housing for All (Urban): Launched in 2015, the scheme seeks to provide central assistance to implementing agencies through states and UTs for providing houses to all beneficiaries by 2022. It incorporates four verticals containing four different options; two each for the demand and supply side; to address the issue of affordable housing in the urban areas. The options for affordable housing include: “In-situ” slum rehabilitation with participation of private developers using land as a resource. This approach aims to leverage and unlock the potential of land under slums to provide houses to the eligible slum dwellers bringing them into the formal urban settlement.; Promotion of Affordable Housing for weaker section through credit linked subsidy; Creating Affordable Housing in Partnership with Public & Private Sectors; and Beneficiary-led individual house construction/enhancement.

Challenges in the Indian context:

Various experts, researchers and professionals associated with study and analysis of urban slums have identified various challenges which need to be addressed in government policies and program for finding a permanent solution for the urban slums. These challenges have been enumerated in terms of;

- **Slum-land ownership:** Land remains critical for housing the poor. Sourcing adequate land for housing the poor remains the greatest challenge. In the absence of systematic land records, non-transparent deals and ownership conflicts between land-owning departments, assessing land ownership remains difficult. Slum rehabilitation, in-situ development and giving tenure rights to slum dwellers remains greatest challenge in the absence of accurate and clear land record. This in turn delays and hinders implementation of slum rehabilitation schemes.
- **Inadequate formal housing:** PMAY aims at housing for all by 2022 mission, but the rate at which informal housing is being destroyed far exceeds the rate at which formal housing is being constructed. In addition, in the absence of accurate data, there is no assessment of the number of people living in slums. Government policies and program to provide housing for all by 2022, looks a distant dream, considering the non-availability of number of beneficiaries and large number of rural poor migrating to the cities on daily basis.
- **Illegal Subletting:** Number of slum dwellers already provided with free housing and full ownership rights, have grossly misused and abused these rights and entitlements either by transferring these houses at a premium to non-beneficiaries, by charging hefty premium or have illegally subleased. In the long run, this remains counterproductive to the goal of creating slum free cities.
- **Lack of Coherent policy:** India lacks a comprehensive policy which define slums or define the desired end-state of slums or what encompasses “slum-free” city. Policies and programs related to slums have been changing with change of successive governments. Slums have been considered as a safe and assured vote bank for political parties, who follow a policy of appeasement to slum dwellers, assuring them protection, promotion and making available free housing ,once

they are returned to power. Such agenda needs to be stopped for rationalizing the growth of slums.

- **Environmental Sustainability:** There are concerns about adding additional housing on an already over-constrained municipal system. Without investing in adding capacity to existing civic infrastructure for the city, such policies could put undue burden on the city's civic amenities such as water and electricity and promote adverse quality of life in urban India. While undertaking rehabilitation of slums and slum dwellers, larger interest of the city and its population, in terms of appropriate services, must also be addressed as integral part of the policy.

Chapter -6

Slums in India- 2011 Census

- Slums, as integral part of haphazard and unplanned urban growth and development, are known to be shadows of urbanization.
- Slum, for the purpose of Census, has been defined as residential areas, where dwellings are unfit for human habitation by reasons of dilapidation, overcrowding, faulty arrangements and design of such buildings, narrowness or faulty arrangement of street, lack of ventilation, light, or sanitation facilities or any combination of these factors which are detrimental to the safety and health.
- Slums under Indian Census have been categorized and defined to be of three distinct types including: **Notified Slums; Recognized Slums; Identified Slums**
- All notified areas in a town or city notified as 'Slum' by State, UT Administration or Local Government under any Act including the 'Slum Act' are termed as **Notified Slums**.
- All areas recognized as 'Slum' by State, UT Administration or Local Government, Housing and Slum Boards, which may have not been formally notified as slum under any act are known as **Recognized Slums**.
- A compact area of at least 300 population or about 60-70 households of poorly built congested tenements, in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities are termed as **Identified Slums** under the Census of India,2011
- Slums have been found to exist in majority of Indian towns and cities with 2 out of 3 towns reporting the existence of slums. Out of 4,041 Statutory Towns existing in India, Census 2011 reported Slums from 2,543 Towns. 63% of Indian towns recorded the existence of slums in 2011.
- In terms of Census Enumeration blocks, number of Slum Enumeration Blocks (SEBs) recorded were about 1.08 lakh in the country. Largest number of Slum EBs was reported from state of Maharashtra (21,359). State alone contained about one-fifth of identified slum blocks.
- Largest number of slums in the country fell under the category of Identified slums, followed by Notified slums. Recognized Slums were found to be minimum Based on categories, **Notified Slums** numbered 37,072(34.30%); **Recognized Slums** -30,846(28.50%); and **Identified Slums** count was placed at 40,309(37.20%);.

- Total number of Households in India reported to be living in slums in the year 2011 were of the order of **137.49 lakh**; out of which 49.65 lakh HH(36.1%) lived in **Notified Slums** ;whereas **Recognized Slums** count was placed at 37.96 lakh HH(27.6%); and **Identified Slums** had 49.88 lakh HH(36.3%);
- Slum household distribution was found to be uneven in the country with few states reporting existence of large slum household as compared to others. State of Andhra Pradesh was found to provide worst placed in the country in terms of providing quality of life to its citizens, with every third household being a slum dweller. Northern states were found to be better placed in terms of number of slums. Existence of slums and level of urbanization were not found to be co-related at the state level **Top 5 States in the country reporting Slum Households included Andhra Pradesh (35.7%); Chhattisgarh (31.9%); Madhya Pradesh (28.3%); Odisha (23.1%); West Bengal (21.9%).**
- Few states did much better, considering the existence of slum households in the country. State of Kerala was found to be best placed with minimum number of slums household placed at only 1.5% of total households in the state. Chandigarh, despite being the best planned city, reported every tenth household living in slums. **Bottom 5 States Reporting Slum Households included; Chandigarh (9.7%); Gujrat (6.7%); Jharkhand (5.3 %); Assam (4.8 %); Kerala (1.5 %)**
- Despite low level of urbanization standing at 31.16%; India, as a nation, was reported to have high incidence of slum dwellers. **Every sixth urbanite in India was reported to be living in slums** in 2011. As against total household of 789 lakhs, slum households were counted to be **137 lakh (17.4%)** and non-slum households were placed at **652 lakhs (82.6%)**.
- Size of the city was found to have positive co-relation with the slum population the city was holding. Accordingly, large concentration of slum households were found to be concentrated in metro cities, Every third resident of metropolises were a slum dwellers as against every sixth in the urban India. **46 Million Plus Cities** held 52 lakh slum households (38.1%) as against 85 lakh (61.9%) in other cities.
- Number of slum households was found to at variance in the mega cities. Mumbai, being the largest populated city in India, recorded large slum population with every second resident of the city leading a degraded life. Dharavi, largest slum settlement in India, is also located in Mumbai. Capital city of Delhi is found to be better placed as compared to Mumbai, so far as slum

households are concerned with only every seventh urbanite a slum dweller. Proportion of Slum Households in Metros were found to be - Greater Mumbai (M Corp) 41.6%; --Kolkata(M Corp.)- 29.6%, Chennai(M Corp)-28.5% , Delhi MC (U)- 14.6%, BBMP(M Corp)- 8.5%.

- Great variation is also observed in the number of households living in million plus cities. Vishakhapatnam was found to have largest proportion of population living in slums with on an average every second household counted to be slum dweller, followed by Jabalpur cantt, Greater Mumbai, Vijaywada etc. Top 10 **Million Plus Cities with High Proportion of Slum HHs** in 2011 include-- Greater Visakhapatnam M Corp-44.1% ; Jabalpur Cantt (CB)- 43.3; . Greater Mumbai (M Corp.)- 41.3% ; Vijayawada (M Corp.)- 40.6%; Meerut (M Corp.); Raipur (M Corp.)-40.0%,Nagpur (M Corp.)-39.0%;Greater Hyderabad M Corp(GHMC)- 34.3%; 31.9%; Kota (M Corp.)-31.8%; Agra (M Corp.)-29.8%
- In terms of typologies of the housing, majority of houses were found to be permanent followed by semi-permanent with minimum proportion of temporary houses in both urban areas and slums. Proportion of Permanent houses matched both in urban and slum areas, whereas proportion of Semi-permanent and Temporary households was found to be higher in slums as compared to urban areas. Proportion of Households by Type of Census houses in urban India and slums include- Permanent U -84.3/ S-77.7 % HH; Semi-permanent -U -11.6/ S-16.0 %HH; Temporary-U-3.2/ S-5.3 %HH; Any other - U 0.9/ S-1.0 %HH;
- Majority of households in slums were found to be the owners of the house. Ownership of housing was found to be higher in slums as compared to urban India. Slums also follow the pattern of ownership and providing renting facilities. One –fourth of household were found to be living in the rented housing in slums, following the pattern in urban areas. Details of the households by Ownership Status in India included –**Urban/Slums**--- Owned – U-69.2% /S-70.2%; **Rented**-- U-27.5%/S-26.3% ; **Others**- U- 3.3%/ S-3.5 %
- Variations were also observed in the availability of rooms both in the urban areas and the slum households, which makes an interesting study. It varied as widely as with no rooms to more than five rooms. Three- fourth of the slum households lived in either one room or two room accommodation; whereas every sixth slum household was placed in three/four room house. Number of households in slums with no room was placed at 4.4%. Slum household were also found to have five or more rooms. As per Census 2011; Households by Number of Rooms in urban/slums in %age terms were found to be – No Exclusive Room—3.1/ 4.4;

One Room—32.1/44.8; Two Room- 30.6/ 29.5; Three Room- 18.4/12.3 ; Four Rooms 9.3/5.4; five Rooms& above -6.5/3.5 .

- Households size in slums were also found to be varying from as low as one member to as high as more than 9 members. Largest proportion of households was found to be comprising of four members; followed by 6-8 members and 5 members. Household pattern based on size was found to be quite similar both in urban areas and slums. As per Census 2011, Households by Household Size— India--- urban/slums in %age -1 member- 3.6/3.7 ; 2members- 9.5/9.5; 3 members-15.9/14.9 ; 4 members -26.4/25.1; 5 members-18.5/19.4 ; 6-8 members— 20.6/22.2 ; 9 and above members -5.4/5.2
- Considering the use to which houses were put in slums, majority of houses-four out of five- were used for residential purposes. In addition, houses in slums were also used as shops, offices, schools, factories, workshops, place of worships etc, indicating slums also served for activities other than residences only. Details of houses based on Use of Occupied Census Houses recorded in census 2011included --Total Occupies Census Houses - urban/slums in %age-- Residence—76.9/ 82.5 ; Residence-cum-other use- 2.4/2.4 ; Shop/Office- 10.8/6.7; School/College etc- 0.4/0.3 ; Hotel/Lodge/Guest House—0.4/0.2;Hospital/ Dispensary etc- 0.3/0.2; Factory/ Workshop etc- 1.5/1.2 ; Place of worship -0.6/0.6; Other non-residential use-6.0/5.1 ; Locked Census House- 0.7/0.6.
- In slums, three- fourth household had access to tap water supply, whereas only one-eighth used wells as source of water supply. More than half (56.7%) household had source of water supply located within the premises in which they were living while remaining (43.3%) depended on outside sources.
- 9 out of 10 households in slums (90.5%) had access to electricity as the source of lighting, whereas remaining households depended on kerosene, solar, oil etc. for lighting the premises. However, 0.5% household had no access to any source of lighting except nature.
- 81% household in slums could access bathing facility within their premises with 19% having no access to such facility. However, every seventh household had no roof over the available bathing facility (14.%) within the premises.
- Regarding waste water drainage connectivity, one third households (36.9 %) enjoy facility of covered drains; whereas majority are still to live with open drains(44.3%). About one-fifth (18.8%) are without any drainage option.

- Regarding latrine facility, two-third of slum households (66.0%) have latrines within their premises, whereas rest of 34% go for outside facility including both public and open defecation. More than half of slum households (57.7%) have access to WC, whereas 6.2% used pit latrines. One fifth slum households (18.9%) in urban areas defecated in the open.
- Cooking inside the house was being done by almost all the slum households (94.1%), whereas only 5.4% slum households were cooking outside the house. However, only 65.3% slum household had the facility of kitchen within the house, whereas remaining 28.8% households were cooking without any kitchen. No cooking was reported in the 0.5% slum households.
- LPG/PNG was being used by majority (51.3%) as the fuel for cooking in the slums. Next preferred fuel for cooking was fire wood (25.8%) followed by kerosene (14.0%). Bio-gas was used by only 0.5% slum households
- Availing banking facility was equally divided between haves and have-nots with facility was being used by (53.2%) slum households, whereas. (46.8%) had no access to banking facility.
- More than two third slum households (69.6%) had televisions along with 18.7% having radio/transistors. As many as 10.4% slum households had computers with them but majority of them were without internet facility (7.1%)
- Among assets in possession of urban slums, 72.7% owned telephones, out of which 63.5% owned mobiles and 4.4% owned landline, whereas 4.8% household owned both mobile and land line connection; 40.2% owned bicycles whereas scooter/motor cycle/moped was owned by 22.0%. Car/van Jeep was owned by 3.6% of the slum households whereas 10.7% slum households had no such assets.

Chapter -7

Housing Typologies

Difference Between Plotted Development (PD) and Flatted Development (FD)

Housing, because of its magnitude and quantity, remains the major and important component of any city. Occupying largest proportion of urban land, housing is also known to be the definer of the personality of the city. Urban housing comes in number of variants and typologies. However, these variants can be divided into two broad categories. These categories are generally defined as plotted development and flatted development. There is a third variant, which is a mix of plotted and flatted development. These categories have their own advantages, disadvantages, limitations and implications. Debate has been going on to understand the implication of these typologies in terms of physical, social, economic and environmental implications including cost-effectiveness and utilization of land. Accordingly attempt has been made to understand the context of these broad typologies in the parlance of economy, cost-effectiveness, operational efficiency, utilization of land, creating housing stock, pattern of development, land ownership etc

i. Pattern of Development

PD- Involves development based on and comprising of number of plots having variable size- both smaller and larger size

FD- Involves development based on plot having much larger area as compared to plotted development

ii. Pattern of Land Ownership

PD- Land generally owned individually or jointly in the name of few family/friends to promote individual housing

FD- Land held in joint ownership of all stakeholders comprising of all the flat owners on the plot.

iii. Pattern of development- Height

PD- Low rise-- going generally up to 3/4 stories

FD- High rise --generally going 4 or more stories.

iv. Land Utilisation

PD- Low level of land utilisation -with larger area going under roads, opens spaces and community facilities

FD- High land utilisation--with smaller area going under roads, opens spaces and community facilities

v. Population/Housing Density

PD—Low density and low population-- due to individual ownership, depending on size of plots carved. Smaller the size of plots, higher will be the density and population. Population also depends upon individual capacity, resources or willingness to construct entire or part of building

FD- High density-- due to joint ownership, depending upon combined resources and combined effort of all stakeholders to provide dwelling to all land owners, developed to full capacity using full density and floor area ratio.

vi. Open Spaces

PD- Small in area - Open spaces available within plots and held in private ownership with use limited to only by the owners- Increases need for provision of large common open spaces at the neighbourhood/sub-sector/sector level for the community.

FD- Large in area- jointly held in ownership to be used widely for the benefit of all the residents. Help reduce making provision of large open spaces at the sector level.

vii. Cost of Construction

PD- Generally high—due to independent construction and being low rise buildings

FD- Generally low-- due to multiple and repetitive design of dwelling units and sharing of the foundation, walls and open spaces etc

viii. Social Sustainability

PD- Low social sustainability-- due to lower social interaction promote by individual living

FD- High social sustainability-- due to higher social interaction based on community living

ix. Safety and Security

PD—Low order of safety and security - due to individual living

FD- High degree of safety and security--due to community living

x. Pattern of Living

PD- Promotes individual living leading to anonymity and exclusion

FD- Promotes community living leading to higher social interaction

xi. Design of Unit

PD- More flexibility in design--due to single unit and limited ownership- bases on owners choice.

FD- Low design flexibility --due to multiple units and joint ownership leading to repetitive nature of design of dwelling units- based on common consensus.

xii. Cost of Maintenance of Services

PD- Higher cost-- due to individual maintenance. Expensive considering life-cycle cost of building.

FD- Low maintenance cost- due to collective maintenance done by society created by the flat owners. Monthly maintenance charges paid by each flat owner. Cost- effective considering life –cycle cost

xiii. Creation of Housing Stock

PD- Low capacity to create housing stock- due to non-construction on plot in one go leading to lower land utilisation

FD- High housing stock- due to construction of all flats in one go – leading to higher land utilization

xiv. Affordable Housing

PD- Makes cost of housing high and unaffordable-- due to land cost and cost of construction--. Inefficient method to create large affordable housing stock

FD- Makes housing cost-effective and affordable-- due to shared land cost and lower cost of construction, best method to create large housing stock

xv. Sustainability

PD- Low sustainability--due to large dependence on common facilities and services provided at the neighbourhood level.

FD- High sustainability- due to provision of common facilities and basic services as part of group housing

xvi. Technologies

PD- Offers limited options for using state of art construction technologies and minimising cost

FD- Offers large options for using state of art construction technologies to promote cost and material efficiency

xvii. Green & Energy Efficient Buildings

PD- Offers limited effective /efficient and cost-effective options-- for promoting energy efficiency, rain water harvesting, ground water recharging and solid waste management

FD- Offers large effective/efficient and cost-effective options--for promoting energy efficiency, rain water harvesting, ground water recharging and solid waste management- based on community living

xviii Ground Coverage

PD- Ground coverage generally higher-- as compared to flatted development

Ground coverage and FAR varies and gets lower with increase in plot area.

Number of development units and population density not defined for plotted development

FD- Ground coverage generally low as compared to plotted development

Ground coverage and FAR don't change even with increase/decrease in plot area.

Development largely governed by pre-defined density, floor area ratio, height, ground coverage and size of dwelling units.

xix Parking Norms

PD- Parking norms are generally not defined for plotted development.

FD- Parking norms are clearly and precisely defined--for flatted development, depending on the size and category/number of dwelling units

xx Rate of Return

PD-- Offers better internal rate of return for developers/owners due to higher demand from investors, clear land ownership and faster disposal. Popular in small and medium towns.

FD - Offers comparatively lower internal rate of return for developers/owners – generally due to lower demand from investors, no defined title to land and slow disposal. Most popular in large size/metro cities, where land prices are high.

xxi Completion of Project

PD— Faster Completion of projects as compared to build up flats

FD—Takes large time for completion of project- due to scale of project and large numbers of houses to be constructed and problem of co-ordination and co-operation among members of society

xxii Risk

PD—Lower risk- due to quick approval and faster disposal, with low risk due to minimum construction involved and faster exit from project

FD— High risk- due to multiple approvals and slow disposal, with higher risk due to large scale construction involved and slow exit from project.

xxii Affordability

PD— Plots are more affordable and cater to wider segments of society by offering numerous options to buyers due to varying sizes of plots

FD— Flats generally become unaffordable and offer limited options to buyers due to their built up nature , predefined design and area.

xxiii Acceptability

PD— Plots are always acceptable and liked by buyers even in adverse market conditions due to human psyche of owning land. Plots are universally accepted both in large and small towns.

FD—Flats have low level of acceptability particularly in the adverse market conditions. Flats have least acceptability in small towns and are generally favoured in the large towns.

xxiv Developer's Preference

PD- Plotted development --has always been preferred by developers having large chunk of land and resources-- due to early exit and making large profit with minimal effort

FD-- Flatted development-- has generally been preferred by small developers having smaller chunk of land with limited resources .

xxv Land Cost

PD- Low land cost in majority of cases promotes plotted development with large plot area. Plot size and Land Cost are negatively correlated with plot size going small with increase in land prices..

FD- High land cost discourages plotted development but leverages flatted development. Land Cost and building footprints are negatively co-related **with** flat size reducing with increase in land prices.

xxvi Housing Stock

PD- Plotted development –worst and most inefficient option for creating large housing stock

FD— Flatted development—best and most cost-effective option to create large housing stock at most affordable price

xxvii Living

PD- Plotted development –best option for individual based/ family living for young people

FD— Flatted development—best option for living in case of individuals, working/old age couples etc

xxviii Safety

PD- Plotted development –low level of safety and security

FD- Flatted development-- High level of safety and security

xxxix Self- sufficiency

PD- Plotted development –less self-sufficiency-high dependence on neighbourhood level facilities

FD- Flatted development—More self-sufficiency- due to provision of common facilities- parks, shops, community spaces, crèche, school etc within the society complex

Chapter-8

Managing Cost and Making Housing Cost- Effective

Owning house is a lifetime goal, dream and desire, which every individual wish to achieve and fulfill during his/her lifetime. However, housing remains both cost-intensive and resource extensive activity, which involves lifetime investment and decision making, based on host of personal and extraneous factors. Housing costs remains a complex issue involving large components including cost of land (costs of purchase, titling, registration duties, obtaining planning approval, and any necessary cost of environmental remediation or relocation); cost of providing infrastructure/services involving water systems, electricity grids, heating and cooling networks, roads, security systems, sanitation; and cost of construction of buildings etc.(including labor and materials cost), transportation cost, government levies, management cost and taxes. While constructing shelter every owner/builder wishes to have a house of highest quality, built in the shortest possible time but involving minimum financial cost. So cost remains at the core of house being constructed besides the quality and the time. However, majority of the individuals and architects consider only the housing cost, which refers to the initial cost, which goes into making of the house.

According, to Le- Corbusier buildings are like machines which require both resources and service, for its operation and maintenance. Therefore, house invariably involves cost which has to be incurred after occupation in terms of using electricity and water besides lighting, heating and cooling of the house in terms of HVAC, to have both comfortable living, ambient temperature and appropriate humidity. These are operational costs, which the owner has to pay after the occupation of house. Further, house as structures, has a much larger life span, sometimes even longer than the life span of normal human beings, accordingly these costs add up to be considerable amount when compared to the initial cost of the house. In addition to the cost of operation, there are additional costs, which have to be incurred for the maintenance and making changes, addition and alterations in the house.

As per the studies made, it is said, only 10% of the cost makes the initial cost which goes into making of the house, whereas 90% cost involves the operation and the maintenance cost of the building, which amounts to nine times the initial cost of the house, when life-cycle cost of the house is considered. Accordingly, if the house has to be made cost-

effective in the real sense of the term, then we have to consider both the life-cycle cost and the initial cost, Accordingly, it will be prudent to look at the cost in long term perspective and not short term while evaluating cost-effectiveness of the house.

Considering the overall context of cost-effectiveness, even if while designing a cost-effective and resource-efficient building, if the initial cost goes up by 2-5%, it should be permitted, if it helps in lowering or reducing the operational and the maintenance cost of the buildings over its entire lifespan. Initial higher cost, can be recovered within 3-5 years of operation of house, due to reduced cost of water /electricity bill generated by lower energy and water consumption. Globally, green buildings are known for their capacity, not only to make buildings cost-effective and affordable, but also help affordable housing to graduate from affordable housing to affordable living. Green buildings are known to save up to 40% electricity and 50% water during the usage. Accordingly, while designing and constructing houses, if the building is designed as a green building, then it will make building highly cost-effective over entire period of its existence and operation. Studies made globally, have actually demonstrated that the green houses make inhabitants happy, healthy and more productive besides minimizing the cost of living. In fact green buildings are known for their distinct advantages of creating win-win situation, both for owners, tenants and users.

As already said, housing remains highly complex and large consumer of resources and time, so to make it cost-effective it requires lot of efforts, studies and analysis to achieve economy in the cost of the house. According to the 'World Economic Forum'; Building costs include land acquisition (costs of purchase, titling, registration duties, obtaining planning approval, and any necessary environmental remediation or relocation); utility infrastructure (costs of developing, for example, e.g. water systems, electricity grids, heating and cooling networks, roads, security systems, sanitation systems); and construction costs (including labour and materials). Since land costs and infrastructure costs are usually a factor of location, developers may account for land acquisition and utility infrastructure costs collectively when comparing locations. Cost of housing involves large number of factors including; size of the house to be constructed, place where construction to be made; climate zone in which house is located; context of the site on which house is to be constructed, design of the house; cost of approval of the house for construction and completion; design efficiency, carpet area; material to be used; specifications of the materials; building technologies to be used for construction; area, thickness and length of walls, number of toilet to be provided; specification for public health and electrification appliances/fixtures to be used; structural systems;

materials for flooring roofing and walls; number of doors and windows/openings; size of openings; amount/type of wood and glass to be used; internal finishes adopted; capacity and capability of the contractor and labour hired; nature of the contract for construction; project management; quality of supervision; amount of wastage of materials ; profit margins of the contractor; cost and time of the money borrowed for construction, government levies, taxes, fees; cost of security etc.

It will be critical and important to understand the role of the designer engaged for the designing of the house and his capability and capacity to design, which will be very vital in achieving the cost-effectiveness in the house. If the house is not designed rationally and logically, then achieving cost-effectiveness will remain a distant dream and will be difficult to achieve. Accordingly, it will be desirable that only qualified architects are engaged for designing the buildings, who have the capacity and capability to design good and cost-effective house. Architect hired should have a good knowledge of materials, construction technologies and knowledge of the latest trends in vogue for promoting cost-effectiveness in the buildings. Knowledge of the architect to design green building will be an added advantage. Structural efficiency and designing and placing of services will remain important to achieve cost-effectiveness in the house. Using materials, requiring low maintenance and replacement, will help in making the house cost-effective.

In search for appropriate options for making housing really cost-effective, there is an urgent need to look at different options to make house cost-effective in the real sense of the term. Suggested options for promoting economy; looking at the components which constitute the cost of the house; initial and life- cycle cost; key drivers of cost reduction in terms of planning and designing; materials; labour; technology; infrastructure; marketing; management; finance; speed etc. However, cost-effective does not mean compromising in any way on the quality of construction/building/ housing. Factors enumerated for cost-effectiveness and their context/ impact has been explained in brief below;

1 Cost of Housing includes:

- Cost of sourcing land
- Cost of construction
- Cost of Services- water supply, sewerage, sanitation, electricity, mechanical, HVAC, roads, pavement, landscaping, rain water harvesting etc
- Government Charges/ levies/fees/taxes– registration/ approvals

- Maintenance cost and
- Cost of operations
- Building cost needs to be viewed in both--- long term and short term
- Building cost needs to be evaluated in terms of -- Initial Cost and Life Cycle Cost
- Short Time cost includes Initial Cost—constitutes Cost of construction of building
- Long Term cost component --- involves whole life cost.

2. Whole life cost of building includes:

- Initial design cost
- Construction cost,
- On-going operations and
- Maintenance cost,
- Parts replacement cost
- Disposal cost or salvage value, and
- Useful life of the system or building

3. Initial Building/ Project cost includes:

- Cost of land, land registration, land survey
- Cost of Designing/ plan approval
- Cost of developing Site
- Cost of Construction
- Cost of Money
- Carrying Charges
- Government fees and Taxes
- Cost of Advertisement
- Legal expenses
- Cost of Supervision
- Cost of Manpower and Security
- Cost of Equipment and Furniture
- Transportation and Travel Charges
- Cost of Making buildings Green, Energy efficiency
- Cost of Time
- Contractor' Margin
- Builder's Margin
- Miscellaneous and Unforeseen Charges

4 Key Drivers to Cost Reduction in Housing

- Architectural design and Planning– Best option to reduce cost—
- Site planning based on optimum utilization of the land/available resources
- Minimizing area under roads, services, parking etc
- Adopting optimum design solutions- architecturally, structurally, Services etc
- Adopting Simple form,
- Evolving Functional design,
- Optimum utilization of spaces- both within/outside
- Multiple uses of spaces,
- Minimizing area under walls, circulation etc,
- High building efficiency (high carpet area/covered area ratio),
- Low rise- avoiding lifts
- Minimum wood work-- minimum doors
- Minimizing variations in the sizes of doors and windows,
- Avoiding large openings
- Room/corridors sizes based on the available sizes of tiles /marbles for avoiding wastage when laying flooring etc.
- Using windows/ glass opening sizes based on the available sizes of the wood/glass in the market
- Making simple safety provisions for disaster management
- Promoting Standardization
- Reducing Building Load- self/ occupied,
- Designing thin and lean structures
- Minimizing PH fixtures/toilets
- Clubbing/planning all public health services in close proximity.
- Adopting efficient structural system
- Avoiding large spans
- Avoiding large projections
- Avoiding large area under balconies and projections.
- Making optimum use of day lighting
- Making optimum use of prevailing wind direction for cross –ventilation, where required
- Designing with nature
- Making optimum use of Panchbhutas while designing- Prithvi, Agni, Vaayu, Jal and Aakash
- Making optimum use of orientation

- Making optimum use of sun for heat and light
- Adopt integrated approach to design
- Minimize single loaded corridors, promote doubly loaded corridors to minimize area under circulation
- Minimizing building foot- prints
- Designing compact buildings
- Designing Green Buildings –to reduce cost of electricity/water and generating its own energy

5 Materials

- Using cost-effective materials,
- Using pre-cast, pre- fabricated, re-cycled materials
- Using local materials,
- Using minimum variety of materials
- Using materials in the natural form
- Using recycled materials from demolished structures- bricks etc.
- Using available building components from old buildings- doors, windows, fixtures furniture etc.
- Using materials made from waste- fly ash bricks etc.
- Minimizing use of steel and Cement,
- Using materials requiring minimum maintenance and upkeep/replacement
- Using materials which are light weight
- Using materials which are easy to handle
- Using materials not occupying large space
- Using materials which can be handled by locally available labour and manpower
- Using materials which do not requiring specialized cutting and shaping
- Using materials not requiring special machinery and manpower for handling
- Using materials available in standard shape and size, having little variations
- Using materials requiring minimum fixing and bonding materials.
- Using limited number of variety of materials for flooring, roofing construction to avoid wastage
- Using materials which leaves no wastage.
- Using materials involving less quantity
- Using materials requiring less water for manufacturing/laying/curing
- Using materials requiring less energy for manufacturing- low energy
- Using materials which permit speedier construction
- Using materials involving minimum transportation

6 Labour

- Minimizing manual labour component
- Using local labour
- Involving labour actively in construction by explaining them the design and construction
- Using skilled labour having knowledge and experience of handling material used
- Avoiding outside/specialized labour
- Promoting standardization, pre- fabrication, cast-in-situ components
- Promoting repetitive and simple construction
- Managing labour skillfully, for maximizing output
- Taking care of the labour for their basic day to day needs
- Making arrangement for shelter near the site for housing the outside labour- in large projects
- Creating a crèche for the children of the working women in projects ,having large duration and employing number of women as construction workers with children

7 Technology

- Making use of state of art construction technologies to promote cost-effectiveness
- Promoting technologies which lead to time reduction besides ensuring appropriate quality
- Using technologies for saving on -- labour, space, materials and money
- Using innovative walling and roofing system
- Using Pre-cast and ferro- cement components
- Using pre-cast Aerated Cement Concrete Blocks
- Using technologies involving minimum wastage of materials
- Promoting technologies for repetitive work
- Using technologies for creating materials locally
- Using technologies for brick laying and plastering
- Using innovative technologies for sewage water treatment- phytoremediation system
- Using technologies which need low operational and maintenance cost
- Using state of art locally available refined technologies
- Using materials made out of construction & demolition waste.

8 Infrastructure

- Using Solar Energy
- Using Solar water heating
- Promoting Water conservation
- Reducing electricity/water consumption
- Involving low energy consumption equipment
- Using only star rated electrical equipment
- Using water efficient WCs/urinals/ faucets
- Promoting recycling / multiple use of water
- Installing rain water harvesting system
- Using low energy LED lighting instead of florescent lighting
- Using day-lighting to the optimum level
- Making optimum use of landscaping and existing trees/ flora/fauna
- Using local variety of trees for landscaping
- Using landscaping requiring minimum water
- Planning all services near to location of municipal services – to reduce the length of service network
- Promoting recycling and reuse to minimize waste and promote reuse

9 Marketing

- Minimizing supply chain- inter-mediatory
- Serving End -Users directly
- Promoting economy of scale
- Treating affordable housing as the volume game and not the profit game
- Promoting Engineered Quality Products
- Promoting disposal of houses in minimum time span
- Constructing houses based on local demand, culture and needs only
- Promoting construction, based on affordability
- Tying up with reputed financial institutions for adequate flow of funds and disposal of houses
- Displaying effectively the end products as sample on site.

10 Management

- Promoting Effective and efficient/ professional management for the project
- Using minimum time for construction / completion of building/project
- Minimizing overhead expenses to optimize housing cost
- Entering into long term contracts for essential materials- cement/ steel/sand/ tiles etc

- Outsourcing to trained petty contractors
- Promoting effective checks and balances
- Promoting security of site and materials
- Promoting effective planning of work schedule
- Ensuring quality
- Procuring materials directly from reputed manufacturers
- Avoiding hasty and unscheduled purchases
- Completing project within given time span
- Minimizing time over-run/ cost over-run
- Adopting technologies to minimize construction period

11. Financing

- Reducing cost of money
- Sourcing funds from reputed institutions offering lowest rates of interest
- Completing the project in minimum time span
- Ensuring shorter working capital cycle
- Making beneficiaries part of the project in financing

12 Others

- Sourcing land at most competitive price
- Keeping Builders, Contractor margins low
- Rationalizing Government charges, taxes, levies and fees
- Minimizing transportation
- Minimizing specialized/hired machinery

The costs associated with raw materials, structural framework, plumbing, elevators, electrical work etc. vary according to the height of the structure being built. When urban expert Alain Bertaud, graphed the relationship between cost and density, he found that an optimal value in cost savings was achieved between 20 and 25 floors, with an FSI of between 6 and 7. The cheaper land is, the lower these figures will be (Bertaud,2010).

In addition to factors defined above, for housing to be affordable in the real sense of the term, housing must be closely located to the points of employment economic activities and rationally linked with the quality of life. No housing can be considered “affordable” if it is located far from economic opportunities. Housing markets and labour markets have close linkages. High crime rates is known to adversely impact the housing and

make it unaffordable ,due to lower acceptability of neighbourhood and presence of less economic opportunities in the nearby areas. Accordingly, people need to travel large distances for sourcing job and spend more money/time for accessing job and going back home, which makes housing unattractive, unaffordable and cost intensive. In the Mexican city of Puebla, households located on the periphery were found to spend twice as much cash and three times as much time commuting as those who live centrally (Duren N., 2017). When the Iniciamos Tu Casa programme, relocated poor inhabitants into new houses outside the city centre and away from livelihood options, many of the homes were abandoned within a year (King, Orloff, Virsilas, & Pande, 2017). The same consideration applies to amenities such as education and health services. Plans for affordable housing developments need to account for transit stations and walking/cycling infrastructure: The “20-minute neighbourhood” concept aims for every day; non-work needs to be accessible within 20 minutes’ walk. Thus for rationalising cost locational aspect of houses assumes lot of importance. To lower the life-cycle cost and for making affordable housing a distinct reality, affordable housing should be closely linked with, both in time, space, and distance, to the productive economic activities and job market in the city.

Chapter -9

Chandigarh Experiment with Low-Cost Housing

INTRODUCTION

Housing, as a sector, is known for its criticality in promoting economy, generating employment and ensuring quality of life for any community, state and nation besides providing identity and security to individuals. Accordingly, nations are committing itself to provide appropriate housing for all its inhabitants. Housing remains resource and cost- intensive, requiring large physical, social, material, technical and economic resources. Considering the backlog and large gap between demand and supply of housing, nations are searching for options which can make housing both cost-effective and affordable.

Low- Cost Housing as an issue, option and strategy is assuming critical importance in achieving the global target of providing affordable shelter for all. Considering criticality of shelter as a major determinant of quality of life with majority of housing shortage falling in the EWS and LIG categories, low- cost housing appears to be the only option for creating, augmenting and expanding the housing stock in the country. Considering the prevailing high cost of land, materials, labour etc., most of the housing stock remains unaffordable for majority of urban dwellers. Urban migrants, pushed out of rural areas due to poverty, find it hard to secure minimal shelter due to prevailing high land, labour and material cost, which makes housing unaffordable. Accordingly, it becomes important that housing costs are minimized, reduced and rationalized, to make it affordable and accessible to even poorest of the poor residents of any city to lead a dignified life.

Housing Cost

Low-cost housing options call for looking at the entire gamut of housing including identifying various components which make it unaffordable. Studies have shown that major determinants of housing cost include Cost of land; Cost of materials; Cost of labour /machinery; Cost of designing; Cost of structure; Cost of approvals; Cost of money (loan); Cost of services; Cost of contractor; Cost of transportation; Taxes, levies, duties ; Cost of site development; Cost of machinery/ Construction technologies ; Cost of managing Construction; Cost due to wastage of materials; Cost of time for construction; Specification adopted etc. All these factors cumulatively add to make the

cost of housing. In order to minimize the impact of various factors, it is important that these components are, individually and collectively, studied, analyzed and evaluated.

Achieving economy in housing is the most challenging task which Architects/Engineers face while designing & constructing the low-cost housing. Creating low-cost housing is not a new concept. Cutting cost is not limited to only private sector. In fact, public sector is the major contributor to the creation of low-cost housing options. This concept has been followed on a large scale by various parastatal agencies while designing public and private housing. Numerous Development Authorities and Housing Boards, operating in the country, have also taken up the challenge of creating affordable shelter for slum dwellers, EWS & LIG categories. HUDCO has

contributed substantially in the area of innovative building materials, building technologies, housing designs, etc. to create low- cost housing options in the country. Charging lower rates of interest and establishing Building Centers etc. have also been used as mechanism for promoting low- cost housing by HUDCO. However, the major focus has been on reducing the upfront/ initial cost of housing without taking into account their life-cycle cost involving operational and maintenance cost. Since buildings are known to have life spanning over 7- 8 decades, sometimes more than the life span of human living, accordingly the operational and maintenance cost component remains very high- in the range of 90% of the life cycle cost as against only 10% which goes into making of the building. Thus, it becomes critical that if housing has to be made cost-effective in real sense of the term, we need to look at the life- cycle cost rather than the initial cost. In fact, we now need to graduate from cost-effective housing to cost-effective living in order to make housing affordable. For searching innovative options to make housing both qualitative and cost-effective, various innovative strategies used in the capital city of Chandigarh in the early fifties, immediately after the partition of India will be relevant and useful. Chandigarh, is known for its experimentation in the area of built environment to make it both qualitative and cost-effective, considering the fact that state had limited resources to create large stock of housing for its employees.

Chandigarh Experiment

Known for its contribution and excellence, in the art and science of architecture, Chandigarh was conceived and conceptualized as the new capital city for the state of Punjab, which lost its capital city to Pakistan during partition of the country in 1947. Known for architectural and planning excellence, Chandigarh is largely ignored for its contribution and innovations made in the parlance of cost-effective built environment known by the name and style as Chandigarh architecture. Considering the financial

and technological constraints, Chandigarh has the distinction of making enormous contribution to the low-cost housing through innovative design solutions. Stringent budget and strict adherence to accommodation defined besides climate were the major determinants of Chandigarh Architecture, urban form and housing design, which made Chandigarh a low density and low-rise city with government housing forming bulk of construction. Economy in housing was achieved through the use of locally made inexpensive brick as the main material for construction; minimizing wood work and glazing, which were seven and eleven times more expensive than brick; keeping window sizes minimum; standardization of doors, windows and sanitary fittings besides using pre-cast roof battens and tiles for economizing on time, shuttering, labour, steel, concrete and using minimum machinery during construction.

Since Chandigarh was built on a new site, greatest challenge in city development was to provide large housing stock for the government employees who were to be shifted to the new city. Accordingly, state government accorded highest priority to the construction of houses for its employees. In the initial program it was envisioned to house more than 20,000 people within 3 years of start of construction of the new capital. Initially 3208 dwelling units were to be constructed to which 4000 units were added in 1956 when PEPSU was merged into the state of Punjab. Out of 23,000 residential sites carved out in the first phase of development of the city, as much as 30% residential sites were earmarked for the government housing, which formed majority of the accommodation in the first two decades of city development.

Housing Program

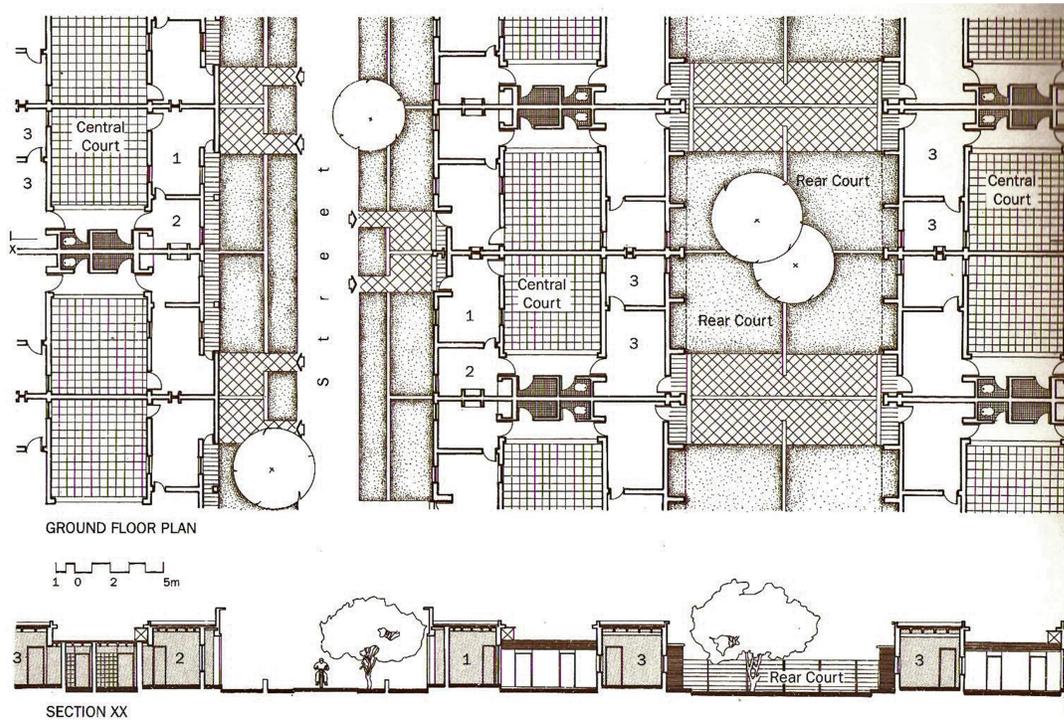
Housing program envisioned for the capital city comprised of 13 distinct types of housing with Type 1 being the largest and Type 13 being the minimal house. Type 1 house was meant to accommodate the Chief Minister of Punjab whereas Type 13 was the smallest house, accommodating the peons and officials drawing salary less than Rs. 50/- per month. Subsequently Type 14 house was also added (cheap house) to accommodate sweepers, washer-men and other low paid employees who were not included in earlier program. In the approved housing program, specification, site area, accommodation to be provided and cost of the house were already fixed /defined by the government. Based on these considerations, houses up to Type 6 were designed as detached two storied bungalows, Type 7 was designed as semi-detached duplex houses whereas rest (Type 8-14) were designed as single/double storied terraced housing.

While designing the housing program, commitment was to provide minimal house to even poorest of the poor comprising of 2 rooms, a private compound, an independent kitchen, bath, W.C. with piped water supply and water-borne sanitation. Considering the stringent norms of housing defined above, initial team of Architects working on the project struggled to evolve innovative design solutions meant to accommodate lowest income groups which constituted 80% of the total government housing. Besides designing state of art high category housing, Chandigarh today has emerged as the role model to showcase the mechanism to create low cost housing without compromising with the quality of construction, quality of housing and quality of architecture. In fact, low- cost housing of Chandigarh has emerged as the major contribution of the new city to the architectural vocabulary of housing in India. With team of three committed foreign Architects including Pierre Jeanerette, Jane B. Drew and Maxwell Fry under the leadership of Le- Corbusier, taking charge of city planning, designing and construction, high degree of economy in the housing cost was achieved through; Innovative and efficient architectural design solutions; Structural simplicity; Functional efficiency; Economy in layout of housing clusters; Small and limited openings; Using local building materials in natural form ;Using improved building technologies; Adopting Pre-cast options for roofing; Using Brick jallis on large scale; Clustering of services; Terraced/row housing; Optimization of building heights; Exposing brick work; Minimizing use of wood, glass, steel and concrete besides sharing walls and clubbing of services. In order to showcase and detail out the salient features involving design, services and construction adopted in Chandigarh to promote cost-effective/ low -cost housing, design/construction solutions followed in lowest category housing of category 12, 13 & 14 have been taken up as examples. Most of the features remain common in these housing but variation in designs have been used as the mechanism for cutting down the cost and making housing low cost in reality.

Housing- Type 12

Type 12 housing was meant to accommodate government employees drawing salary between Rs. 50-100 per month. Accordingly, these were meant to be low- cost housing. These houses formed bulk of the housing stock created initially, considering large number of employees in this pay bracket. These houses were planned in two broad categories i.e single and double storied housing. Both these categories have been planned as row housing providing for a living room, 2 bed rooms besides kitchen and toilet. Bath & WC have been planned separately in order to cater to multiple use. All services including kitchen, bath & WC have been clubbed in the design for individual as

well as adjoining houses in order to cut down the cost of services. Position of services has not been changed in upper floors in case of double storied houses for reasons of economy. Single storied houses have been designed in a number of variants including compact unit and in split design, where planning revolves around a courtyard. In all the houses, brick remains the major building materials with pre-cast battens and tiles creating the roof supported on parallel load bearing walls. Air, light and ventilation in the houses is ensured through perforations made in the brick wall and extensive use of brick jallis. Staircase is supported on shared structural walls and is meant to serve the adjoining houses in case of double storied houses. Windows remain small for reasons of economy and are properly shaded through an innovative system of sub-breakers to cut off the harsh sun. Cost-effectiveness in these houses has been the outcome of strategy involving-- Adopting design solutions providing for optimum utilization of space with high degree of design efficiency; using row housing as a strategy to minimize the area under walls; using mechanism of common walls between adjoining houses to economize on space and cost; using most economical building materials for construction. i.e bricks, locally available at that time ;using modular system of design based on most optimum grid of 8'-3"; using walls as the structural elements to support the roof; using pre-cast battens and tiles for the roof (12"x 6' x 2"); clubbing of services within house and of adjoining houses to minimize the cost of services ; extensively using brick jallis for perforation to ensure air, light and ventilation; minimizing size of openings to economize on cost of wood and glass; using standard battened doors with cross braces; bringing large area under exposed brick work to minimize cost of maintenance; variety in design achieved through recessed entrances, small square windows, projecting structural walls, exposed roof battens ;using pre-cast gargoyles for draining rain water instead of cast iron rain water pipes; variation in heights of building with maximum height of room placed at 9'-6"; using simple floors made of plain cement; maintaining high quality of construction using quality bricks ; minimizing use of steel ,concrete and shuttering.



FLOOR PLAN & SECTION OF HOUSING TYPE 12-D, SECTOR 23

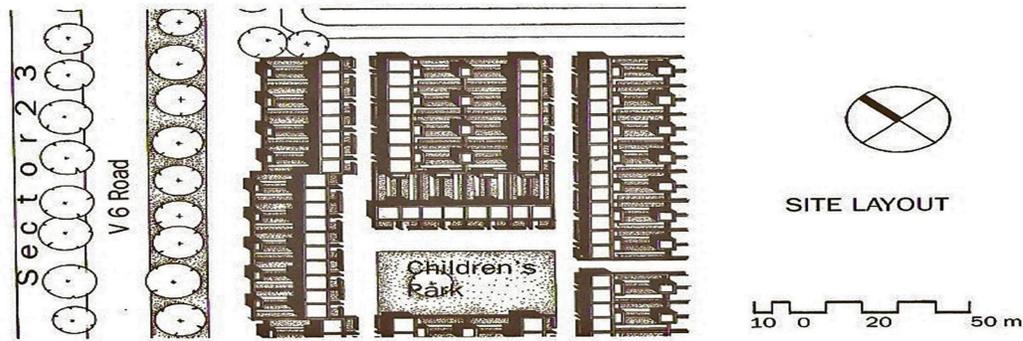


FRONT VIEW OF HOUSING TYPE 12-JB, SECTOR 23

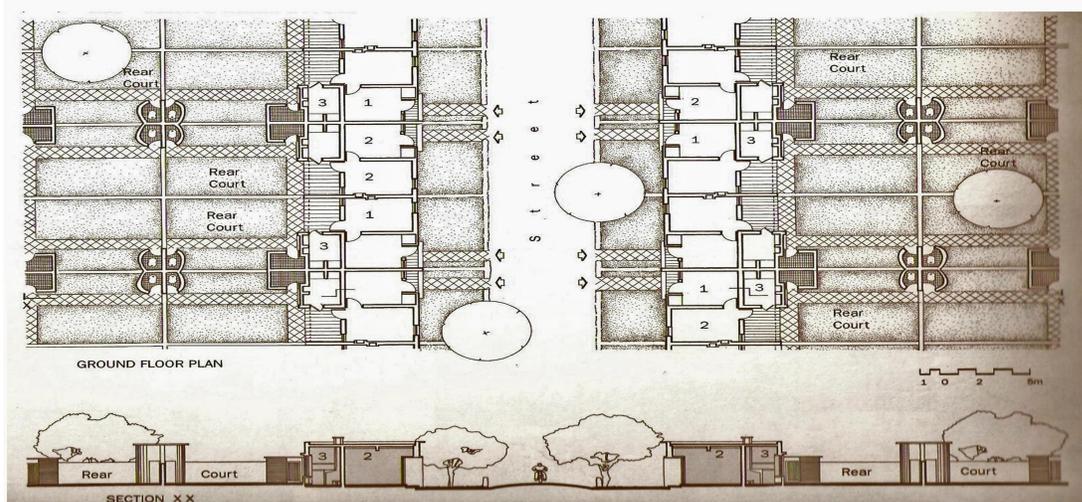
Housing--Type 13,

Type 13 was meant to be the minimal house to be provided in the earlier program in the category of government housing, to which Type 14 was added subsequently. The house was provided in two variants i.e single and double stored. Designed to accommodate employees with salary less than Rs. 50/- per month, houses were designed with focus on

economy, efficiency and cost-effectiveness. Two rooms besides kitchen, bath and water closet constituted the total accommodation. Row housing was the pattern adopted with each house sharing its external walls with adjoining houses. Large courtyards catered to outdoor living. Considering the Indian customs, toilets of 4 houses were combined and placed at the end of the courtyard for reasons of economy. The bricks were projected to act as louvers and provide protection to the openings besides minimizing the impact of western sun by the shadows created by projecting bricks. In the double-storied variant of the houses, single stair-case was used to serve the upper units to economize on the cost, space and materials. Portion of the verandah and kitchen were kept at lower height to reduce the quantity of materials and cost of construction. The entire design was based on a grid of 8.3" which permitted pre-cast batten and roof to rest directly on the structural walls. Number and size of openings were kept minimum in order to cut down on cost of expensive wood and glass. Major openings were provided with brick jallis to replace the glass and wooden windows. Major features providing economy included: adopting a cluster approach for designing and planning houses; making houses compact with minimum space under circulation; grouping houses on the pattern of row housing with common /shared walls; replacing roads with paved streets for providing accessibility to individual houses; rationalizing height of rooms with lower heights allocated to baths/WCs; clubbing kitchens, baths and WCs for minimizing cost of services; providing open to sky baths in case of single storey houses; minimizing/rationalizing size/ number of windows to cut down the cost of wood; using brick jallis to cover large openings for providing adequate light and ventilation; restricting number of doors and using batten and brace type doors for reasons of economy; making walls as structural elements to support the roof; using cost-effective bricks as the key material in construction; creating shading devices by using bricks in a variety of manners to cut down on lintel costs; using pre-cast gargoyles for rain water drainage instead of cast iron pipes; using differential wall heights considering actual requirement, usage, privacy etc. ; minimising use of steel and cement; promoting standardization and pre-fabrication instead of in-situ construction.



LAYOUT PLAN OF HOUSING TYPE 13-D, SECTOR 22

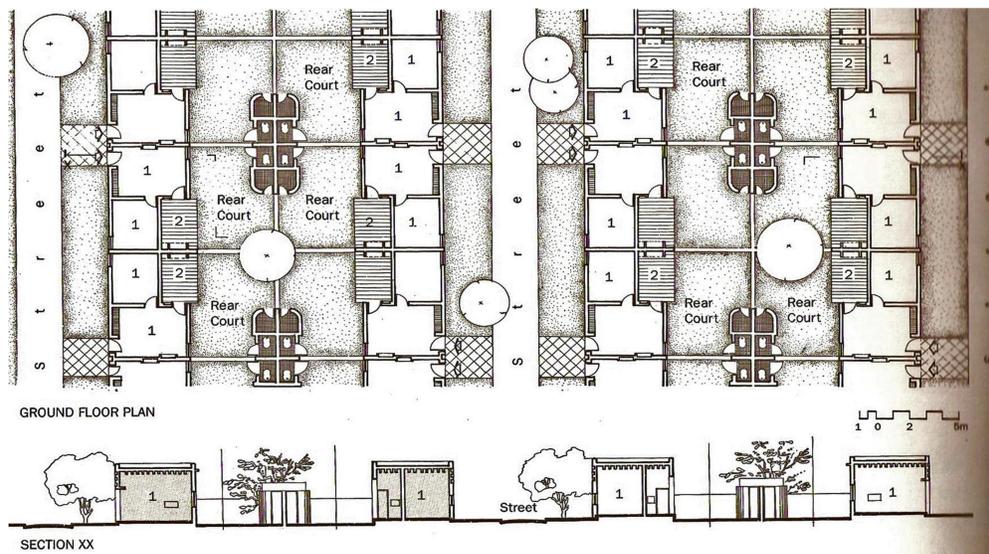


FLOOR PLAN & SECTION OF HOUSING TYPE 13-D, SECTOR 22

Housing - Type 14,

Planned to accommodate all left out categories below the rank of peons, Type 14 was introduced subsequently to be lowest category of housing in the government sector. Focus of the designing was to achieve high degree of economy besides making housing cost-effective, without compromising with the quality of construction/services. Accommodation provided included norm of 2 rooms, made applicable for the first time in Chandigarh, besides providing separate independent toilets. Objective of low-cost housing and economy in this category of housing was also achieved through: adopting a cluster approach for planning and designing; making houses compact and space efficient with optimum area under rooms, walls and circulation; shared common walls for economizing on space, material and labour; adopting most efficient grid considering the most economical spans of pre-cast battens; using walls as the structural elements; sharing of services, i.e. clubbing toilets and baths of 4 houses to economize on service network; adopting pre-cast technology of battens and tiles for roofing;

supporting roof battens, directly on load bearing walls avoiding cost of shuttering etc.; eliminating use of steel, concrete & R.C.C; Using locally available cost-effective brick as the major building material for construction; limiting size/ number of openings and doors/windows to minimize the quantity of wood; making extensive use of ethnic brick jallis in large openings for light and ventilation and avoiding expensive glass and wood; restricting height of rooms (9'6") and providing lower height for Bath/WC block (7'6"), for economizing on quantity of material/labour ; replacing metalled roads with paved streets to minimize cost of external infrastructure; creating multipurpose verandah for cooking/eating and other family needs; using pre-cast gargoyles to drain off rain water instead of cast-iron pipes; standardization of doors, windows and other structural elements and using cost- effective specifications requiring minimum maintenance.



FLOOR PLAN & SECTION OF HOUSING TYPE 14-D, SECTOR 15

Conclusion

Even after passage of more than seven decades, when majority of these low cost house were constructed(between 1950-58), they still stand testimony to their quality and cost-effectiveness which have made them brand ambassador of the art and architecture of the city beautiful. These houses have amply demonstrated that construction cost can be rationalized and scaled down without compromising with the quality of built environment by adopting innovative design solutions; making housing compact; using locally available building materials; using materials in the natural form; making innovative use of materials; evolving climate responsive design; avoiding costly materials; using innovative building technologies involving pre-cast and pre-

fabrication; using ethnic brick jallis for spanning large openings; adopting efficient structural grid; rationalizing heights; standardizing/ mass production of components; clubbing and sharing of services/walls; adopting, cluster approach for grouping of houses; and economizing on external development etc. These concepts hold high degree of validity and potential even in the present context to achieve the cost rationalization and creating low- cost housing options for making housing for all a distinct reality.

Chapter -10

Reinventing construction sector in India

Introduction

It is said, “History of construction industry is the history of growth and development of human civilisations, building materials, construction tools and technologies. Construction starts with planning, designing, and financing; it continues until the project is built and made ready for use. Large-scale construction requires collaboration across multiple disciplines involving project manager, architect, design engineer, construction engineer/architect to supervise it. Evolving design and execution need consideration of zoning, environmental impact assessment, scheduling, budgeting, construction/site safety, availability and transportation of building materials, logistics, site management, manpower/machinery deployment, delays and bidding”. Construction sector is known for its dualities and contradictions. Construction, as a sector, is known for its role and value in leveraging economies, promoting industry, generating employment and ensuring development of any community, state and nation. Construction sector is also known to be large consumer of energy, resources; promoter of global warming and responsible for creating large carbon footprints besides making people healthy and sick. 11% of India’s GDP is contributed by the construction sector besides having 1/6th share (35 million) in the total employment generated in the country. Sector ranks second in terms of total value output in the country. In the year 2015, India ranked fourth globally in the construction output after China, United States and Japan with total output placed at 333 billion US dollars. In India, construction has accounted for around 40 per cent of the development investment during the past 50 years and created assets worth over ₹ 200 billion. Considering ever increasing number of construction projects, their complexity, role and importance in community and national development, it becomes critical that construction sector is made more effective, efficient, vibrant, productive and sustainable through using advanced technologies and integration of many sub-systems so that full potential of the sector is realised to make India, global leader in the sustainable construction practices.

Sustainable Construction

Construction industry, known for its energy, resource and environmental implications has to be sustainable in order to minimise the adverse impact of global warming, carbon emission and ozone depletion. Studies made by United Nations Environment

Programme (UNEP), has stated that “the increased construction activities and urbanization will increase waste which will eventually destroy natural resources and wild life habitats over 70% of land surface from now up to 2032”. Study further states that production and transport of building materials are known to consume 25-50 percent of all energy used, whereas construction industry counts for 47% of CO2 emission. Therefore, looking at global warming and other environmental issues, construction sector has to be made sustainable.

In 1994, Professor Charles J. Kibert , called for construction industry to be made sustainable during the final session of the , ‘ First International Conference of CIB TG 16 on Sustainable Construction’. He defined it as “The creation and responsible management of a healthy built environment based on resource efficient and ecological principles”. Comparing with the traditional concerns in construction (performance, quality, cost), he said concept of sustainable construction revolves around; minimising resource depletion, environmental degradation and creating healthy environment.

Six principles which define sustainable construction include;

- Minimize resource consumption (Conserve)
- Maximize resource reuse (Reuse)
- Use renewable or recyclable resources (Renew/Recycle)
- Protect the natural environment (Protect Nature)
- Create a healthy, non-toxic environment (non-Toxics)
- Pursue quality in creating the built environment (Quality)

Sustainable construction, creates a win-win situation for owners, users, occupants, community, state and nation by lowering the life- cycle cost, promoting environmental protection, reducing waste, conserving resources, minimising energy consumption, promoting economy, generating employment; promoting choice of more sustainable, locally sourced products and materials; minimizing amount of waste and water pollution; using rainwater and recycling waste water etc.

Prefabrication

Looking at the fact that India is passing through an era of rapid and massive urbanisation coupled with government launching number of missions and Yojnas involving, ‘Housing for all by 2022’; constructing millions of latrines pan India under Swatchh Bharat Mission; creating space for millions of street vendors and homes for houseless in urban centres under National Urban Livelihood Mission; developing 100

smart cities under Smart City Mission besides taking up development under HRIDAY and AMRUT; India needs to create large built space , to take care of its needs of shelter, healthcare, education, industry, trade and commerce, entertainment, leisure, transportation etc. Considering the huge task of creating enormous built space and its physical, environmental and economic implications, construction sector needs to be made more effective and efficient by using state of art construction technologies to promote cost- effective, resource-efficient, sustainable and eco-friendly construction.

Pre-fabrication, as an approach, can go a long way in making construction sector more rational in terms of cost, time, economy, quality, sustainability, resources, material etc. Looking at the fact, that pre-fabrication/modular construction has proved its worth globally, it will be appropriate that this technology is also made operational in India on large scale. Despite limitations, prefabricated and precast construction methods offer numerous benefits involving optimal materials usage, recycling, freedom from pollution; improved construction safety; year-round fast construction, reduced pilferage; better quality control besides providing a real alternative to on-site processes. With improvement in manufacturing technology, prefabricated construction is proving to be an extremely viable option. Use of prefabrication can significantly improve the efficiency and competitiveness of the construction industry. With construction industry facing acute shortage of onsite quality skilled labour and challenge of making structures leaner, it is time ripe enough to promote adoption of large-scale offsite prefabrication/modularization solutions'

New Technologies

Considering the magnitude of construction to be undertaken in the urban and rural sectors, putting in place new state of art technologies will be critical to redefine the construction sector in India and to make it more productive and efficient. New technologies will have great relevance if the construction sector is to be made cost-effective, time-efficient and providing best of quality besides generating minimum waste. Despite rapid strides made in the infrastructure construction, building construction remains a laggard so far new technologies are concerned.

Globally, new techniques of building construction including 3D printing technology, in the form of additive building construction, similar to the additive manufacturing techniques for manufactured parts, has already revolutionized the construction sector. It is making possible to construct small commercial buildings and private habitations in around 20 hours, with built-in plumbing and electrical facilities, in one continuous operation, using large 3D printers. Working versions of 3D-printing building

technology are already printing 2 meters (6 ft 7 in) of building material per hour as of January 2013, with the next-generation printers capable of 3.5 meters (11 ft) per hour, sufficient to complete a building in a week.

Over the years, the construction industry has seen a trend in IT adoption, Nowadays, construction is starting to see the full potential of technological advancements, moving on to paperless construction, using the power of automation and adopting BIM, the internet of things, cloud storage and co-working, and mobile apps, implementation of surveying drones, virtual reality, augmented reality, project management etc. Looking at the emerging challenges of rapid urbanisation and globalisation, Construction industry is trying to come out of its past shadow. With science and technology leveraging the construction industry, the pace of change in construction practices is progressing and accelerating. India needs to adopt these emerging technologies for making construction sector most vibrant and productive.

Innovative Building Materials

Materials are known to have critical role in determining the future of the construction industry, design and structure of buildings. Innovations are being made on sustained basis to search for new materials which would facilitate the construction of cost-effective and sustainable buildings. Since buildings consume more than 30% of total materials sourced from nature, accordingly, there is an urgent need to minimise this exploitation and create materials which are lightweight, small in dimension, requiring minimum resources and minimum energy for its production. Such materials need to be stronger, resistant to pollution, heat and cold, having minimum wear and tear, requiring minimum maintenance and upkeep. Researchers and various institutes are taking materials and technologies to the next level. Development in concrete and various other construction materials has been aggressive and intense. Few innovative construction materials that could revolutionize the building sector have been detailed below;

- **Translucent wood as construction material**

Stockholm's KTH Royal Institute of Technology has invented, translucent wood , that can be mass produced and used commercially to develop windows and solar panels. It is created by first, removing the lining in the wood veneer and then through nano-scale tailoring. The resulting effect creates translucent wood that has various applications in the construction industry. As a low-cost, readily

available and renewable resource, it has enormous capacity to make projects cost-effective by reducing cost of resource.

- **Hydro-Ceramics**

By combining clay and hydro-gel (group of polymeric materials), students at the Institute of Advanced Architecture of Catalonia have created a new material that has a cooling effect on building interiors. Hydro-ceramics have the ability to reduce indoor temperature up to 6 degrees Celsius. Its cooling effect comes from the presence of hydro-gel in its structure which absorbs water, up to 500 times its weight. The absorbed water is released to reduce the temperature during hot days. Incorporating an innovative cooling system in the current building structure has made Hydro-ceramics one of the coolest building materials to revolutionize construction. More progress in this direction may make household air conditioners obsolete. Bricks made out of Cigarette butts billion cigarettes, manufactured annually produce 1.2 million tonnes of cigarette butt waste, impact environment through arsenic, chromium, nickel and cadmium which enter the soil and harm nature. To reduce the impact on the environment, researchers at RMIT developed lighter and more energy efficient bricks by infusing cigarette waste in fired-clay bricks. This helps in not only reducing waste, but also producing bricks that are lighter and requires less energy for manufacturing .

- **Martian Concrete**

North-Western University has created concrete that can be made with the materials available on Mars. The new concrete which doesn't require water, as an ingredient to be formed, can make this innovation truly beneficial for the development of structures in Mars. For making the Martian concrete, sulphur is heated at 240° Celsius which melts it into a liquid. The Martian soil then acts as an aggregate and once it cools down we get Martian concrete! According to the researching team, the ratio of Martian soil and sulphur needs to be 1:1.

- **Light Generating Cement**

Dr. José Carlos from UMSNH of Morelia, has created low energy smart cement with ability to absorb and radiate light. Considering the fact that construction industry is fast moving towards resource and energy efficiency, the implications of cement acting as a 'light bulb' have great potential by using them in swimming pools, parking lots, road safety signs etc Cement is produced by the

process of poly-condensation of raw materials such as river sand, industrial waste, silica, water and alkali at room temperature.

- **Biologically Produced Furniture**

Biologically produced furniture made by a material called Microform , by combining wood chips, gypsum, oat bran together with a fungus called Ganoderma lucidum, has capacity to create furniture from waste, when used commercially. Fungus is added, as it has the ability to disintegrate waste products and leave a strong structural material. This combined effect creates plastic furniture that through time combusts. Process is low energy, pollution free requiring low technology for its creation.

- **Pollution absorbing bricks**

Pollution absorbing bricks, sucks in pollutants in the air and release filtered air. Designed to be part of a building's ventilation system, it has a two-layer facade system, with the specialist bricks on the outside and standard insulation on the inside with central cyclone filtration system that separates out the heavy air particles from the air and collects them in a removable hopper. Its design is very similar to a vacuum. This technology can be easily applied to the current construction processes. By performing wind tunnel tests, it was proven that the system can filter 30% fine particle pollutants and 100% coarse particles such as dust.

- **Self- healing concrete**

Dutch civil engineer, Dr. Schlangen has invented a self- healing concrete which involves heating the broken pieces together for joining. Once the melted material cools down, it joins together. In case of concrete roads, the broken concrete can be made to heal by making a special vehicle pass on the road every four years. It is estimated that this innovative technology could save millions annually.

Skilling Construction Industry

Despite employing one- sixth of total workforce of country, involving huge money and consuming largest proportion of resources, construction industry remains highly unskilled. Majority of workforce has no formal knowledge and experience of complexities of construction industry. Accordingly, majority of maladies in the industry are primarily the outcome of this lack of skill. In order to make construction industry more efficient, productive and innovative, it becomes critical that only quality and

skilled manpower is deployed. Manpower should be adequately equipped with knowledge and understanding of the processes and the products involved in the industry to make it vibrant and productive. Government of India and state governments must take the initiative of creating skilled manpower for construction industry by promoting dedicated institutions, which would impart necessary training, experience and practical knowledge to individuals in various trades involved in the construction industry. It needs to be done in collaboration with and involving all the stakeholders.

Building Centres need to be created at the local level for imparting skill and hand on experience to rural/urban workforce for employment in the industry. HUDCO once started the project of creating building centres across India, which need review with appropriate modification to make it more effective and efficient. ITI's and polytechnics, being run at local level, must be asked to start vocational courses relevant to the construction industry. In addition, funds available under National Urban Livelihood Mission must be used for imparting skill in the construction sector to create large skilled workforce. This will not only help in overcoming the problems of unemployment and poverty in the country but will also go a long way in making building industry more innovative and efficient. Engineering colleges and institutions imparting higher education, like NITs and IITs, should be leveraged to invent and define new construction technologies and building materials from waste to make industry more cost-effective and resource efficient. Continued training of in-service professionals engaged in the construction sector (PWD/CPWD) should also be made mandatory so as to make them more skilled and innovative. PWD Codes should also be reviewed periodically to make them more inclusive and supportive of the innovations in construction industry. For skilling construction industry, government must mandate that only skilled manpower shall be employed for certain tasks in the construction projects. Initially, it could be limited to the larger projects but gradually it must be made mandatory for all projects.

Best Construction Practices in Singapore

For construction sector to be really effective and efficient, it must ensure not only structural integrity and stability of buildings but also their functionality besides ensuring safety of both users and occupiers. In majority of cases there does not exist any well-defined mechanism to keep a check on the quality of building during designing, construction and maintenance. For promoting quality built environment, Singapore has

put in place a detailed mechanism of checks and balances which not only provides best construction practices but also ensures continued adherence to process improvements. This mechanism is the outcome of learning made from the collapse of Hotel New World, Singapore in March 1986 and the findings which came out of the enquiry conducted about the collapse of hotel building. Enquiry revealed that the building's structure was not only grossly under-designed but also quality of construction was very poor. In addition, it was found that building was poorly maintained because there were plenty of warning signs which indicated a possible collapse during the 13 years of existence of building.

In 1989, Singapore passed a legislation, which mandated all construction projects to undergo mandatory checks at the stages of design, construction and completion of buildings. It has been made mandatory for all construction projects to seek certified design reviews prior to the commencement of construction; independent construction supervision during the construction and periodic structural inspections of buildings, after completion of construction. As per the law, buildings are required to be designed by duly qualified professionals. In addition, building design is to be reviewed by an Accredited Checker (Senior professional engineer), before building is constructed. Design Review Certification which helps in providing structural integrity, building stability and user and occupier safety costs about 0.15% of the total construction cost. In addition to looking at the safety of design, Singapore law also provides for Mandatory Testing during construction through engaging professionally certified Engineers, costing not more than 1% of the overall cost of the construction project. In addition, law also mandates the periodic certification of building with regard to its usability and safety which is carried out through the process of Periodic Structural Inspections (PSI). Conducting PSIs ensures early detection of structural defects, wear and tear of building which normally goes undetected and which ultimately leads to eventual partial or full collapse of building.

Globally, it has been observed that there have been ample cases of building collapses in the past few years, leading to a tragic loss of lives. It has also been observed that if certification of buildings is conducted based on highest professional standards at the design, construction and post-construction phases, then any subsequent rectification work becomes minimal. Periodic checks are also known to help in making buildings more cost-effective over its entire life span because of low cost of maintenance and longer life of building. Based on the Singapore experiences, it would be desirable that similar legislation in India also needs to be put in place to ensure that construction of

buildings is carried out in a most professional manner so that only buildings of appropriate quality are constructed.

Redefining Policy Framework for Construction

With a view to make construction sector more productive and sustainable, it will be appropriate that Government of India should immediately come out with a policy framework and blueprint to evolve a long- term strategy for the construction sector. The policy framework should be evolved by involving all the stakeholders including industry, builders, developers, construction companies, corporate houses, CREDAI, CII, development authorities, academic institutions of excellence including IITs, NITs, research institutes etc.

For promoting research and development, Government of India should create a dedicate agency at the national level besides a dedicated fund for promoting Research and Education for the construction industry on the pattern followed in Singapore, where in the year 2007, Government launched a S\$50 million “Research Fund for the Built Environment” to kick-start R&D efforts in sustainable construction. The agency, in addition to doing research should come out with publications in collaboration with academic institutions for guiding the various stakeholders involved in the construction sector to make it more efficient and productive. States should also be encouraged to create such dedicated agencies and dedicated funds for promoting research in the construction practices. All development authorities should be mandated to earmark dedicated funds in their annual budget for promoting research in construction methodologies and creating innovative building materials besides looking at the local available resources and the industrial waste. By promoting sustainable methods and products, people can be demonstrated the positive outcome of sustainable construction. Consequently, there would be potential to expand the market of sustainable concepts or products. According to a report published by USGBC, “The global green building market grew in 2013 to \$260 billion, including an estimated 20 percent of all new U.S. commercial real estate construction.”

Way Forward

Construction sector (public and private) makes, both direct and indirect, large contribution to the economic output of a country as this sector has strong linkages to several other sectors of the economy. India is projected to become world’s third largest construction market by 2025 and thereby construction sector will be a key driver for the Indian Economy. The Construction Industry in India is highly fragmented. It needs to

be made globally competitive, more productive, cost-effective, efficient and sustainable. Therefore, there is an urgent need to carry out an in-depth study and analysis of the prevailing gaps in the international and national standards regarding construction practices and technologies so that Indian construction industry is also put on the global standards by aligning national standards for design, construction, maintenance and operation with the global standards, This would go a long way in not only bringing down the cost of construction besides maintaining high standards of quality through adoption of innovative technologies and materials for construction. There is also a need to evolve a strategy to transform construction industry and make it more sustainable, from focusing not only on the traditional concerns of "cost, time and quality", but also to include "construction products and materials", to reduce natural resource consumption and minimize waste on site

Chapter -11

Role and Importance of Pre-fabrication in Promoting Housing

Introduction

With India growing rapidly in population, mobility, trade and commerce, leisure, healthcare, education, industry and urbanization, demand for built environment is increasing rapidly to take care of the basic human needs of shelter, living, working, care of body & spirits besides travel. Estimates made by McKinsey Global Institute in its report, India's Urban Awakening: Building Inclusive Cities, Sustaining Economic Growth, April 2010, 'India would be required to create, on annual basis, buildings to the tune of 700-900 million sqmts (*equal to the built up volume of Chicago City in USA*) to meet the needs of built environment of urban India'. Despite huge projected requirements, little priority is being given to building industry to make it more effective and efficient. Buildings continue to be constructed in-situ following the traditional methods, leading to considerable delay in projects completion, inefficiency in construction, cost-overrun and time-overrun, leading to widening the gap between demand and supply of built environment.

Buildings are known to be large consumers of energy and resources besides generators of waste. Buildings are also known for large carbon footprints and promoters of global warming, requiring large manpower and financial resources for their planning, designing and construction. As definers of human growth and development, buildings are known to make people healthy and sick. As definer of journey of human growth and development, building as a sector, would require close scrutiny and monitoring, for making them effective and efficient. Accordingly, buildings need to be planned, designed and constructed, with care and caution, to mitigate their adverse impact and enhance their intrinsic values. New methods of constructions and state of art construction technologies need to be put in place to make construction sector more responsive to the emerging needs of environment protection, nation's growth and development involving minimum time, minimal cost and least consumption of resources.

Traditional On -Site Construction-Issues

Majority of construction taking place in India follows the traditional on-site pattern of construction. Traditional on-site construction is described as linear construction, where each individual step is not only constructed entirely/ largely on site, but also needs to be completed before the project can move on to the next phase. Such construction has major implications in terms of time, cost, quality, safety, noise, pollution, manpower, which can be defined as;

- Majority of building components constructed entirely/ largely on site,
- Linear construction- where each step needs to be completed before taking up next step.
- Considerable time taken for construction- Highly time consuming-time intensive
- Generation of large-scale waste- waste intensive
- Construction schedule largely dictated by prevailing weather conditions. - weather dependent
- Generation of lot of pollution, traffic, noise and dust-- pollution intensive
- Unsafe for the workers deployed in construction.
- Needs lot of manpower for making and supervision of building operation- manpower intensive
- Large inventory of material- material intensive
- Creating material storage facilities at site
- Creation of accommodation for workers deployed at construction
- Loss/theft of material from site
- Large variation in quality- largely dependent on work force deployed
- Use of lot of water/energy – resource intensive- Grey Buildings
- Increased initial cost of construction- cost inefficient
- Uneconomical in cost and resources- cost overrun
- Delayed return on project
- Unpredictable project schedule- Construction inefficiency
- Limited application in hazardous areas
- Large site disruption
- Adverse impact on surroundings
- Constructed totally Individual/human oriented

Pre- fabrication/Modular Construction

Looking at the entire context of on-site construction, it was considered prudent that instead of on-site construction, off-site/modular constructions offers enormous opportunities , which not only overcomes the disadvantage of traditional construction, but also offer distinct advantages in terms of cost, time, quality, safety, environment, materials etc. Off-Site construction is a process that incorporates pre-fabrication and pre-assembly. It involves creating individual building components off site in a designated factory, shipping said parts to the plot of land and installing the components to create a finished structure. Off-site fabrication requires a project strategy that changes the orientation of the project process from construction to manufacture to installation. This method of construction differs significantly from basic methods and offers numerous benefits for both the building owner and the construction agency. Despite distinct advantages prefabrication, as a process, has its limitations also. Prefabrication is bad for making last-minute changes. It's good for making when project is fine tuned to last detail before starting. When done correctly, off-site construction can benefit a project's schedule, budget and skilled labour requirements

Rise of Prefabricated Building

Genesis of the prefabricated building can be traced to last real estate cycle, which really pushed prefabricated construction to prominence. During the second world war, majority of the skilled manpower and labourers involved in the construction industry left the job, due to high degree of recession in the construction industry. This led to acute shortage of such manpower when large scale construction was taken up after the world war ended, to replace the large number of buildings which suffered extensive damage during the war. In the face of acute shortage of trained manpower, builders took to alternate recourse of methods of construction which were safe, efficient, cost-effective and produced quality construction involving minimum manpower. With skilled labour shortage, off-site construction was considered the best option to build projects and to provide workers with safer working conditions in a prefab factory than out in the field. Search for appropriate solutions led to the emergence of prefabricated/modular construction. Modular is a process of construction rather than a specific type of building, which defines how building is constructed.

In the words of Tom Hardiman, Executive Director Modular Building Institute, "We think the recession actually benefited our industry. During the last recession, many skilled labourers left the construction industry and did not return. That, coupled with developers needing to find greater efficiency, made prefabricated buildings more

appealing". The acute shortage of housing following the Second World War led to a boom in high rise apartment blocks, and contractors turned to prefabricated system in an attempt to meet demand. Following World War II, both Japan and Europe had massive rebuilding needs and turned to prefabrication and off-site construction to fill the demand. Britain's Great Exhibition of 1851, featuring Crystal Palace is credited to be earliest example of prefabrication/modularization. With design taking less than two weeks, building was construction in few months using prefabricated light/cheap materials ie iron, wood and glass, After exhibition, the palace was taken apart, piece by piece, and moved to another location. The United States used Quonset huts, prefabricated lightweight all-purpose buildings, for creating accommodation for the military globally during the war, which could be shipped anywhere and assembled without skilled labour. U.S.A also made extensive use of modular construction in the commercial buildings like hotels, offices, hospitals and schools post '70s when demand exceeded the supply of existing structures. 500-room deluxe Hilton Palacio del Rio Hotel in San Antonio for the Texas World's Exposition of 1968, was designed, completed and occupied in an unprecedented period of 202 working days. All the rooms were placed by crane in 46 days. Still in use, the hotel is believed to be the tallest modularly constructed facility in the United States. New cruise liner Queen Mary 2, one of the largest and most expensive cruise liners in the world, also made use of modular passenger cabins including VIP suites built through modular building process to ensure all cabins were built to the higher standards.

Advantages

Prefabricated/modular/off-site construction has numerous advantages which can be enumerated in terms of;

Building in Hazardous Area

Prefabrication has distinct advantages in remote area, areas prone to disasters, areas hit by disasters, where accessibility and availability of manpower, transportation of materials and time available for construction is minimal. In such cases pre-fabrication, offers the best option which can help in creating construction in minimum possible time at minimal cost. Further in hill areas, which suffer from extreme climatic conditions, pre-fabrication can also help in creating well insulated structures, making them least susceptible to extreme outside climate. Leh, Ladakh, Lahaul, Spiti etc are the areas where pre-fabrication is the best option for construction.

Assured Quality Construction

Since pre-fabrication has genesis in construction of majority of building components in industrial setting, under highly controlled environment, involving lot of quality checks and balances, the components produced are accordingly of assured uniform quality unlike site-built structures which are totally dependent upon varying skill levels and the schedules of independent contractors. Modular buildings are invariably manufactured to code, making owners free from the worry of quality, saving of time and energy involved in supervision, which is a major issue in the traditional method of on-site construction.

Material Efficiency

Prefabricated buildings are known for their material efficiency both onsite and off-site. These buildings do not produce waste, since all the required material for construction arrives in the finished state on site. Since the components are produced in the factory, they leave/ create very little waste during the manufacturing, assembly, disassembly and the construction process which involves just putting together all components as per approved design. Further, since no material is brought to site, as in the case of onsite construction, there is no wastage due to human operations and loss of material due to theft etc.

Cost- Efficiency

Greatest advantages of prefabricated construction lies in its capacity to promote economy and cost-efficiency, which is generally achieved through; large discounts received from material suppliers, reduction in construction time, mass production of components and economy achieved through standardisation, repetitive nature of operations and large scale operations. Reduction of wastage and in-house recycling of the extra materials also lowers down cost of components. Despite the fact, pieces being custom-made, modular construction remains inexpensive due to lower time frame prefabricated construction takes as compared to traditional construction and the financial advantage made due to saving more money on construction financing. In addition, factory setting of the prefabrication, increased controls, better material planning, reduced material surplus calling for less storage cost, less material loss from damage or pilferage; saving on labour hours and manpower cost in construction of building without weather constraints and on-site/off-site work done simultaneously

Green Construction

Though modular buildings, does require a lot of power consumption at the manufacturing site, but compared to traditional constructions, they are lot more eco-friendly, both in the long and short-term. Prefabricated buildings have lower life cycle energy implications as compared to on-site construction due to optimum consumption of materials, assembly, disassembly and recycling of the building components. As they are made inside a factory, any waste or extra material is easily recycled. Prefab buildings have minimum requirement of water due to absence of onsite watering of brick/concrete works, making them least consumers of resources. Energy efficiency in prefab buildings is being achieved through using recycled materials, LED lighting and installing solar panels and better wall-insulation, leads to energy savings in the long run.

Prefabrication/modularization is also becoming more widely recognized as a resource-efficient and greener construction process due to reduced material waste and pollution besides increased use of recycled materials.

Flexibility

Flexibility is one of the distinct advantages provided by the modular construction based on easy dismantling and relocation of buildings to different sites, reducing wastage, reduced demand for raw materials, minimum expended energy and decreased time. Considering the fact prefabricated construction units can be used in different spaces, it can easily blend neutrally in any building typology. Prefabricated structures, being made of numerous individual parts, also permit higher amount of flexibility in building structure/ design by changing the design of the specific prefab component.

Reduced Site Disruption

Traditional construction, involves major site disruption for the reason that all building processes are performed on site including transporting/storage/mixing of materials, water storage, creating residential space for labour etc whereas prefabricated construction takes much of these disruptions away from the site and limit the noise, pollution, waste and other common irritants. Since many components of a building are completed in the factory, there is significantly less truck traffic, equipment and material suppliers around the final construction site.

Time Efficiency

Prefab/ modular construction are known for their time efficiency to build, than on-site construction, taking less than half the time when compared to traditional construction, due to better planning, reduced site disruptions and quicker fabrication of multiple components. This permits construction companies to take on multiple projects simultaneously, allowing businesses to grow and make larger profits. Due to reduced on-site construction, requirement of manpower and their supervision is considerably reduced leading to high degree of construction efficiency. Role of experts visiting the site is also minimized leading to higher operational efficiency. In pre-fabrications, building components are produced on a defined schedule, don't require any operation for finishing on site including watering of concrete/ brick walls, seasoning of wood, painting and polishing of wood/door etc, which minimizes the time span for construction.

Safety

Prefab construction is known for overall safety of the building after construction including safety of workers at site during construction. The risks and dangers of outside construction posed by hazardous sites, weather, etc., are mostly neutralized by the fact that the components are mostly manufactured in a controlled and safe environment.

Limitations imposed by the Prefab Buildings;

Despite numerous advantages which prefab construction hold, it has few limitations which are enumerated below

Monotony

Limitations imposed by the materials and the process used in the mechanization of building products, has led to imposing numerous restrictions on the designers in creating state of art buildings. Based on the concept of mass production and standardization, prefab buildings suffer from lack of design innovations and look monotonous.

Restricting additions and alterations

In addition to being monotonous, prefab buildings don't provide enough options to owners/tenets to make any change which may be necessitated, considering the changing

physical, social and economic conditions. This generally leads to non-acceptability of the prefab buildings.

Reduced Resale Value

Dictated by monotony and limited options for additions and alterations, prefab structures don't find many buyers in the resale market and accordingly command very low premium. Further the general perception of the people hovering around that prefab buildings are of lower quality, also put these them in poor light and reduce their resale value.

Roadblock in Financing

Considering the fact that prefab buildings are constructed differently from traditionally buildings, accordingly, their funding requirements are also at variance from traditional buildings. In prefab buildings, since most of the products are manufactured off-site in a factory, accordingly, it is difficult to understand and evaluate the progress of buildings on site. In the traditional system, funding of projects is generally linked to the stages/progress of the construction. In the prefab buildings, this system does not hold good and cannot apply for the reasons of constructions being done off-site and majority of payments are required to be made upfront. Accordingly, financial institutions feel reluctant to give loans/advances for such buildings, creating disincentives for the buyers to go for such buildings

High Transportation Cost

Since majority of building components are manufactured off-site in the factory and these components are in the finished mode, having large volume and weight, therefore, they require specialised system of transportation to make sure the products don't suffer any damage during the loading, unloading and transportation. Accordingly, transportation cost in the prefab buildings is invariably high as compared to traditional buildings where the building materials can be packed more densely. In addition, large prefabricated sections would be requiring heavy machinery involving cranes and precision measurement and handling during loading, transportation and placing them in position, making them cost-intensive and unattractive. Besides high transportation cost, special vehicles are required to transport the building products calling for wide-bodied mobile vans and wide roads to facilitate their movement. Sustainability also emerges as a major issue during the transportation of the materials to the construction site due to cost and energy involved in transportation.

Accuracy and Precision

Prefabricated buildings require high degree of accuracy in manufacturing components besides working out the detailed design. Once the production starts, there are limited option of additions/alterations/changes, which if needed, will require huge cost and dilute all the saving in cost/time which prefab buildings command. High degree of precision is also required in the manufacturing of components because they are all made fit to size. Any variation in size will lead lot of complication/cost/time in replacement. It is rightly said, ' A mistake in the mass production of prefabricated elements ahead of the measurable site work is a serious risk''

Mass Production

Since prefab/modular structure is based on mass production, accordingly it requires an industrial setup with appropriate knowledge, machinery, technical manpower and expertise, which in turn is expensive and requires huge upfront investment. Therefore, prefab can only work if the industrial base for mass production is available in place. Creation of such base requires time and resources and a policy framework. Further mass production works on economy of scale and accordingly, for achieving economy, constant flow of order has to be ensured. In the absence of any assured inflow of order no mass production will be feasible and economically viable. However, looking at the entire context there exists dichotomy between industrial production and construction because factory production requires predictable and consistent demand, whereas construction tends to require large numbers at the same time, then none. In addition, mass production will only succeed if there is a constant and adequate demand. Which means they are more viable near large urban centres or where large-scale new construction is to come up. Its existence away from small centres, where there is periodic and limited demand - transportation cost may dilute the total process of prefab construction.

Skilled Manpower and Cost

Modular construction requires large skilled manpower, both at production and assembly site, along with machinery and infrastructure to complete the project, which in the developing countries is difficult to find across the board, which limits its application. Cost effectiveness to a large extent may not be achieved always due to additional cost involved in temporary bracing for transportation and/or lifting or permanent framing to support prefabricated assemblies besides cost involved in the pre-assembly in factory prior to dismantling for transport and delivery.

Conclusion

Looking at the fact that India is passing through an era of rapid and massive urbanization, demand for building is increasing many fold. In order to achieve defined objectives India will have to revitalize and empower the construction industry to make it more vibrant, cost-effective, energy-efficient, qualitative, sustainable, resource-efficient and safe. For this, there is need for immediately coming out with a well-defined and innovative policy framework to promote state of art construction technologies. Looking at the fact, that pre-fabrication/modular construction has proved its worth globally, it will be appropriate this technology is also made operational in India on large scale. Despite limitations, prefabricated and modular construction methods offer numerous benefits involving optimal materials usage, recycling, freedom from pollution, wind & rain; improved construction safety; year-round and fast construction, reduced pilferage; better quality control etc., besides providing a real alternative to on-site processes. With improvement in manufacturing technology, prefabricated construction is proving to be an extremely viable option. Committee of experts appointed by the National Research Council of USA identified “greater use of prefabrication/modularization” as a key breakthrough opportunity that could significantly improve the efficiency and competitiveness of the construction industry going forward. With construction industry facing acute shortage of onsite quality skilled labour and making structures leaner, it is time ripe enough to promote adoption of large-scale off-site prefabrication/modularization solutions’

Chapter-12

Housing Policies and Programs- Indian & International

Haryana Model of Affordable Rental Housing

Haryana Housing Board has recently come out with an innovative scheme by the name *Affordable Rental Housing Scheme 2020 (ARHS 2020)*, based on so called, out of box solution for meeting the demand for affordable rental housing in the state. Scheme envisions a major change in the role and operation of the Haryana State Housing Board in the affordable housing sector, from merely, 'provider of affordable housing on ownership basis to provider of affordable shelter on rental basis', in addition to its normal role of providing affordable housing on ownership in housing. Scheme is based on the premise; to make Housing Board, Haryana, as the nodal agency to pool/ own all the 15% housing units built under the category of affordable housing by the private developers/builders in licensed group-housing colonies in the state of Haryana, after paying the cost of house to the said builders@ Rs 1.5 lakh/dwelling units and making these dwelling units available to identified beneficiaries at affordable rent, based on a well-defined and transparent system, without transferring the ownership of the said unit.

The scheme has been framed primarily to achieve the twin objectives of eliminating the misuse and abuse of transfer of flats caused by transferring ownership and to make large housing stock of affordable housing available in all urban centres for allotment at most affordable rent within their work places to all service providers including driver, gardener, maid, security guard, cook, sweeper/ safai-karmcharis, nanny, dedicated nurse/caregiver, electrician, plumber and similar other service personnel and their families, who fulfil the income and other eligibility criteria prescribed for EWS category. The scheme is proposed to be launched initially in the Gurugram and Faridabad metropolis for a period of one year, to be subsequently extended to other urban centers; depending upon the learning from the operations of the scheme.

Considering the limited capacity available within the Housing Board, the new large size, low-ticket and high-volume scheme is proposed to be handled and made operational by creating a dedicated Project Management Unit (PMU) for ensuring efficient management of the scheme. Starting with a single PMU, Housing Board has been empowered to appoint more such PMUs, depending upon the number of dwelling units transferred/handled, and to promote operational and management efficiency and effectiveness of the entire scheme. PMUs are proposed to be manned and operated by a

vendor; for regular monitoring and co-ordination with all stakeholders, to enable smooth functioning of the entire system.

Vendors are proposed to be selected through a well- defined and well laid down transparent process, involving competitive bidding/ rate-contract agreement. Entire process will be managed through a well- designed, online efficient system using technology and software development, for maintaining end-to-end automation of the complete process through the “*HBH Rental Housing Assets Monitoring System*” portal involving; agreements to be signed; payments to be received; selection of lessee/ eligible residents and resolving issues related to maintenance/upkeep of dwelling units. Streamlining the entire process and avoiding any operational conflicts, are proposed to be achieved through a system of Memorandum of Understanding (MoU), to be made between Board/PMU, Colonizer and resident Welfare Association, defining major functions and duties of various stakeholders. Separate MoU are proposed to be entered for each colony. The lease rent proposed in the scheme ranges between Rs 2500-3000 per month, with an annual increase of 3% every year. However, no increase in rent is to be levied in case, Advance Lease Rent” for any period above 2 years is deposited by lessee.

Order of preference for allotment has also been defined based on; first right of allotment going to owners-cum-occupiers of non-EWS flat in the same GH colony; followed by occupiers on rent of non-EWS flat in said colony; other residents of the same sector with last priority going to other residents of the same town.

Scheme also includes the provision of executing a detailed Revenue Sharing Agreement (RSA) for each colony, initially for a period of seven year between the HBH and the PMU, to be made part of the MoU, with broad contours of revenue sharing revolving around: 40% earmarked for Loan Repayment Reserve; Maximum 15% to PMU as its FEES; earmarking 15% for long term maintenance reserve and allocating minimum 30% to HBH as facilitation charges. However, the contractual payment in percentage terms, to be paid to the PMU shall be decided based on the technical-cum-financial bids received from interested parties willing to function as PMU. The actual fees to be paid to the PMU has been mandated to be assessed on the basis of a defined *Service level Agreements/ Key Performance Indicators (SLA/KPI)* for objective assessment of the performance of PMU.

Compliances under RERA Act has been mandated to be the duty of colonizer of the approved colony. Rental housing scheme framed by Haryana state could be objectively considered and followed by other states , with appropriate amendments/innovations to make it more effective and efficient. Scheme offers enormous opportunity for creation large stock of affordable housing to be made available to EWS categories at a pre-determined price eliminating all whims and fancies of the owners. Such housing can be

of enormous value to the urban settlements in meeting the housing demand for lower strata of society. Scheme needs to be extended to all the urban centres in the country and made integral part of Prime Minister Awas Yojna. Adequate funds need to be made available by states/central government on soft terms, to promote large ownership of such flats by the Boards/Development Authorities. The scheme can be a game changer for housing in the category of affordable housing.

Singapore Model of Affordable Housing

Housing a population of 5.704 million in a physical area of 719 sq kms and having top ranking in Global City Performance Index, 2017, Singapore city state has been globally recognized as an indisputable leader in the domain of housing, smart mobility, safety, healthcare, quality of life, environment, ecology, bio-diversity, innovations, experimentations, and administrative services. The Singapore housing model has been globally recognized for its uniqueness, homeownership and affordability. Detailed studies have been made of the Singapore model to bring out its uniqueness, positivity and negativities. In this regard, study made by Prof Anne Haila in 2015, which was published in the book; *Urban Land Rent: Singapore as a Property State*, and evaluation of the study done by Emily Hamilton, remains unique and distinct. Study and evaluation made, has brought out clearly, the factors which have led to the development of public housing in Singapore; factors which distinguishes it from other systems prevailing in different countries; role of political system in leveraging massive housing besides bringing out the losers in the entire process. Singapore focusses on and prioritize its citizens, with limited care and compassion going to the migrant workforce, despite valuable contribution made by these migrants to the rapid growth and development of landlocked nation. Accordingly, Singapore's housing market works much better for the native households near the middle of its income distribution, but provides severely inadequate housing for its low-income migrant workers. Caring for locals, perhaps remains the prime reason for the ruling party to continue in power, since Singapore chose to adopt limited democracy in the year 1965. In Singapore model, citizens have the limited right of using the house for a period of 99 years, based on a lease granted by the Housing Development Board. Land ownership rights vests only with the national government, with house owner having no right/title to land on which house is constructed. After the expiry of lease period of 99 years, the house is mandated to revert back to the Singapore Housing Board, only agency created by Singapore government to provide public housing, who then have the right to demolish the existing houses and create new houses, where the old house owners have no priority of

allotment. System prevailing in Singapore, has been mandated to avoid multiple ownership by restricting the number of houses to two, which can be allotted during the entire life span of a citizen. Limitation imposed on the Citizens involve that they are permitted to sell the allotted houses only after the lapse of a period of five years of allotment. House-owners are allowed to make profit by selling those houses. In fact, houses are allotted as a measure and strategy of providing security to citizens, to create wealth by buying cheaper and selling expensive, for securing their life and livelihood, which operates like a social security in the old age.

As per study made, major factors which distinguishes the housing market and have helped Singapore to create and deliver large stock of housing in the island are the outcome of;

- Controlling and regulating the land resource by promoting exclusive state ownership of land holdings, raising from 50% in 1965 to 90% in 2002, through the application of the principle of eminent domain, duly supported by land reclamation which increased the size of the island by a quarter
- Creating, Housing and Development Board (HDB), a government agency, vested with exclusive right to plan, design, build and allot new public housing on the land sourced from the national government. With more than 1 million flats, HDB has grown from strength to strength making its projects more modern and sophisticated.
- Adopting a lease-based system of land allotment to the recognized institution for a defined period of 99 years through open auction for creating housing and other types of development, with Housing Development Board and private developers competing for land at auctions, both paying market price.
- At the end of a 99-year lease, land with all its improvements are mandated to revert to ownership of State Land Authority (State agency created to manage land) ,without any compensation made to the flat owners
- Limiting/marginalizing the role of private sector in creating affordable public housing, with private developer role confined to creating only limited stock of high-end housing.
- 80% of Singapore citizens and legal residents live in owner-occupied public housing created by Housing Development Board on the land leased by the state.
- Unlike globally adopted pattern of public housing, under which units remain government-owned and leased to low-income tenants-- Singapore's public houses are leased to middle-income buyers with purchasers given the exclusive right to live in their flat, sell it at a market-rate price after the lapse of 5 years period, or lease it to a tenant until the building's 99-year lease expires.

- Entire public housing program is ownership based and no housing constructed for renting out.
- Government land ownership is known to prevent individuals from capturing rising land rents, keeping housing affordable and making Singapore an attractive investment opportunity for foreign firms.
- With flat costing around 4.6 times the median income, innovative system of housing finance makes housing accessible to many households at lower prices.
- Creating numerous typologies of housing varying in size, area and accommodation, ranging from studios for seniors, to 3-room flats to higher-end “Executive” flats. linked closely to affordability of household’s income,
- New flats to buyers are made available at subsidized rates, with income caps placed for new units.
- Funding for housing is sourced through contributions made by individual savings accounts, requiring workers to contribute 20% of their pay into individual accounts in the Central Provident Fund with employer’s contribution placed at an additional 17% of salaries. Funds available in CPF accounts can be used for funding down payment /monthly mortgage payments
- Right to sell the flat at market value, becomes available only after residents have lived in the subsidized flat that they purchased for at least five years.
- Throughout their lifetime, residents are permitted to purchase two subsidized units from HDB that they can resell at market-rate prices, making substantial appreciation.
- Prevailing housing policy is known to promote conflicting interests involving homebuyers wanting prices to remain lower while owners wanting to see more appreciation.
- Singapore Land Authority (SLA), created by the state, is the sole agency authorized to handle land use planning and manages state land.
- SLA follows innovative policy options for optimizing the available limited land resource. Agenda followed is- Limited Land, Unlimited Space (2011), embodying ‘scarcity of land shall not be a constraint but an opportunity for greater innovation and creativity in land use’.
- Zoning carries little relevance and meaning, when issues related to land and land utilization are considered. Unlike many countries where zoning is used as a tool to severely limit construction/ inflate house prices, -- Singapore model success hinges on leveraging zoning for permitting new development on continued basis, to maintain increased access to housing.

- SLA and HDB both work in tandem with the sole aim to search for opportunities of development /redevelopment, to prevent housing constraints from resulting in widespread housing unaffordability
- Purchasing housing for Singaporeans is not just buying a shelter but also a key investment asset...over the long term, with value of flats closely linked to the strength of state economy.
- Land bank and controlled release of land for housing has been effectively and efficiently used by the state to regulate/limit the appreciation in house price, ensuring adequate gains to purchasers of subsidized flats, besides limiting their appreciation, that would put new purchases out of reach for many citizens
- Major losers/sufferers of the housing policy remain non-citizens/ foreign workers, constituting about one-fifth of the 5.6 million population, who remain shut out from the HDB system with some exceptions made, for attracting skilled foreign workers
- Singapore housing policy remains highly discriminatory with more than 300,000 low-income workers forced to live in crowded, dirty dormitories with around 80 people sharing a single toilet, conditions which are much worse than for the typical low-income worker with comparable levels of affordability. Majority of foreign workers living in dormitories face health related problems including COVID,.
- Housing policy for foreign workers largely been shaped by citizens' and residents to the exclusion of the state.
- Prevailing system encourages heterosexual marriage, childbearing, and living with family, making married Singaporeans eligible to purchase HDB flats at age 21, as against 35 years for singles
- Using innovative scheme namely; Selective En bloc Redevelopment Scheme (SERS), for making optimum use of available land resource, by authorizing government to takes over selected buildings for redevelopment prior to expiration of their 99-year lease for creating larger housing stock.
- Continued innovations, out of box thinking, using new technologies, promoting large scale research and development and promoting new typologies of housing, funding the maintenance/upkeep of existing housing etc make Singapore, a role model in creating housing for its natives.
- The potential financial gain from the value of flats have become so important to the nation's citizens that was used as a political tool, with the ruling party announcing that it would prioritize maintenance of estates in constituencies that elected a PAP member. The party has never lost a general election.

- To promote social harmony and to prevent the formation of “racial enclaves, Singapore follows a policy of minimum occupancy of each of the main ethnic groups in the city – Chinese, Malay and Indian in each housing block.
- Recognizing the role and importance of public housing in the prosperity of the country, HDB not only maintains its buildings and grounds carefully, but periodically upgraded estates with new elevators, walkways and facelifts.
- Decision to make every citizen partner in the country’s prosperity, led Singapore to have highest rates of home ownership in the world with more than 80% of the population living in government-built flats. Offering subsidized flats for sale in 1964 that laid the foundation for Singapore’s real-estate success.

Looking at the entire context of Singapore model of providing housing, it can be concluded factors that led to success of the program essentially were based and revolved around; making housing a state led programme duly supported by contributions made by the beneficiaries and the employers; High degree of continued political commitment to promote public housing on large scale and providing housing to all the citizens; making housing as the social security for the citizens; creating a single agency for planning, constructing and managing housing; limiting the role of private sector in affordable housing; limiting the number of house ownership to two to any citizen during lifespan; effectively and efficiently regulating housing market; minimizing speculation; focusing only on citizens; excluding migrants from house ownership program; exercising stringent controls on regulating the housing market; making ownership of land vest with state; adopting leasehold system of allotting housing for a defined period; creating right to take over the housing/reverting the ownership of housing/land to state agency after the expiry of lease period; making optimum use of available land by adopting the principle of -Limited land and Unlimited Space; eliminating the limitations imposed by the zoning, landuse and building bye-laws; innovating housing design/management; promoting development/ redevelopment of land to maintain availability/ affordability of flats ; limited population size, compact area with committed and well-defined administrative/governance structure; robust economy; high per capita annual income ; adopting state of art technologies; promoting high degree of cost-efficiency; continuously searching for new options to innovate and create housing stock on year to year basis etc. Looking both critically and objectively at the Singapore model of providing housing, it can be easily concluded that model is full of dualities and contradictions. It remains discriminatory for all outsiders. It is purely meant to serve and promote the interests of the locals and citizens to the exclusion of the outsiders. It

does not talk of affordability but wishes to perpetuate a system which recognizes housing more as an investment to make money for the natives to assure their future, rather than a place providing security, safety, identity and a space for the family to live and grow. It remains a hybrid model which works on a capitalist philosophy of promoting free economy but trying to achieve the principles/objectives of socialism. Singapore is said to have solved the housing problem, but this certainly isn't true, for those shut out from the HDB system.

Chinese Approach to Source Land for Housing-- Tradeable Land Quotas

China, as a matter of policy, has limited the conversion of the agricultural land into non-agricultural/urban uses at the local level, due to policy of central Government focusing on using land exclusively for agricultural purposes to achieve self-sufficiency in the food grains to feed its large population. For achieving the objective, national government uses the mechanism of specifying limit/quota on agricultural land that can be converted to

urban use. For sourcing land for urban development/housing; Cities such as Chongqing and *Chengdu* have worked on an innovative concept of *tradeable land quotas*; through which, peripheral land is developed in lieu of land given for cultivation beyond the city boundaries. In city of Chengdu, by consolidating land in rural areas, developers can create a construction land quota which remains valid for two years and can be sold once in this time; if land is not used/developed during the specified period, the city buys the land back at a specified minimum price. Some 10% of the value goes to the city to improve infrastructure in the consolidated areas. In *Chongqing*, the process of rural construction land conversion is carried out by the city government in collaboration with townships and village committees, and – as an anti-speculation measure – developers need to purchase a quota before bidding for a parcel of land in the urbanizing area. Tradeable land quotas are analogous to transferable development rights (TDR), in which rights to land targeted for conservation are exchanged for rights to develop in approved areas. However, there are vital differences: TDR is not divisible, as land is consolidated from multiple parties to form the quota; and *Chengdu's* system of networked decision-making, in which individual and collective units negotiate with the local government and private sector, helps to safeguard the interests of individual owners. Source: (Fuller, 2017; Lejano & Lian, 2017).

Haryana Affordable Housing Policy 2013

With a view to create adequate stock of affordable housing in the urban areas of the state, Affordable Housing Policy was notified by the Haryana Government in the year 2013, under the Haryana Development and Regulation of Urban Areas Act, 1975. The Director General, Town and Country Planning, Haryana, was made the nodal officer to effectively implement the policy. The intent of the policy was to encourage Group Housing Projects having apartments of; pre-defined size made available at pre-defined rate, within a specified time-frame to the eligible beneficiaries in the urban area of Haryana. Group Housing Projects licensed under the scheme were to be completed within a period of 4 years from the approval of building plans or grant of environmental clearance, whichever was later. No renewal of license was to be permitted beyond the stipulated period of 4 years period from the date of commencement of project.

SITING PARAMETERS:

In order to integrate the affordable housing projects with the planned development of the urban areas, affordable group housing was allowed only in the residential zone of the notified Development Plans of various towns/cities of the State. In addition, only defined area within urbanizable limits was permitted under the affordable category group housing projects, in different classes of cities, depending upon the estimated demand of such housing. For this purpose, state was divided into three distinct zones. Urban areas falling under high potential zone; mid potential zone and low potential zone. Highest area was provided in the urban centres falling under the high potential zone, whereas lowest area was permitted in urban areas falling in the low-potential zone. In high potential urbanizable area of Gurgaon, Faridabad, Panchkula, Panchkula Extn, Pinjore-Kalka , area permitted under affordable group housing was limited to 300 Acres; whereas in the mid-potential zone comprising of, Sonipat, Panipat, Karnal, Dharuhera, Bahadurgarh & Sohna maximum area was placed at 150 Acres and in case of the rest of urban areas in the state, it was kept as 75 Acres for each town.

The applications for license, under this policy was mandated to be made in the format as prescribed in the Rule 3 of the Haryana Development and Regulations of Urban Areas Rules, 1976 and the said Rules were made applicable mutatis-mutandis for processing of the application under this policy. Further, the applications for licence received under this policy were to be considered on First-Come-First-Serve basis after the notification of this policy.

In order to ensure the rational distribution of affordable housing all over the urban areas of the state, the area permitted for such housing project in any residential sector, was limited to a maximum of 5% of the net planned area under residential zone under this policy. However, in case of residential sector having an area less than 100 acres, only one such project having an area of 5 acres was permitted. Further, maximum net area that was to be permitted under this policy in any residential sector was not to exceed 10 acres.

Applications under this policy for setting up group housing were to be received on an ongoing basis till the availability of area in any specific sector and/or any specific development plan vis-a-vis the area limits prescribed under this policy got licensed. Nevertheless, all applications received within 15 days of the notification of this policy were to be placed sector-wise in order of seniority. If only one application was received in a particular sector in this period, such application was to be considered on merits for grant of license as per minimum and maximum area norms defined. However, if more than one application was received during this 15 days period, then first two eligible applications were to be considered for grant of license for an area of 5 acres each, irrespective of the area applied.

In a subsequent amendment, in any residential sector, not more than 30 acres area under residential zone was to be allowed for projects under this policy. However, the additional limit of 15 acres along with the remaining area, if any, out of the 30 acres area limit, in each sector was to be allotted through a public notice giving window of thirty days' time, inviting applications for remaining area to be made available under this Affordable Group Housing Scheme. If the applications are of area more than the available net planned area in any sector, then draw of lots was to be held to decide as to whom the license was to be granted. Further, in case a portion of net planned area stand redundant due to grant of licenses in total 30 acres, a relaxation of 20% on minimum area norms of 5 acres which comes to one acre was to be considered. However, the fee and charges was to be levied on total 5 acres but Floor Area Ratio (FAR), ground coverage was allowed on the actual area licensed.

MINIMUM AND MAXIMUM AREA FOR SUCH PROJECT:

The minimum and maximum area for such projects shall be 5 acres and 10 acres respectively, irrespective of the Development Plan, where such project is proposed

PLANNING AND AREA PARAMETERS:

In order to ensure the planned, orderly and rational development of the affordable housing colonies on a uniform pattern, well-defined planning parameters for such housing projects were put in place in terms of density, FAR, ground coverage, commercial areas, open spaces, occupancy norms, typologies of apartments, carpet areas etc. as defined below. However, in order to ensure economic viability/sustainability of the affordable group housing projects, policy made specific provision for specifying higher population density and higher floor area ratio, as compared to other housing projects, so as to create larger number of flats within a given area and a commercial area of 4%, for larger revenue generation in the projects.

- Minimum and Maximum density permitted: 850ppa (min) & 900ppa (max)
- Maximum FAR allowed: 225
- Maximum Ground Coverage allowed: 50%
- Maximum area under Commercial Use: 4% of the Net Planned Area at 175 FAR
- Minimum Area under organized Open Space: 15% of the Net Planned Area
- Occupancy Norm (for density calculations): 5 persons per flat

Type of Apartment and Area under such Apartments:

- The apartments of pre-defined sizes were, mandated to be allotted at a pre-defined rate to ensure provision of affordable housing under this policy
- The carpet area of the apartments was given to range from 28sqm to 60sqm in size.
- The term "carpet area" was defined to mean the net usable covered floor area bound within the walls of the apartment but excluding the area covered by the walls and any balcony which is approved free-of-FAR, but to include the area forming part of kitchen, toilet, bathroom, store and built-in cupboard/ almirah/ shelf, which being usable covered area, shall form part of the carpet area.
- No separate EWS category apartments were to be provided to eliminate any cross -subsidy component and to avoid any adverse impact on the affordability of apartments made available under this policy.

Parking Norms:

- The parking space were to be provided @ 0.5 ECS for each dwelling unit.
- Only one two-wheeler parking site was to be earmarked for each flat, which was to be allotted to the flat-owners. The parking bay of two-wheelers was to measure 0.8m x 2.5m unless otherwise specified in the zoning plan.

- No car parking to be allotted to any apartment owner in such projects.
- The balance available parking space, if any, beyond the allocated two-wheeler parking sites, was to be earmarked as free-visitor-car-parking space.
- Additional parking norms and other planning parameters, if any, to be specified in the zoning plan.

Community Sites:

- The colonizer was mandated to provide the following community sites in the affordable housing project, which were to form part of the common areas /facilities, as defined under the Haryana Apartment Ownership Act:
- One built-up Community Hall of not less than 2000 sqft.
- One built-up Anganwadi-cum Creche of not less than 2000 sqft area.
- No other community sites were to be required to be provided in such project.

Maintenance of colony

For ensuring proper maintenance and upkeep of the colony for five years by the colonizer, after the completion of the project, commercial component to the extent of 4% was allowed in the project to enable the colonizer to maintain the colony free-of-cost for a period of five years from the date of grant of occupation certificate, after which the colony was to be transferred to the “association of apartment owners” constituted under the Haryana Apartment Ownership Act 1983, The colonizer was not permitted to retain the maintenance of the colony either directly or indirectly (through any of its agencies) after the end of the said five years period. Engaging any agency for such maintenance works was left to the sole discretion and terms and conditions finalized by the “association of apartment owners” constituted under the Apartment Ownership Act 1983.

ALLOTMENT RATES; ALLOTMENT & ELIGIBILITY CRITERIA:

In order to maintain parity in the state regarding cost of the project and to avoid any fleecing by the colonizer of the allottee, policy clearly specified the rate at which flats were to be allotted. While fixing rates, due consideration was given to the prevailing land prices and other factors impacting the cost of construction in different cities of the state. In addition, the rate at which cost of balcony (defined to be min of 5ft clear projection) to be charged from allottee was also defined in the policy. However, area of the cantilevered balconies (unsupported on three sides) was not to be counted in the carpet area and was mandated to be free-of-FAR. The allotment rate for the Apartment units approved under such projects were as follows:

- a) Gurgaon, Faridabad, Panchkula, Pinjore-Kalka; the rate to be charged for the carpet area of the flat was to be @ Rs.4,000/- per sq. ft. plus Rs 500 per sqft against the balcony area, given in a flat up to and limited to 100 sqft, as permitted in the approved building plans.
- b) In Medium Potential Towns; the rate to be charged for the carpet area of the flat was to be @ Rs.3,600/- per sq. ft. plus Rs 500 per sqft against the balcony area given in a flat upto and limited to 100 sqft,, as permitted in the approved building plans.
- c) Low Potential Towns, the rate to be charged for the flat was to be Rs.3,000/- per sq. ft. for the carpet area of flat plus Rs 500 per sqft against the balcony area upto and limited to 100 sqft, as permitted in the approved building plans.

Eligibility Criteria:

Eligibility criteria for allotment of flats under affordable housing scheme was detailed as under;

- a) Any person could apply, but among applicants, person, which includes his/her spouse or his/her dependent children, who do not own any flat/plot in any HUDA developed colony/ sector or any licensed colony in any of the Urban Areas in Haryana, UT of Chandigarh and NCT Delhi, was to be given first preference in allotment of flat. An applicant in a specific colony was permitted to make only one application. Any successful applicant under this policy was not eligible for allotment of any other flat under this policy in any other colony. In case, he/she was successful in more than one colony, he/she was given choice to retain only one flat. All such applicants were to submit an affidavit to this effect.
- b) Up to 5% of the total number of flats, as approved in the building plans, were permitted to be allotted by a licensee to its employees/ associates/ friends/ relatives etc. subject to the disclosure of their name/address and other identification details to the allotment committee and the allotment procedure for such flats was also to be completed along with the draw of flats for general category flats. The rates and eligibility criteria prescribed under this policy was to continue to be applicable on such preferential allotments also and the allotment procedure was to be completed along with allotment of general category flats. In case less allotments are made for such preferential category flats, the extra availability was to be merged with general category allotment.

Allotment criteria:

- The draw for allotment of apartments was to be held under the supervision of a committee constituted for the purpose by following a transparent procedure defined in the policy.:
- The developer was to invite applications through concerned Senior Town Planner (STP) by advertising at least three times in three newspapers (one leading English National Daily and two in Hindi language having circulation of more than 10,000 copies in the State). The applications were to be invited online by concerned STP of the respective circle and then allotment shall be made by the colonizer. The first draw of lots was to be held within four months from the date of first advertisement and there should be a gap of at least three months between any such two advertisements. After three such attempts by STP, the colonizer will make allotment of flats on 'First come First Serve bases on pre-defined rates
- All flats in a specific project were to be allotted in one go within four months of sanction of building plans or receipt of environmental clearance whichever was later and possession of flats was to be offered within the validity period of 4 years of such sanction/ clearance. Any person interested to apply for allotment of flat in response to such advertisement by a colonizer, was to apply on the prescribed application form along with 5% amount of the total cost of the flat. All such applicants were made eligible for an interest at the rate of 10% per annum on the booking amount received by the developer for a period beyond 90 days from the close of booking till the date of allotment of flat or refund of booking amount, as the case may be. The applicant was required to deposit additional 20% amount of the total cost of the flat at the time of allotment of flat. The balance 75% amount was to be recovered in six equated six-monthly instalments spread over three-year period, with no interest falling due before the due date for payment. Any default in payment was to invite interest @15% per annum. The project-wise list of allottees was to be hosted on the website of the Department.
- The scrutiny of all applications received as per the parameters prescribed in the policy was to be completed by the colonizer under the overall monitoring of concerned District Town Planner (DTP). The scrutiny of applications by the joint team of colonizer and the concerned DTP was mandated to be completed within three months from the last date of receipt of applications as indicated in the advertisement.
- On completion of scrutiny as above, the concerned Senior Town Planner was to fix the date of draw of lots. Simultaneously the ineligible applications were to be returned within one month of completion of scrutiny by the colonizer indicating

the grounds on which the applicants have been held to be ineligible along with the 5% booking amount received from such applicants. No interest in such case was to be paid.

- After fixation of date for draw of lots, an advertisement was to be issued by the coloniser informing the applicants about the details regarding date/time and venue of the draw of lots in the same newspaper in which the original advertisement was issued.
- The allotment of apartments was to be done through draw of lots in the presence of a committee consisting of Deputy Commissioner or his representative (at least of the cadre of Haryana Civil Services), Senior Town Planner (Circle office), DTP of the concerned district and the representative of coloniser concerned.
- Only such applications were to be considered for draw of lots which were complete and which fulfilled the criteria laid down in this Policy. However, it was possible that some of the application forms have certain minor deficiencies, viz., missing entry on the application form, incorrect/missing line in affidavit, illegible copies of certain documents. Such applications could also be included in the draw of lots. However, in case any of such applications were declared successful in the draw of lots, applicants were to be granted an opportunity of removing the shortcomings in their application in all respects within a period of 15 days, failing which their claim was to be forfeited. The said 15 days period was to start from the date of publication of the list of successful allottees in the newspaper marking those successful applications with minor deficiencies for information and notice of such applicants for removing such deficiencies and submit the same to the concerned DTP. The list of such successful allottees was also to be maintained on the website of the Department.
- A waiting list for a maximum of 25% of the total number of flats available for allotment, was also be prepared during the draw of lots who can be offered the allotment in case some of the successful allottees are not able to remove the deficiencies in their application within the prescribed period of 15 days.
- On surrender of flat by any successful allottee, the amount that can be forfeited by the colonizer - shall not exceed the following:- (aa) In case of surrender of flat before commencement of project Nil; (bb) upto 1 year from the date of commencement of the project: 1% of the cost of flat; (cc) upto 2 years from the date of commencement of the project: 3% of the cost of flat; (dd) after 2 years from the date of commencement of the project 5% of the cost of flat; The cost of the flat shall be the total cost as per the rate fixed by the Department in the policy as amended from time to time.”

- Such flats may be considered by the committee for offer to those applicants falling in the waiting list. However, non-removal of deficiencies by any successful applicant shall not be considered as surrender of flat, and no such deduction of Rs 25,000 shall be applicable on such cases. If any wait listed candidate does not want to continue in the waiting list, he may seek withdrawal and the licensee shall refund the booking amount within 30 days, without imposing any penalty. The waiting list shall be maintained for a period of 2 years, after which the booking amount shall be refunded back to the waitlisted applicants, without any interest. All non-successful applicants, shall be refunded back the booking amount within 15 days of holding the draw of lots.
- If any successful applicant fails to deposit the installments within the time period as prescribed in the allotment letter issued by the colonizer, a reminder may be issued to him for depositing the due installments within a period of 15 days from the date of issue of such notice. If the allottee still defaults in making the payment, the list of such defaulters may be published in one regional Hindi news-paper having circulation of more than ten thousand in the State for payment of due amount within 15 days from the date of publication of such notice, failing which allotment may be cancelled. In such cases also an amount of Rs 25,000/- may be deducted by the coloniser and the balance amount was to be refunded to the applicant. Such flats were to be considered by the committee for offer to those applicants falling in the waiting list.
- The colonizer is to issue advertisements on three separate occasions in case adequate number of applications are not received, after which if the situation continues to persist, the Government shall take a decision on the further continuance of such project on case-to-case basis on individual merits.

APPLICABLE FEES & CHARGES:

- (i) Keeping into account the fact that a limited number of projects were to be allowed under this policy and the sale is to be effected at a predetermined rate, the licence fees and IDC was waived off. However, scrutiny fees and conversion charges at prescribed rates was to be levied.
- (ii) Similarly, in order to minimize the impact of EDC rates on the viability of such a project, the rates and schedule of EDC applicable on plotted colonies were to be levied on such projects. In order to encourage early completion of projects, in case the colonizer completes the project in 3.5 years from the date of commencement of project and applies for grant of occupation certificate in such

period, the payment of last instalment of EDC was to be considered for waiver after grant of occupation certificate.

SPECIAL DISPENSATIONS:

- (i) As a matter of security against any possible delinquencies in completion of the project, the coloniser was required to furnish bank guarantee against the total realization from the project at the rate of 15% for areas falling in the Development Plans of Gurgaon, Faridabad, Panchkula, Panchkula Extn and Pinjore-Kalka and at the rate of 10% for rest of the towns to be furnished within 90 days of the date of commencement of the project. The bank guarantee shall be proportionately released against block-wise occupation certificate obtained by the licensee. However 10% of the total bank guarantee submitted shall be retained to be released at the end of 5 years maintenance period.
- (ii) No allotment of flat shall be permitted until the date of commencement of the project. However, the formalities pertaining to the allotment of flats can be initiated at an appropriate date after obtaining the licence to enable the actual allotment of flat immediately after the date of commencement of project.
- (iii) Once an apartment is allotted through the procedure as specified above, the same cannot be transferred by the coloniser to any other person by documentation in its records. Such apartments shall also be prohibited for transfer/sale up to one year after getting the possession of the flat to avoid speculation and to provide housing to the genuine persons. Breach of this condition will attract penalty equivalent to 200% of the selling price of the flat. The Penalty will be deposited in the Fund, administered by the Town and Country Planning Department so that the infrastructure of the State can be improved. Failure to deposit such penalty shall result in resumption of the flat and its re-allotment in consultation with the Department.
- (iv) The transfer of property through execution of irrevocable General Power of Attorney (GPA) where the consideration amount has been passed to the executor or any one on his behalf, was to be considered as sale of the property and same was to be counted as breach of terms and conditions of the policy. Penal proceedings as per the prescribed provisions were to be initiated.
- (v) The allotment letter and sale-purchase agreement entered into with the allottees will also include the parameters prescribed under this policy for maintaining complete transparency in the matter.

- (vi) The developer was to disclose in the Application Form. as well as in the advertisement, the complete set of specifications to be adopted for finishing/fittings to be provided by the coloniser in the flat, viz., Flooring (Rooms, Kitchen, Toilet& Bathroom, Balcony, Common Areas, staircase etc.); Door & Window frame and panel; Kitchen Worktop & Wall finishing; Toilet & Bathroom fittings and wall finishing; Internal Electrical Wiring, fittings, electrical points etc.; Internal public health Services—pipes and fittings, sewerage and sanitary fittings; Wall finishing; Staircase and Balcony railings, etc.

Conclusion

- Looking into the entire gamut of affordable housing, Haryana Policy on Affordable Housing, appears to be a well thought out, well-reasoned and a realistic policy for favouring, promoting and obliging private sector , Policy aimed at incentivizing the private developers/colonizers, who have land available with them and would consider opting readily for the scheme. Scheme does not depend upon those categories of colonizers who were to source land and then take up development of such housing. Scheme, which appears to be tailor made, provided the policy of first come first served for grant of license. Limiting the area in each city and in each residential sector, is primarily and essentially meant to trigger competition/favouring colonisers/ developers to go and immediately opt for the scheme, who had resources and land readily available with them.
- In order to make scheme attractive and financially viable, lot of incentives have been built into the scheme. Scheme provides for liberalized development controls in terms of; density, ground coverage and higher number of dwelling units to make it financially viable and attractive. Scheme also provides maintenance for five years after completion of the colony, by the colonizer, which has been made possible by providing addition of commercial component, made available free of cost, which colonizer can leverage for raising funds for maintenance of the project for 5 years
- Further, the scheme is mandated to be completed within a period of 4 years, without any provision of extension, which is primarily meant for ensuring that project will have completion in the given timeframe and allottee will have the possession of the dwelling unit promised on time. Incentivizing the completion of the projects within 3.5 years instead of 4 years adds another positive dimension to the policy. However, no mention has been made, in case project is

not completed by the colonizer within the given time, then how the project will be managed, thereafter.

- Fixing price based on the carpet area instead of covered area, brings transparency into the allotment price of the flat. However, the definition of the carpet area in the policy has been changed to favour the colonisers by including the area under services- kitchen/ bathrooms and circulation- as the carpet area, which entitles colonizer to charge money from the allottee for such areas , which don't form part of the carpet area. Involvement of the officials in monitoring, completion and allotment of the flats has been made to ensures the sanctity of the policy.
- Policy has lot of positivities, checks and balances inbuilt but also has number of negativities and limitations. So far so good, looking critically, objectively and rationally, policy at best can also be called self-financing housing policy, because the allottee has to make payment of the entire cost of the flat before taking over its possession and cost of flat is to be paid in 6 equated six- monthly instalments with initial payment of 25% made on allotment. So the affordability has been limited to the persons, who have the resources available with them for paying the entire cost of the project. Scheme excludes the person who cannot afford to pay the total cost of the flat within 4 years. The cast of house also remain very high from 12.5 lakh in the lower end to 25.5 lakh in the upper end of High Potential zone, which appears beyond affordability of majority of persons falling in such categories. Further non-payment of six-monthly instalments are mandated to attract high penal interest @ 15% per annum.
- Despite the fact, policy is named as affordable housing Policy, but nowhere in the policy word, "affordability" has been defined, in the absence of which it is difficult to make out who are going to be the beneficiaries under the policy . Looking at the entire context of the Affordable Housing Policy of 2013, it can be concluded that policy remains pro-colonisers, primarily and essentially, to create opportunities for sourcing business for them in lower category housing, by giving large number of incentives, relaxations and opportunities, which normally are not otherwise available to other licensed residential colonies in the state.

Punjab Affordable Housing Policy, 2020

Introduction

With a view to overcome the existing gap between demand and supply and to ensure adequate supply of affordable housing for the targeted groups of lower and middle income families, living in the state of Punjab, Department of Housing and Urban Development, Government of Punjab, has come out with a policy on affordable housing dated July 24,2020, titled as, “ Punjab Affordable Housing Policy, 2020. Policy superseded the previous policy for affordable housing announced by the government on July15, 2020. Policy has a focus limited to affordable housing pertaining to lower-and middle-income categories. Looking at the broad parameters of the norms prescribed for the area of the colonies and plot sizes defined under the policy, it appears scheme aims at attracting small time developers/promoters to plan and develop affordable housing for the lower-and middle-income groups. Policy is said to be based on the state commitment to create adequate stock of housing for lower income strata living in the state.

Operational Domain

Affordable housing policy,2020, has a defined area for its applicability. Policy extends to three broad area of state, defined as under;

- **Areas developed/ approved by Department of Housing and Urban Development**
- **Area earmarked for the residential and mixed land use zones in Master Plans**
- **Area falling within 3 km belt around municipal limits, even if, outside Master Plan.** (In the policy, Regional Plan has also been treated as Master Plan for all intent and purposes of the policy).

Policy seems to have limitation in its area of operation and does neither cover the entire state, nor all the urban settlements existing in the state of Punjab. It has been made applicable only to those urban settlements, which have approved master plans in operation and appear to exclude, all other cities and towns for which master plans are either under preparation/have not been prepared and notified. Out of 168 statutory towns/cities in the state (2011 census), master plan for only 36 cities have been approved and notified so far, whereas remaining 132 towns of the state, for which master plans are under preparation/have not been prepared so far, remain beyond the operational

ambit and framework of the policy. State so far has only one Regional Plan (Mohali Region) prepared and approved under The Punjab Regional and Town Planning Act, 1995. Further, in the cities where master plans have been prepared, affordable housing has been permitted in the area covered by land uses defined as Residential/Mixed land use zones. This has been done to limit the housing only in the conforming land use zones of the city. In case of cities, where master plans are in the process of preparation/ yet to be prepared, policy has limited application covering only that area which have been developed/approved by the Department of Housing and Urban Development. This area constitutes a small fraction of the total urban area of the state. Further, policy provides for permitting affordable housing within the 3 kilometers belt around municipal limits, even if said area falls outside the master plan area. Provision does not specify, whether it covers the areas of the cities/towns whose master plan have not been prepared and notified.

In the fitness of circumstances, for achieving the objective of creating large stock of affordable housing, policy should have covered and made applicable to all the urban centers of the state, for exploiting the full potential of the scheme and create adequate housing stock in all the urban areas of the state. Under the existing policy, majority of the cities in the state will be deprived of the benefits of the scheme, state wants to provide, for creating adequate stock of affordable housing.

Planning Parameters

Policy contains and also details out various parameters for siting and planning of colonies for affordable housing in terms of; minimum area of colony; minimum right of way for accessibility to colony; allocation of areas under different land uses; maximum permissible saleable area; reservation for EWS; Commercial component permitted ; plot sizes; development controls; competent authorities for granting approvals for the change of land-use, layout plan, zoning plan and granting license to the colonies. Major planning parameters defined in the policy provide for;

The minimum area of the colony for the plotted / mix of plotted and group housing shall be 5 acres and for group housing colony, minimum area limit prescribed is 2 acres, except SAS Nagar and New Chandigarh. In case of SAS Nagar minimum areas prescribed for Residential/mixed use Colony shall be 25 Acres/10 Acres; whereas in case of New Chandigarh it shall be 100/5 Acres for such colonies.

Minimum width of existing road providing approach to colony having only plotted development shall be 22 feet to be widened to 40 feet or as per width of the road

provided in the master plan, whichever is more. In case of colony having group housing/mixed development, the minimum width of road required shall be 40 feet, widened to width specified in the Master Plan.

- While defining the apportionment of the area under different land uses, policy uses the concept of gross area of the colony and effective area of the colony. Gross area is the total area of the colony, whereas effective area is the net area after deducting the area defined in the master plan for the city green and city roads from the gross areas. All amenities area has been defined on the basis of the effective area and not gross area, which could lead to considerable reduction of area available under different land uses.
- Maximum saleable area in the colony has been pegged at 60% including area reserved for EWS Housing. In case of EWS Housing, reservation has been made not in terms of area but in terms of 10% of total number of plots provided, which factually reduces the number of plots available for such category. Commercial component has been limited to 5% of the effective area which does not include the area provided under parking which is supposed to be not forming part of commercial area permitted, making the commercial component higher.
- Minimum area under park has been kept to be 8% of the effective area of colony with no park having width less than 50 feet. Minimum area under Community centre has been limited to 4% of effective site area whereas minimum internal road width has been defined to be 25 feet. Plot sizes have also been divided into two distinct categories, limited in area of 150/100 sq yards for affordable/ EWS categories. Maximum FAR permitted has been placed at 2.1, with maximum ground coverage permitted to be 70%. Developers has been permitted freedom to sell the EWS units without the restrictions of PAPRA and seeking permission of the competent authority. Construction on plots have been permitted at three levels including ground level construction. In case of independent floor plotted development, three units have been permitted on each plot with minimum area defined to be 150 Square meters. Stilt in such plots have been permitted for providing space for parking.
- Norms have separately been defined for group housing, where effective ground coverage has been limited to 35% of the site area, with FAR of 3 with freedom to have buildings of any height subject to building rules and clearance from the

Airport Authority. Building format under group housing has been visioned to be multistoried with minimum of 9 storied buildings to achieve the defined FAR of 3 with maximum prescribed ground coverage. Area under green has been mandated to be 25% of the plot area, with 15% area provided as composite green. Carpet area for the affordable category has been fixed at 90 Sqm, whereas for EWS category, it is defined in the range of 30-45 Sqm. Reservation for EWS has been kept at 10% of the plots provided. In addition, parking spaces are required to be provided @1/0.5 ECS for dwelling units having area 60/ below 60 Sqm. Saleable component in the colony has been limited again to 5%, excluding the area under parking.

- In case of colonies having both plotted and group housing categories, norms for the plotted development and group housing will be made applicable respectively in the area covered by each of them. However, such development has been permitted to club the area to be provided for common categories of community centres, open spaces and utilities.

For ease of permitting change of land-use , power of the competent authority are to be shared between Senior Town Planner /Chief Town Planner, of the Town Planning Department , depending on the area of colony. For colonies having area up to 10 acres, STP has been empowered, whereas in case of area exceeding 10acres, power to permit change of land use has been vested with CTP. Similar provisions have been made for approval of the layout plan/zoning plan in case of Plotted development. However, approval of the layout plan/zoning plan ,in case of group housing/ mixed projects having both plotted & group housing development, has been exclusively vested with CTP, irrespective of the area of the colony. Power to grant license to colonies in all cases has been vested with, Director, Town & Country Planning, Punjab; whereas power to sanction building plans has not been changed and remain vested, as mandated in the PUDA Building Rules, 2018.

Policy also provide freedom to developers to sell the EWS housing, without following any restrictions made operational under Punjab Apartment and Property Regulations Act, 1995, which empowers state to fix the price and define the procedure to be followed for fixing the price and allotment of the dwelling unit. Developers have also been exempted from following the density norms prescribed for different areas/cities in the master plans

Looking critically and objectively at the policy framework of Punjab Affordable Housing, 2020 defined above, it appears that state feels that facilitating the developers by giving relaxation in the minimum area norms specified for the colonies; easing planning and development norms and enabling developers to have more saleable areas, will help in creating large stock of affordable housing. Policy appears to contain lot of dualities and inherent contradictions in its intent, contents and scope. In its eagerness to promote affordable housing, state is sacrificing all norms for promoting planned and orderly development by reducing the area under roads, limiting the width of accessible roads, excluding healthcare and educational facilities etc. from the ambit of affordable housing colonies.

Policy provides total freedom to colonizers from the densities specified/defined in the master plans. With minimum size of group housing fixed at 2 acres, having unlimited density and unlimited height of buildings, one can clearly foresee and appreciate the quality of affordable housing likely to come up into the cities of Punjab under the given policy. These residential development are likely to emerge as island of planned slums in the urban setting. Colonies coming up outside urban settlements/in the rural areas, will surely have implications in terms of accessibility, services, amenities, infrastructure, employment, meeting day-to-day needs of the residents and quality of life, which essentially support the residential components. These need to be addressed appropriately and rationally in the policy framework. In addition, all these colonies must be mandated to have adequate provision for rain water harvesting and generation of solar energy, so as to make them self-sufficient and self-contained in water/energy components. Mandating these colonies to be green rated will help, not only to make them affordable in real sense of the term, but also will help achieve the goal of affordable living, by reducing the energy/water cost for the entire life cycle of the buildings. Making building greens would also help the residents to remain more healthy and more productive.

Present policy, which is called the Affordable Housing Policy, includes two categories of housing i.e. Affordable Housing and EWS housing. How the policy differentiates these categories and does the policy exclude the EWS housing from the ambit of affordable housing for all intent and purposes, by classifying it as a distinct entity, remains unexplained and unexplored. Further, developers have been given the freedom to sell the EWS plots/flats in the open market without following the state policy framed for EWS/LIG housing for their disposal. This will defeat the very intent and purpose of the policy, because competing in the open market will be beyond the capacity/capability and resources of communities/people falling under the EWS categories to source houses

in the open market. Further, on one hand policy has defined a category for EWS housing for creating plots/flats for them, in addition reservation of 10% plots/flats has also been made for them in the policy; it is not known to whom these plots/flats will be made available when developers have been given freedom to dispose off these plots/flats in the open market. Policy also provides option to developers to provide EWS housing in the shape of plots of area 100 Syds. It needs to be examined whether, it be possible for EWS categories to secure these plots in the open market and then construct houses for them. Considering the high price of developed land, prevailing in the urban market, these plots, meant primarily and essentially for EWS categories in all probability, are likely be siphoned off by the higher income categories. Policy also needs to define the basis and criteria of categorization of affordable and EWS classification in the domain of affordable housing. Policy contains numerous contradictions, inadequacies and deficiencies and it will be a misnomer to call it a policy. Policy does not holistically look at the tenets of National Housing Policy and the framework defined under four verticals of the Prime Minister Shehri Awas Yojna (U), to make it self-contained and innovative.

It will be wrong on the part of state to assume that simply by enabling and empowering private sector/developers, will help state create large stock of affordable/EWS housing and achieve the national/state goal of 'Providing Housing for all'. State needs to have a proactive role in the affordable housing category, by rationally framing the policy; defining the eligibility criteria for the section of the society intended to be covered/benefitted under the policy ; identifying/qualifying/ quantifying the intended beneficiaries; identifying places where such beneficiaries are placed; leveraging the setting up of such colonies in these areas; creating appropriate framework for financing of such housing ; defining /limiting the intended cost of such houses/plots to avoid fleecing of the intended beneficiaries; creating appropriate checks and balances for effective implementing of the policy and defining authorities at the local/state level for achieving the defined objectives of the stated policy. Policy also needs to clearly define the concern of demand side, supply side and that of intended beneficiaries and define the ways and means to address them to make the operation of policy seamless; appears to have been lost in the haze of placing total faith/reliance on the private developers. Further state should endeavor and put in place a single policy pertaining to affordable housing covering the entire state, which is missing due to exclusion of large urban area from the ambit of the policy. It would have been better if Department of Local Government was also roped in to frame a single policy for promoting affordable housing in the urban settlements of the state of Punjab.

Chapter-13

National Housing and Habitat Policy, 2007

Framing Policies remains integral part of government commitment, operations, functioning and management. Policies framed always focus on critical issue facing state/country, define agenda and options for approaching them in realistic and rational manner to remove all roadblocks and create supporting/enabling environment, to achieve the goals defined in the said policies. Considering role and impotence of housing in the economic and social development including employment generation, industrial growth, promoting quality of life and welfare of individuals, communities, society, state and nation, providing adequate and appropriate housing for all has been the objective which all governments want to achieve as part of national agenda. However, housing, as one of the three basic necessities of human living, remains most dynamic, always evolving and devolving and never static.

Considering the ever- widening gap between demand and supply, due to rising graph of human count; rapid and massive migration of people from one place to another and from rural to urban settlements; changing family structure; location of educational facilities and jobs in large cities, providing appropriate shelter for all remains most challenging, difficult and important task for all the nation. Considering the criticality of shelter as a major determinant of quality of life, social status, dignity and safety of individuals/ human beings, United nations has mandated all its member states, to consider housing as the basic human right and provide appropriate shelter to all of their citizens on priority. In consonance with the global mandate and issues emerging in the domain of housing, government of India, took the initiative of framing policies from time to time to address the vital issue of bridging ever widening gap between demand and supply of shelter and to make available shelter for all in both urban and rural areas. During the last more than seven decades since independence, Government of India through the Ministry of Housing & Urban Development/ Poverty Alleviation, has framed four policies at the national level, to address and focus on the issue of housing in the country. These policies were framed in the years 1988, 1994, 1998 and 2007. First policy on housing came as late as 1988, after the lapse of 41 years of gaining independence. However, within a span of ten years two more housing policies were put in place at the national level while the last policy became operational about 14 years back. . Out of four policies framed so far, first three policies framed in the years 1988, 1994 and 1998 focused on India as a nation, covering both urban and rural settlements. Last policy, framed in the year 2007, was exclusively dedicated to problems and issues

related to housing in the urban India. All policies mandated, 'Housing for All', as the objective /goal and agenda to be achieved by the states and the nations, only approach changed. Third National Housing & Habitat Policy contained some landmark initiatives calling for; involvement of multi-stakeholders; repeal of Urban Land Ceiling Act; permitting Foreign Direct Investment in housing and real estate sector etc. However, all these policies were generic / applicable to both rural and urban areas.

Considering challenges of shelter / growth of slums, in 1991 India as a nation, chartering a new economic agenda of economic liberalization and globalization, adopted a more 'inclusive' view of economic development by emphasizing that India must integrate with the global economy. Accordingly, India reduced custom duties to welcome Foreign Direct Investment (FDI) in several sectors of the economy. The National Housing Policy, 1994 was a product of this economic point of view. The 1994 Policy in its section on "Goals" sought to increase supply of land serviced by basic minimum services with a view to promote a healthy environment. The National Housing & Habitat Policy, 1998 laid greater emphasis on the aspect of "Habitat" as a supplementary focus to housing. The emphasis on "providing" housing continued in this Policy with emphasis on both quality and cost-effectiveness, especially to vulnerable sections of society.

As per National Housing Policy, 2007; various policies adopted by the Central Government, from time to time, were accompanied by initiation of various programmes and schemes. The National Slum Development Programme (NSDP) had provision for adequate and satisfactory water supply, sanitation, housing, solid waste management, primary and non-formal education. The scheme provided additional central assistance to supplement the resources of the State Government for making provision of basic infrastructure and services in slum areas. The Swarna Jayanti Shahari Rozgar Yojana (SJSRY) was designed to provide gainful employment to the urban poor by encouraging setting up of self-employment ventures and provision of wage employment opportunities for families below poverty line in urban areas. The Two Million Housing Programme (TMHP) was launched with the objective of 'housing for all' with particular emphasis on the needs of economically weaker sections and low-income group categories. The Valmiki Ambedkar Awas Yojana (VAMBAY) aimed at, providing subsidies for construction of housing and sanitation for urban slum dwellers living below poverty line in different towns/cities all over the country. According to an assessment made, these policies and programmes have yielded fairly positive results in the area of housing and habitat. Some increase has been noticed in the supply of

serviced land, shelter and related infrastructure. For example, in the first four years of the 10th Plan period, financial assistance was provided for construction of 4,42,369 dwelling units under VAMBAY scheme. Similarly, total number of beneficiaries under NSDP and SJSRY were 45.87 million and 31.77 million respectively during the same period. The period 1991 to 2001 witnessed a net addition of 19.52 million dwelling units in the urban housing stock (Census: 2001) involving average annual construction of 1.95 million houses. The share of ownership housing in urban areas increased from 63% in 1991 to 67% in 2001 (Census: 2001). It is vital to note that households having one room accommodation declined significantly in urban areas from 39.55 per cent to 35.1 per cent during the period 1991 to 2001. This is a result of upward mobility in accommodation indicating a robust economy and accelerated supply of improved housing stock.

Jawaharlal Nehru National Urban Renewal Mission (JNNURM) supported 63 cities (7 mega cities, 28 metro cities and 28 capital cities and towns of historical/religious importance) across the country in terms of perspective plans called City Development Plans (CDPs) for specifying infrastructure gaps relating to water, sanitation, sewerage, drainage and roads on the one hand and deficiencies in housing and basic services on the other hand. On the basis of City Development Plans, the JNNURM sought to fill up the gaps in infrastructure and deficiencies in housing and basic services through appropriate investments. The Mission approach was reform based with releases made subject to specified reform agenda being implemented. The Mission was reforms driven, fast track planned development of identified cities with focus on efficiency in urban infrastructure, services delivery mechanism, community participation and accountability of urban local bodies (ULBs) to citizens.

JNNURM sought to encourage private sector participation with the Government providing viability gap funding through the Mission for large projects where the open tendering process shows specific shortage in economic viability. In addition to these 63 cities, urban infrastructure and slums were also addressed in the remaining Non-Mission cities through the Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) and Integrated Housing and Slum Development Programme (IHSDP). The Basic Services for the Urban Poor (BSUP) sought to provide a garland of 7 entitlements/services – security of tenure, affordable housing, water, sanitation, health, education and social security – in low income settlements in the 63 Mission Cities. The Integrated Housing and Slum Development Programme (IHSDP) aimed at providing the aforementioned garland of 7 entitlements/services in towns/cities other than Mission cities.

National Urban Housing and Habitat Policy, 2007

First urban specific National Urban Housing and Habitat Policy announced in December 2007 contained lot of innovative and out of box ideas to promote housing and achieve the goal of, ' Housing for All' , in urban India. It included a preamble defining the need for the exclusive and dedicated policy for urban India. In addition policy comprised of seven chapters highlighting; Need for policy ; Aims of policy; Role of various agencies including government/urban local bodies ; Role of research /development/ standardization /technology transfer by organizations ; Specific areas of action ; Action plan and finally ultimate goal of policy.

The Ultimate Goal

Policy concludes with the ultimate goal in Housing, which it wants to achieve in the urban India. Policy does not merely focus on the housing but looks housing in the larger context and integral part of the settlement structure in which shelter is located. It wants settlements to be sustainable, ecologically well-balanced and providers of all basic amenities critical for ensuring quality of life to its citizens. Accordingly, ultimate goal of the housing policy has been defined as to, “ *Ensure sustainable development of all urban human settlements, duly serviced by basic civic amenities for ensuring better quality of life for all urban citizens, through framing an Action Plan involving all stakeholders at the State/UT level to achieve the objective of housing for all ,with focus on social housing ie EWS/LIG categories for integrating the lower end of the social/economic pyramid of society into the mainstream of urban development*” .

Preamble

Policy opens with a preamble which defines the overall scenario at the national level related to housing in terms of role and importance of housing; status of housing in the country; quantitative and qualitative issues facing housing and urban settlements; need for promoting sustainable development and providing quality of life to the residents of urban India; evaluating the non-availability of adequate resources with the parastatal agencies; need for involving all the stake holders including the industrial/co-operative/private sector /institutions besides promoting public-private collaboration for making housing for all a distinct reality. Preamble of the Policy, 2007 defines the intent, content and scope of the policy in terms of;

- Shelter is a basic human need next only to food and clothing. At the end of the 10th Five Year Plan, the housing shortage is estimated to be 24.7 million.

However, urban areas in our country are also characterized by severe shortage of basic services like potable water, well laid out drainage system, sewerage network, sanitation facilities, electricity, roads and appropriate solid waste disposal. It is these shortages that constitute the rationale for policy focus on housing and basic services in urban areas. This policy intends to promote sustainable development of habitat in the country with a view to ensuring equitable supply of land, shelter and services at affordable prices to all sections of society. Given the magnitude of the housing shortage and budgetary constraints of both the Central and State Governments, it is amply clear that Public Sector efforts will not suffice in fulfilling the housing demand. In view of this scenario, the National Urban Housing and Habitat Policy, 2007 focuses the spotlight on multiple stake-holders namely, the Private Sector, the Cooperative Sector, the Industrial Sector for labour housing and the Services/Institutional Sector for employee housing. In this manner, the Policy will seek to promote various types of public-private partnerships for realizing the goal of Affordable Housing For All.

NEED FOR POLICY

In addition to preamble, policy also tries to bring out the need for bringing out specific and dedicated policy for urban housing in terms of ; defining the Role and Importance of housing ; peculiarities of Indian urbanization ; context of cities in the developmental ; rapid rural- urban migration; need for promoting balanced Regional Development; need for developing green field integrated cities; intensity and density of urban poverty; various housing policies/programs carried out in the past and focus areas. Policy details out the various factors which warrant the need of housing policy, as under;

- India is urbanizing rapidly in the post-independence period. The process of urbanization in India is marked by increasing concentration of population in comparatively larger cities
- There exists mismatch between demand and supply of housing units with shortage placed at 24.7 mdu at the end of 10th five year plan with 99% shortage prevailing in Economically Weaker Sections/ Low Income Groups sectors. Shortage estimated to be to the tune of 26.53 million units for 75.01 million households during the 11th Plan.
- Every fourth poor in India lives in urban areas, the issue of affordability /Social housing assumes priority and remains area of focus in the urban context.
- Growth of the Indian workforce is primarily characterized by an increasing level of urbanization with majority of workforce witnessing a rural to urban shift,

making urban areas as their preferred destination. Urban areas remain largest generator of the opportunities of gainful employment as compared to rural areas.

- Rapid growth of informal sector in urban areas leading to strong trends towards casualization and feminization of the urban workforce.
- For developing rural and urban areas in a symbiotic manner and creating a symbiotic rural-urban continuum
- Need to develop *a special focus on the eight States of the North-Eastern Regional Council* due to a lesser level of socio-economic development / highly sensitive ecology of the region.
- 50% of India's population forecasted to be living in urban areas by 2041, need to develop new integrated townships, located at a reasonable distance from medium or large existing towns.
- Large contribution made by Housing Sector (4.5%) to India's Gross Domestic Product (GDP) in 2003-04 at current prices besides employing 16% of the Indian work force in Construction/ Transport Sector
- Multiplier effect on industrial activity and large employment generation in economy based on investment in the Construction/Housing Sectors- eight times the direct employment (IIM Ahmedabad :2005);
- Significant proportion of housing stock characterized by congestion and obsolescence; particularly in inner city slums and peripheral slums holding 23.1% of the urban population with much higher proportion living in slums in metropolitan cities (55% in case of Mumbai).
- Housing in slums largely characterized by; poor quality of housing stock; insecurity of tenure; severe deficiency in basic services including potable water, sanitation, sewerage, storm water drainage and solid waste disposal; poor quality of *urban health and hygiene*.
- Need to improve the quality of life in urban areas/slums through urban renewal; in-situ slum improvement and development of new housing stock in existing cities as well as new townships; and quality provision of basic services to improve safety and productivity of workers
- Working Group on Urban Housing for 11th Plan placing total investment for meeting the housing requirement up to 2012 to be Rs.3,61,318.10 crores involving Rs.1,47,195 crores for mitigating housing shortage at the beginning of 11th Plan and Rs.2,14,123.10 crores for new additions during the 11th Plan period including construction of pucca houses/ upgradation of semi-pucca / kutcha housing units.

- Non-affordability by EWS/LIG families in urban areas and poor access to services in slums with 9% deficiency in drinking water, 26% in toilets and 23% in drainage (2001 census).
- Need for recognizing role and importance of small and medium urban agglomerates/towns for future urban growth to serve as generators of economic momentum & reduce migration to existing large cities.
- To continue the agenda of 1994 and 1998 Housing Policies, to attract Foreign Direct Investment (FDI); to increase supply of land serviced by basic minimum services to promoting a healthy environment.
- Deepening the role of Government as a 'facilitator' and 'regulator' by dedicated marking of land for the EWS/LIG groups in new housing projects for making available affordable housing, considering poor affordability and prevailing high land pricing in urban land
- Focusing on making provision of basic services; providing "Affordable Housing For All" with special emphasis on vulnerable sections of society including Scheduled Castes/Scheduled Tribes/Backward Classes/Minorities/ disadvantage and providing access to urban and to poorest of poor to reasonably good housing on rental /ownership basis with suitable subsidization.
- Developing innovative financial instruments like development of Mortgage Backed Securitization Market (RMBS); Secondary Mortgage Market; attract Foreign Direct Investment (FDI) in integrated development of housing /new township development besides providing appropriate fiscal concessions for housing and infrastructure.
- Looking at good practices/ innovations in housing /infrastructure in Public-Private-Partnerships, conservation of natural resources and formulation of environment friendly, investment-friendly and revenue-generating regulations & bye-laws.
- To accelerate construction activities for giving boost to employment for vulnerable sections of society.
- Promoting development of cost-effective, quality approved building materials / technologies for making buildings cost-effective;
- Complementing poverty alleviation and employment generation programmes for achieving objective of "Affordable Housing For All" with sustainable development.
- Dwelling upon the roles of various stakeholders related to Land, Finance, Legal and Regulatory Reforms; Technology Support and Transfer.

AIMS

Aims to be achieved under the policy has been mandated under different contexts of housing in terms of Urban Planning; Affordable Housing; Increase flow of Funds; Spatial Incentives; Increase Supply of Land; Special Provision for SC/ST/OBC/Minorities/Disabled; Special Provision for Women; Employment Generation; Public-Private Partnerships; Management Information System and Healthy Environment, as detailed below;

- Reviewing periodically/updating Master Plans /Zoning Plans for making adequate provisions for housing /basic services for the urban poor by the State Governments/ Urban Local Bodies/ Development Authorities.
- Promoting balanced urban-rural planning through Regional Planning under Town & Country Planning Acts.
- Planning Mass Rapid Transit Systems (MRTS) at the Metropolitan Planning Area / Sub-region levels.
- Accelerating the pace of development of housing and related infrastructure.
- Creating adequate housing stock on rental / ownership basis with focus on improving affordability of the vulnerable/ economically weaker sections of society through financial support.
- Leveraging technology for modernizing the housing sector for enhancing energy /cost efficiency, productivity and quality with focus on 'green' and 'intelligent' buildings; making buildings safe against natural/manmade disasters including earthquakes, floods, cyclones, etc.
- Promoting larger flow of funds from governmental / private sources for housing /infrastructure by designing innovative financial instruments.
- Designing suitable fiscal concessions in consonance with the Housing and Habitat Policy with appropriate monitoring to ensure that concessions are correctly targeted/ utilized.
- Removing legal, financial and administrative barriers for facilitating access to tenure, land, finance and technology.
- Shifting to a demand driven approach and from subsidy-based housing schemes to cost -recovery-cum-subsidy schemes for housing through a proactive financial policy including micro-finance and related self-help group programmes.
- Providing spatial incentives in terms of relaxation of Floor Area Ratio (FAR)/TDR for reserving 20-25 % FAR for EWS / LIG and for clearance of transport bottlenecks in the inner-city areas/ making available additional FAR in Outer Zones for promoting EWS/ LIG housing.

- Reviewing FAR in line with international practices, for optimizing use of scarce urban land /constructing high rise buildings.
- Facilitating accessibility to serviced land /housing with focus on economically weaker sections and low-income group categories; enabling institutions at State /Centre levels/ private sector for increasing supply of land.
- Meeting needs for housing /basic services of; Scheduled Castes/ Scheduled Tribes/Other Backward Classes/Minorities/Disabled persons/slum dwellers/street vendors/ informal sector workers/other vulnerable sections of society.
- Making women, partners in decision making in formulation / implementation of housing policies and programmes & addressing special needs of women headed households/single women/ working women/women in distress in relation to housing serviced by basic amenities.
- Upgrading construction skills/accelerated development of housing/ infrastructure sectors, for promoting employment generation.
- Forging strong partnerships between public, private/cooperative sectors for accelerated growth in Housing/sustainable development of habitat.
- Creating a Management Information System (MIS) in the Housing Sector for strengthening monitoring of building activities in country.
- Developing healthy /environment friendly cities/towns through the use of renewable energy resources/ effective solid waste management based on recycling.
- Protecting cultural heritage / architecture & promoting traditional skills with suitable adaptation to modern technologies.

ROLE OF GOVERNMENT, URBAN LOCAL BODIES & OTHER AGENCIES

In the Constitution of India Housing, as a subject, falls under the state list and under the exclusive domain of the State government under the broader category of property/land. Accordingly, states have the exclusive power and authority to make policies/programs/ laws/ rules and regulation governing the land/property / housing. Since housing remains a basic human issue, having larger connotations and implications beyond the boundaries of states, promoting housing on a larger scale, eliminating shortage of housing; making available housing for all and protecting the rights, duties of the weaker sections of the society; creating uniformity of approach at national level; making adequate resources available for housing; supporting the local initiatives etc., national governments always intervene and support local/state level authorities in creating adequate housing stock in their area of operation. However, taking cognization of the

limitation imposed in the constitution, Government of India, while defining the policy, also included defining the specific roles of various authorities involved in housing at the national/state/local level to create adequate stock of housing in country and ensure working of all stakeholders in tandem by bringing them on a single platform and preparing annual action plan to achieve the defined objectives of the policy. Their roles have been defined as under;

Role of Central Government

- To act as a 'facilitator', 'enabler' for creating an enabling environment for facilitating role of State Governments, Urban Local Bodies, Parastatals and Private & Co-operative Sector and Non-Government Organizations in promoting housing in their areas of operation/jurisdiction.
- To advise/ guide the State Governments to adopt/ implement National Urban Housing & Habitat Policy, 2007 in a time bound manner.
- To promote balanced regional development in the country by suitably decentralizing functions relating to development of Housing Sector/ promoting ecologically sound habitat
- To act as an enabler /facilitator by developing suitable financial instruments for promotion EWS /LIG groups housing serviced by basic amenities.
- To promote Action Plans for creating adequate infrastructure relating to water, drainage, sanitation, sewerage, power supply and transport connectivity.
- To develop economically viable housing promotion models and standards for provision of physical, social/economic services.
- To promote systematic planning at City/Metropolitan Area/ District and Regional levels.
- To encourage adoption of critical urban reforms relating to municipal laws/building bye-laws/simplification of legal/procedural frameworks/ property title verification system & allied areas.
- To promote policy for safeguarding the rights of street vendors with appropriate restrictions, considering public interest.
- To ensure elimination of ambiguities in conveyance deeds/ lease deeds& property related documents
- To promote / observance of the National Building Code (NBC), 2005.
- To devise macro-economic policies for accelerated flow of resources for housing/ infrastructure sector.

- To incentivize fiscal concessions for promoting housing/ infrastructure with special focus on EWS/LIG beneficiaries combined with a monitoring mechanism for effective targeting and facilitating viability gap funding of integrated slum development.
- To encourage FDI in urban housing and infrastructure sectors.
- To develop convergence between urban sector initiatives / financial sector reforms.
- To develop a National Land Policy for optimal use of available resources including enhanced supply of serviced land for sustainable development.
- To promote appropriate ecological standards for protecting healthy environment/providing a better quality of life in human settlements with focus in coastal areas, to promote fragile ecology; protect mangrove & allied plantations in coastal areas/in high disaster-prone ones; and to avoid loss to life from natural disaster.
- To develop a nation-wide Management Information System (MIS) relating to housing / allied infrastructure for informed decision making.
- To promote Research & Development (R&D) in alternate building materials/ technologies / energy conservation practices in housing
- To promote standardization & quality marking of building materials.

Role of State Government in consultation with Urban Local Bodies:

- Prepare/ implement State Urban Housing & Habitat Policy (SUHHP)
- Act as facilitator/ enabler in collaboration with ULBs/parastatals/ Private Sector/Co-operative Sector/NGOs regarding Integrated Slum Development Projects/Integrated Township Development Projects/ ensuring flow of adequate financial resources/ undertake viability gap funding of large housing / habitat development projects.
- Prepare medium /long term strategies for tackling problems relating to provision of adequate amenities/basic services.
- Promoting/incentivizing/ decentralized production and availability of local building materials
- Preparing / updating Master Plans / Zonal Plans, Metropolitan Plans/District Plans/State level Regional Plan with provision of adequate land for urban poor.
- Promoting balanced Regional development
- Reviewing legal/regulatory regime for simplification/ rationalization to giving a boost to housing and supporting infrastructure.

- Enable urban local bodies to take up regulatory /development functions.
- Promoting Public-Private Partnerships for undertaking housing and infrastructure projects.
- Encouraging partnership between Cooperative Group Housing Societies/ Employees Organizations/ labour housing /NGO/ CBO & Urban Local Bodies/Parastatals related to housing microfinance and housing development.
- Promoting in-situ slum upgradation by collaborating with Central Government, State Government, Urban Local Bodies, Banks/MFIs /beneficiaries.
- Facilitate training /skill upgradation of construction workers.
- Developing appropriate Management Information System for different level of governance.
- Promoting R&D activities in building materials / technologies in housing and infrastructure projects
- Promoting optimal utilization of land by relaxing FAR for ensuring 20-25% of FAR reserved for EWS/ LIG units or issuance of TDR for clearance availing FAR in outer zones.
- Reviewing/rationalizing/ redefining Floor Area Ratio (FAR) in line with international practice for optimum/ efficient
- t use of scarce urban land through construction of high-rise buildings /densities specified in statutory Master Plans
- Developing Greenfield towns & integrated housing extensions of existing towns with infrastructure /SEZs using FDI and national investments in housing and infrastructure
- Ensuring connectivity of integrated housing projects through MRTS corridors

Urban Local Bodies/Development Authorities/Housing Boards

- Developing capacity building programs at the local level to design/ take up inner-city development scheme/ in-situ slum upgradation projects / slum relocation projects through suitable training programmes.
- Implementing Central/State housing and infrastructure schemes at the city level with provision for EWS/ LIG beneficiaries in Master Plan /Zonal Plans.
- Enforcing regulatory measures for promoting planned development; checking unauthorized colonies; new slums; unauthorized constructions, extensions of existing properties and commercialization of residential areas.
- Ensuring periodic up-dation of Development Plans/Master Plans/ Zonal Plans/Local Area Plans for housing the homeless & slum dwellers.

- Preparing Master Plan/Metropolitan Plans in tandem with District Plan/State Regional Plan.
- Identifying city specific housing shortages & prepare city level Urban Housing & Habitat Action Plans for time bound implementation
- Promoting planning /development of industrial estates duly supported with necessary basic services for labour housing colonies.
- Mending building bye-laws based on model building bye-laws prepared by TCPO & National Building Code with provisions made for energy conservation/ rain water harvesting.
- Promoting participatory planning and funding based on potential of local level stakeholders. Develop suitable models for private sector's assembly/development of land for housing as per Master Plan.
- Promoting Residents' Welfare Associations for operation/ maintenance/ management of services and solid waste disposal at colony level.
- Devising innovative housing programmes for bridging housing shortage with focus on vulnerable groups.
- Promoting healthy environment with emphasis on 'green lungs' of the city involving parks, botanical gardens, social forestry and green belts around cities/towns.
- Ensuring Safety in residential/institutional areas with construction of boundary walls and installation of security stems.

Banks and Housing Finance Institutions (HFIs) would:

- Make financial institutions more inclusive for low-income beneficiaries belonging to EWS LIG ; extend coverage in low income neighbourhoods.
- Promote innovative financial instruments- development of Mortgage Backed Securitization Market (MBSM), and Secondary Mortgage Market.
- Enhance / strengthen income spread of housing loans portfolio to increasingly cover BPL/EWS beneficiaries by adopting flexible and innovative approach to credit appraisal norms.
- Develop financial products encouraging EWS /LIG housing beneficiaries to take insurance cover.
- Incentivizing the HFIs for ploughing part of resources for financing slum improvement and upgradation programmes.
- Providing loans at concessional rate of interest to specified persons for purchasing house site /house.

- Devising subsidy schemes for housing finance for EWS /LIG housing
- Promote MFIs / Self Help Groups for mobilizing savings; providing housing loans to EWS/LIG segments as a priority sector.
- Encourage potential EWS & LIG beneficiaries to form Cooperative Group Housing Societies
- Promoting land assembly & development of land to suit clients requirements.
- Involving private sector/cooperatives for housing/ infrastructure development with focus on BPL /EWS and LIG segments
- Undertake land assembly and development with infrastructure; using land as a resource for housing with focus on urban poor.
- Reducing dependence on budgetary support through better product development and implementation
- Designing innovative public-private partnerships for slum reconstruction using cross subsidization.
- Augment housing stock on ownership and rental basis for overcoming shortage of EWS/LIG housing units.

ROLE OF RESEARCH & DEVELOPMENT STANDARDISATION AND TECHNOLOGY TRANSFER ORGANISATION

- Undertake research with focus on innovative, cost-effective and environment-friendly technologies based on climate.
- Develop / promote standards in building components, materials, construction methods and disaster mitigation techniques.
- Intensify transfer of innovative technologies/ materials from lab to field.
- Accelerate development to conserve water, stop soil erosion and re-generate tree cover to improve habitat.
- Encouraging Land assembly, development and disposal in public / private sectors.
- Promoting land assembly for specified use, based on Master Plan/Development Plan of each city/town. Reserving for EWS/LIG housing 10-15% of land in every new public/private housing project or 20 to 25 percent of FAR / Floor Space Index, which is greater, through appropriate legal stipulations/ incentives by Urban Local Bodies and Development Authorities
- Preparing special Action Plan for urban slum dwellers with focus on SC/ST/OBCs/Minorities/EWS/physically handicapped/Minorities.

- Beneficiary-led housing development encouraged with defined percentage of Public Sector land allocated on concessional institutional rates to Cooperative Group Housing Societies/ Employee Welfare Organizations for providing housing to members on no-profit no-loss basis with special package worked out for Labour Housing.
- A Secondary Mortgage Market and Residential Mortgage Based Securitization (RMBS) promoted to enhance transparency and flexibility in the housing market.
- Model Rent Act to be prepared by GOI to promote rental housing on the principle that rent of a housing unit should be fixed by mutual agreement between the landlord and the tenant for a stipulated lease period taking care of interests of both owner and tenant.
- Setting up of National Shelter Fund under National Housing Bank for providing subsidy support to EWS/LIG housing
- Housing and Urban Development Corporation Ltd. (HUDCO) to encourage EWS/LIG housing.
- Encouraging Foreign Direct Investment (FDI) from Non-Resident Indians (NRIs) and Persons of Indian Origin (PIOs) in the housing /infrastructure.
- Creating suitable fiscal concessions for promoting housing sector
- Central / States/UTs to promote innovative forms of public-private partnerships and develop 10 years perspective Housing Plans with focus on EWS / LIG sectors
- Developing Special financial /spatial incentives for inner-city slum redevelopment schemes / in-situ slum upgradation.
- Rationalizing stamp duty on the instruments of RMBS
- Encouraging Rental housing by preferred lending by financial institutions, for rental housing both by individuals/ Companies/ Employers for their employee
- Synergizing operation of various schemes and funding sources.
- Promoting Micro-Finance Institutions (MFIs) at State level to expedite the flow of finance to urban poor.
- Model Guidelines developed for regulation of land supply for reducing speculation in land / haphazard development in urban areas/along inter-city transport corridors.
- Repealing the Urban Land Ceilings Act, by the States In line with Central Government's decision
- Adopting single window approach for approval of Building Plans and securing Certificates in collaboration with Council of Architects or their State/UT chapters.
- Adoption of the Model Municipal Law prepared by the Central Government with suitable modifications.

- Periodic revision of Master Plans undertaken with wide public participation
- Stamp Duty reforms initiated to bring incidence of duty in all States/UTs at par.
- Property Tax reform based on unit area method encouraged in all States/UTs and ULBs.
- States encouraged to adopt the Model Cooperative Housing Act; refine/enact Town and Country Planning Act, to promote Regional Planning at the State/UT level; using Information Technology for maintaining urban land records and providing non-encumbrance certificates on e-enabled data and digitized certification; enact Apartment Ownership Act; undertake urban reforms listed under the JNNURM; developing Citizen's Charter to safeguard the interests of customers of housing schemes offered by both the public and private sector; computerizing / put on Geographic Information System (GIS) land revenue records of the States/UTs; evolving guidelines for promoting Environmental safeguards in respect of housing and construction projects.
- Encouraging States to prepare detailed city maps on the basis of the GIS mapping through satellite data, aerial survey and ground verification; using low energy consuming/ using renewal form of energy for construction techniques ; promoting rain-water harvesting technologies; using prefabricated factory made building components for mass housing to achieve speedy, cost- effective and better quality construction; promoting low- cost local building materials based on agricultural and industrial wastes involving, fly ash, red mud and allied local materials; promoting disaster resistant planning and technologies in different disaster prone zones; mandating transfer of proven, cost-effective building materials and technologies from lab to land; including new building materials in state schedule of rates; constructing demonstration- houses using cost effective materials and alternate technologies evolved by BMTPC.; Using Bamboo as a wood substitute and as a general building component as mandated in CPWD.
- Encouraging ULBs/Development Authorities to follow Urban Development Plans Formulation and Implementation (UDPFI) Guidelines issued by the Ministry of Urban Affairs and Employment in 1996 to improve the quality of Master Plans/Development Plans, Zonal Plans / Local Area Plans ,of all cities/ towns.
- Developing Mass Rapid Transit System (MRTS) at the sub-regional level around metropolitan cities and developing a 'Habitat Infrastructure Action Plan' for all cities with a population of over 1,00,000.
- Developing Green belts around cities for maintaining ecological balance; green recreational areas like zoo, lakes and gardens earmarked /developed in the

Master Plan of each city/town; Water bodies protected with special emphasis on keeping the flood plains of tropical rivers free from construction or encroachments; protecting large depressions from being filled up for conservation of the total Master Plan area as '*green lungs of the city*.; Minimizing development of urban sprawls and satellite townships; Reducing rate of in-migration into mega and metro cities through preparation of regional Plans based on fast transport corridors for balanced growth; developing Model bye-laws to promote the use of renewable energy including solar water heating systems in residential/commercial buildings; formulating and implementing poverty alleviation and employment generation programmes, based on skills' training.

- Efforts to be made to provide good quality training to construction workers for improving their skills with technological advancements in the construction sector; upgrading the skills of women construction workers, induct them at supervisory levels and also develop them as contractors; enact legislation on the pattern of the Building & Other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 of the Central Government for ensuring adequate measures by employers for the occupational health and safety of all workers especially women engaged in construction activities; ensure use of modern techniques and modern safety equipment at construction sites with strict penalties for non-compliance.; providing adequate support services like crèches and temporary rest accommodation with appropriate toilet facilities at construction sites; enacting legislation on the pattern of the Building & Other Construction Workers Welfare Cess Act, 1996 of the Central Government; ensure adequate provision for skill upgradation of construction workers; adopt a decentralized pattern of training for ensuring better coverage.
- Promoting pattern followed under Jawaharlal Nehru Urban Renewal Mission for slum improvement / *in-situ* slum rehabilitation based on provision of security of tenure, affordable housing and basic services to the urban poor; launching innovative programs on upgrading of basic services and environment improvement of urban slums with a participative, *in-situ* slum rehabilitation approach; promoting *Inner-city slum redevelopment* programmes for creating a better environment with cross-subsidization and special incentives; Encouraging *Land pooling and sharing arrangements* to facilitate land development and improvement of basic amenities in slums; Releasing Transferable Development Rights and additional FAR for accelerating private investment in provision of shelter to the poor; involving Community Based Organizations (CBOs), Non-

Governmental Organizations (NGOs) and Self-Help Groups (SHGs) in partnership with the Private Sector; ensuring fast and reliable transportation to work sites; creating non-polluting income generating activities in slums, on a mixed land use basis making them integral part of housing and habitat projects; encouraging formation of Group Cooperative Housing Societies of urban poor and slum dwellers for providing better housing serviced by basic amenities through thrift and credit based CBOs; encouraging preparation of a *State Urban Housing and Habitat Policy* and *State Urban Housing & Habitat Action Plan* through specific Acts by the States/UTs for achieving the housing policy objectives through legal & regulatory reforms, fiscal concessions, financial sector reforms and innovations in the area of resource mobilization for housing and related infrastructure development

- For augmenting/maintaining affordable housing stock along with related infrastructure, Action Plans of States/UTs to focus on accelerated flow of funds for housing and infrastructure; encourage promotion of planned and balanced regional growth; creation of sustainable employment opportunities; protection of weaker sections/ vulnerable groups preferably in their present residential location; conservation of urban environment and promotion of public private partnership.
- The State Policy and Plan must provide a road map for institutional, legal, regulatory and financial initiatives related to (i) supply of land (ii) modification of Acts/Bye-laws (iii) promotion of cost-effective building materials and technologies (iv) infrastructure development and (v) in-situ slum development; making specific provision for use of information technology for planning, MIS and online e-connectivity, in a time bound manner; Policy and Plan to also indicate concrete steps for motivating, guiding and encouraging a participatory approach involving all stakeholders like CBOs, NGOs, State parastatals, ULBs, Cooperative Sector and Private Sector for synergizing community, cooperative and private resources along with Government resources

Action Plan

Policy also mandates preparing an action plan at state level to periodically review/revise/and the policy from time to time in terms of ;

- *“Setting up of a monitoring framework at the State/UT level to periodically review the implementation of the Policy and Action Plan;*

- *cities to prepare 15-20 years perspective plans -- City Development Plans with emphasis on the urban poor; indicating vision based on various levels of spatial plans – Master Plan and Zonal Plans, Metropolitan Plan, District Plan and State/UT based Regional Plan – along with investment plan for their implementation; setting up of a High Level Monitoring Committee at the Central Government level to periodically review the implementation of the National Urban Housing & Habitat Policy 2007 and making amendments/ modifications considered necessary”.*

Conclusion

- Looking at the intent, content and scope of the National Housing and Habitat Policy, 2007, it can be seen that policy erred in linking and integrating, creation of large housing stock in urban context with the planned and orderly growth and development of human habitat. However, both remain different in scope, operation and management but Housing Policy, 2007, wants to make them inclusive and totally dependent upon each other. Looking closely at the haphazard and unplanned pattern of development followed by majority of Indian cities, it will be inappropriate to link the two, otherwise much of the housing stock created in the urban areas will be both sub-standard and devoid of all basic amenities and services. Despite the fact housing and cities remain connected to large extent but they need to be delinked for their planning, operation and management for the reasons, agencies dealing them are not the same and scope of city planning differs vastly from creating appropriate shelter. Agencies involved in city development and providing shelter, in majority of cases, remain delinked and un-coordinated. Accordingly, housing and habitat need to be appropriately linked/delinked for achieving the objective of housing for all.
- National Housing Policy, 2007 was framed and made operational about 14 years back. Housing Policy was primarily based on the data/information made available by Census,2001. It is time policy needs review, revision and reframing, considering the changes/ transformation which have taken place in the urban/rural areas in last two decades. Launching of Smart City Mission covering 100 premier cities of the country; making operational Prime Minister Awas Yojnas for both Urban and Rural India ; creating large housing stock under these Yojnas; Government commitment to make available housing to all by 2022, when India turns 75 after independence; making operational new construction

technologies; message given by the ongoing pandemic Covid 19 involving locking down of cities and massive migration of work force from cities etc., call for relooking at the existing Housing Policy and coming out with a new innovative and out of box Housing Policy 2021, which can launch India on the path of self-sufficiency and self-reliance in the domain of providing shelter for all.

- Looking objectively at the contents of the Policy, 2007; one can see large number of repetitions of same text occurring in the contents at numerous places, which could have been easily avoided. Policy tries to focus only on poor and EWS/LIG housing in all paras. Housing needs to be seen holistic for all sections of the society and should provide for adequate housing for all the citizens as the agenda and focus of the housing policy. This calls for having new strategies and options for creating adequate housing stock in the country catering to the need and affordability of all the economic classes covering the entire population of the country.
- Policy looks at the option of planned development through preparation and implementation of the Regional Plans/Master Plans as panacea for creating adequate housing/infrastructure in the urban areas, through the involvement of urban local bodies. Looking at the Indian context, Regional planning remains conspicuous by their absence in majority of states in the country and Master Plans, for less than 40% of the Indian cities, have been prepared so far. Implementation of Master Plans remains another major issue in the urban context. Further, urban local bodies, don't have the capacity, authority, power, understanding, knowledge, expertise, capability, resources, manpower and will to prepare and implement the master plans and accordingly mandating them to be planning and development agencies has remained both a fallacy and has proved counter-productive for managing habitat and creating appropriate housing. Policy needs to critically and objectively, relook at the option of authorizing urban local bodies to prepare such plans, considering prevailing ground realities at the local level.
- Despite the fact policy provided mechanism for periodic review/revision/ amendment of the policy, it appears that it was never reviewed and revised. Had the policy been reviewed in stages, it could have been more effective, efficient and responsive to the changing housing needs of the society/nation.
- New Housing Policy to be envisioned and made operational, should inter-alia look /focus at migrating from affordable housing to affordable living; looking at the life-cycle cost rather than at initial cost of the house. Policy should consider moving away from creating ownership of housing for avoiding speculation and

resale of affordable houses created for EWS/LIG categories. Government should accept *Right to Shelter* but should never accept- *Right to Ownership of Shelter*. Both need to be segregated for making available housing for all in India a distinct reality. Policy must create large number of housing options catering to individual capacity, preference, resources and need for housing. Rental housing should be made the thrust areas for creating large stock in the urban context to meet the ever evolving and devolving demand for housing. Developers must be encouraged to create large housing stock dedicated to rental housing. These flats should be incentivized in cities with defined limitations that they cannot be sold/transferred on ownership basis. For promoting rental housing, rent laws need appropriate amendments, based on the Model Rent Act, recently framed by the Government of India.

- In order to create adequate housing, successful model adopted by different countries would need study and adoption with appropriate changes. Transferring land ownership should be considered with care and caution. Land for housing should be leased and not made available on absolute ownership basis. Instead of plotted development, flatted development should be made the option. Restricting the number of ownerships of housing in one's lifetime must be made operational to minimize multiple ownerships. All development agencies operating at state/local level mandated to create large housing stock of rental housing in towns/cities. All urban local bodies must be mandated to create housing on regular basis at local level, through a dedicated provision made in their annual budget for housing, to create large stock of housing in the city. All institutions and industries must make housing for employees as integral part of the project cost. New policy should closely look at the use of innovative, cost-effective, material- efficient and time-efficient construction technologies and materials, which are locally available, evolving materials which are based on agro/industrial waste to make buildings cost-effective. Promoting standardization and pre-fabrication will be critical to shift housing from construction to manufacturing. Making buildings green will help in making housing more sustainable and energy/ resource efficient. Effective and efficient Project management should be made integral part of new Housing Policy for bringing innovations and construction of projects without cost/time overruns. Creating dedicated data bank for urban migrants and existing housing stock will be critical to have realistic assessment of housing need of the country/cities. Rationalizing building bye-laws for optimizing the available urban land and using derelict land in urban areas, will be critical for creating adequate housing.

Various options for sourcing land for housing at the local level will have to be studied and made operational to create land bank at local level. Slums need to be studied closely with regard to their, genesis, fabric, structure, origin and the residents, before taking a decision for their rehabilitation/shelter. All slums should not to be treated sacrosanct entitling total rehabilitation and rehousing.

- Looking at the entire context, it appears that providing affordable housing can become a distinct reality only if concerted efforts are made in tandem and in a holistic / sustained manner by all the stakeholders including Governments, parastatal agencies, financial institutions, private sector, builders, developers, colonizers, industry, and professionals including Architects / Engineers/Planners etc. Appropriate and realistic affordable housing friendly policy framework, based on existing ground realities, will have to be put in place on priority by the government, providing required incentives, removing all roadblocks and creating an enabling environment to achieve the desired objectives. Creating enabling environment for affordable housing would require the unequivocal support of right infrastructure, adequate investment and macro-economic policies targeted towards social and financial inclusion. Role of parastatal agencies should be that of facilitators rather than providers, with key responsibility given to the individuals, private, corporate and co-operative sectors. Reform linked policy framework ,calling for making land market effective and efficient; cutting down government levies/fees/taxes; promoting industries involved in producing pre-fabricated components and making building materials from waste; providing housing loans at concessional and affordable rates with flexible options of repayment; making landowners active partners in creating affordable housing on a mass scale and making all stakeholders work in a concerted/committed manner , would be critical in making affordable housing a distinct reality in the Indian context. Considering the ever evolving and ever devolving nature, challenges posed by affordable housing would require not only short-term options but also long-term strategies. Solutions will need to address both the supply side and the demand side issues of the housing market, and involve public-sector, private-sector and non-profit stakeholders. Considering the dynamics of affordable housing, both supply-side and demand-side will have to be brought on same wavelength and platform to address the challenges faced in terms of; acquisition and tenure of land, financing, designing, construction, materials, technologies, approvals ,taxes, levies and development costs on supply side and determining eligibility and number of beneficiaries, tenure of allotment and providing equitable access to credit on the

demand side. Reforms are required at each stage of the housing value chain, from securing land, engaging local communities, to building and improving homes that are safe, resilient and sustainable. A multi-stakeholder environment is needed to address and calls for action from all entities involved – government, private sector and civil society. (*Insight Report on, ' Making Affordable Housing A Realty in Cities*).

- Looking at the role and importance of housing, affordable housing needs to be effectively leveraged to create/ expand/sustain large job market for unskilled/ semi-skilled rural migrants; revitalize Indian industry; promote economy; achieving high growth rate and marginalizing poverty in urban India. Potential and opportunities offered by affordable Housing as a sector, needs to be effectively made use of/leveraged in making urban centers smart, more productive, more effective and efficient, healthier, better habitable, better organized, well- planned and more sustainable with assured quality of life.

Chapter-14

Housing & Urban Poverty Alleviation through Five Year Plans

First Five-Year Plan (1951-1955)

- Housing, as a problem, was recognized and brought into the policy planning framework along with urbanization
- *Independent Ministry of Works and Housing* was established along with *National Buildings Organisation* to formulate low-cost housing designs and build up a database for the formulation of housing strategies and plans.
- Providing housing to refugees from Pakistan made priority area, with number of new towns established in different parts of the country for housing refugees.
- Affordability identified as the problem /key issue in the housing sector specially for the low-income groups;
- Making construction cost-effective; through efficient use of building materials and minimising wasteful use of labour; recommended as solutions to improve affordability;
- Two Social housing schemes; *Integrated Subsidized Industrial Housing Scheme (1952)* and *Low-Income Housing Scheme (1954)*, were launched for creating housing stock for these categories.

Second Five Year Plan (1956-1961)

- Schemes launched in the first plan for *Subsidized Industrial Housing and Low-Income Group (LIG)* further strengthened. New schemes like *Plantation Labour Housing Scheme, Village Housing Scheme and Land Acquisition and Development Scheme* were launched;
- *Schemes for slum clearance; for Scheduled Caste, other backward classes in rural villages* launched.
- LIC and Government jointly launched scheme to provide *loans to the middle-income groups (MIG)*;
- *Employees Housing programmes* for Central/State government agencies undertaken;
- *Delhi Development Authority (DDA)* established under an act of Parliament for implementing the Master Plan/development of Delhi.
- Government *shifted its policy* of granting direct loans for the development of sites and plots to individuals to *giving assistance to state governments and local*

authorities.

- Statement on the Housing Policy was made on the 14th August 1957 in the Parliament regarding; *Providing subsidy* to those who needed; *setting up housing corporations in the states* to provide loan with central government providing necessary subsidy; using *indigenous building material* for construction; setting up of a separate department to *expedite the implementation of housing scheme*

Third Five-Year Plan (1961-1966)

- *Linking Housing policies with economic development and industrialization policies*
- *Increasing housing stock by various agencies – public, private or cooperative*
- *Creating enabling environment for public/private sector for promoting LIG Housing*
- *Making land acquisition and development priority for making addition to housing*
- *Setting up of Housing Boards by states to eliminate housing shortages with focus on meeting housing needs of LIG and slum-dwellers;*
- *Setting up of financial institutions to provide financial/technical assistance to metropolitan authorities/state housing boards/other urban institutions for financing the development of housing and urban development projects*

Annual Plan (1966-1969)

- *Concept of economically weaker section (EWS) introduced and integrated with Subsidised Industrial Housing Scheme*

Fourth Five-Year Plan (1969-1974)

- *Emphasised empowering/strengthening public agencies for meeting the housing needs and application of planning principles for orderly development of urban centres;*
- *Focus on self-help for improving the housing situation;*
- *Slum clearance replaced by slum improvement. Urban authorities asked to take a more positive and realistic view of the people living in slums and their problems.*
- *Changing strategies for slums from formal housing to sites and services programmes and environmental improvement of slums;*
- *Environmental improvement of slums introduced in 1972 in selected cities to provide the basic services*
- *1950s, 1960s and 1970s may be described as years of institution-building in the field of human settlement financing*
- *For meeting the challenge of providing housing finance/loan to low-income*

families with longer repayment period on soft terms; dealing with problem of growing housing shortages and rising number of slums. HUDCO was established.

Fifth Five-Year Plan (1974-1979):

Addressed following limited objectives in the housing sector:

- *Preservation and improvement of the existing housing stock;*
- *Making provision of house sites to a million landless labourers as part of the Minimum Needs Programme*
- *Continuance of the existing schemes to provide subsidized houses to certain weaker sections of the community*
- *Extension of support to institutional agencies;*
- *Intensification of research in and development of cost-effective building materials.*
- *In 1977, a draft Fifth Five Year Plan was reformulated with emphasis on; self-help housing, provision of house sites and assistance to rural landless labourer;*
- *Housing Development Finance Corporation (HDFC) set up in 1977 to provide finance for new residential housing to individuals, association of individuals and co-operative societies and to companies for staff housing.*

Sixth Five-Year Plan (1980-1985)

- *Accorded priority for housing activities in small and medium towns, adoption of cost-cutting technologies, evolving of rational and people focussed/friendly building bye-laws*
- *Shifting strategy from providing direct subsidy for EWS, to provide serviced plots/sites and services.*
- *Increased recognition of the remarkable role played by HUDCO in the domain of social housing in urban/ rural areas.*

Seventh Five-Year Plan (1985-1990)

- *Promotion and encouraging self-help housing;*
- *Identification of rural families for assistance for construction of dwellings for families already provided with house sites;*
- *Limiting Cost of housing units under social housing scheme within paying capacity of beneficiaries.*
- *Providing stimulus and support to private housing for MIG and LIG*
- *Making housing cost-effective by adopting low-cost housing techniques and standards through modifications in building bye-laws, land use control and minimum plot requirements*

- *Harnessing science and technology to improve building technology and development of cheap building materials*
- *Proactive role by HUDCO for providing finance to weaker sections for house-building activity in conjunction with state governments.*
- *Housing authorities and housing boards to concentrate on land acquisition and development in urban areas; making provision of house sites in rural areas rather than going for direct construction of houses.*
- *To continue various housing schemes initiated under the Minimum Needs Programme; rural housing and slum improvement efforts.*
- *Draft NHP was prepared by the Ministry of Urban Development as mandated by The Global Shelter Strategy adopted by the United Nations in 1988 calling government to take steps for formulation of a National Housing Policy (NHP).*
- *Building Materials and Technology Promotion Council (BMTPC) set up for bridging gap between laboratory development and large-scale field application of innovative materials and technologies; Setting up a network of Building Centres as a Centrally sponsored scheme to effect savings in construction cost through promotion of low-cost and innovative building materials and technologies and building of local delivery system.*

The Eighth Five-Year Plan (1992-97)

Housing agenda of Eighth Plan was framed considering the objectives of then operational National Housing Policy , to be achieved through following tasks/instruments:

- *Expand basic infrastructure facilities in rural and urban areas for improving habitat and create enabling environment for majority of the households to have access to housing.*
- *Remove legal constraints to increase supply of serviced land and rental housing.*
- *Extend stimulus and support for private housing on an expanded scale through increased flow of credit to housing sector through housing finance institutions (HFIs), and tax incentives.*
- *Encouraging use of low-cost building materials and cost-effective technologies.*
- *Promote self-help housing as well as shelter upgradation by providing better access to finance, land, materials and technology through appropriate delivery systems to the poorer segment of the rural population.*
- *Provide financial and institutional support through formal and informal systems for environmental improvement.*
- *Establish an effective Management Information System for making housing and*

urban infrastructure accessible to both private and public development agencies.

- Evolve special assistance programmes in the form of subsidy, preferably in kind, *differential rate of interest and delivery support for disadvantaged groups.*
- Already operational Social/other schemes of earlier plans to be continued either in existing/modified forms including;
- *The scheme of house sites-cum-construction assistance* initiated for housing in rural areas during the Seventh Plan and included in the State Sector within the Minimum Needs Programme;
- *The Indira Awas Yojana (IAY)* introduced in the Central Sector in 1985-86, forming part of Rural Landless Employment Generation Programme (RLEGP), for construction of houses for SCs/STs/freed bonded labour;
- *The Centrally sponsored scheme for the establishment of building centres* (1988), to promote technology transfer to the grassroots level and encourage use of new alternative materials;
- *To tackle the problem of housing in urban areas, including improvement of slums and squatter settlements, the State shall assist in:*
- *Increasing the availability of residential land*, with particular reference to the needs of poor sections;
- *Support incremental self-building* through financial and technical support;
- *Encouraging upgradation and progressive development of low-income settlements;* and
- *Promotion of appropriate technologies* that maximize the use of locally available and recycled materials.

Ninth Plan (1997-2002)

- *Meeting housing needs of all with focus on economically weaker household below the poverty line, SC/ST, and women –headed households;*
- *Continue providing direct subsidy to lower segments of society/selected disadvantaged groups* for some more time with flow mechanism made more transparent and increasingly routed outside the financial system;
- *Strengthening linkages & inter-dependency between shelter and income upgradation* through the use of composite credit instrument; modified land-use patterns; city master plans; between farm and the non-farm sector in the rural and semi-urban areas with NGOs and other voluntary organizations playing role of a catalyst.

Tenth Plan (2002-2007)

- *Working Group on Housing* observed that around 90 per cent of housing shortage

pertains to the weaker sections. Need to increase supply of affordable housing to the economically weaker sections and the low-income category through allocation of land, extension of funding assistance, and provision of support services.

- For larger housing delivery for the weaker sections/ low income groups, the ongoing programme for providing additional 2-million houses annually needs to be continued;
- *Valmiki Ambedkar Aawas Yojana (VAMBAY) & total city sanitation component of Nirmal Bharat Abhiyan(NBA) for meeting the housing and sanitation requirements of the urban poor need to be taken up in all urban areas, so as to promote 'cities without slums'. Provision to be made for a central subsidy of Rs.1000 crores annually during the tenth plan period with the matching contribution made by state governments/local bodies or as loan from HUDCO.*
- For investing household savings in the housing sector & providing houses to those who cannot as yet afford to have their own houses, needs encouraging promotion of rental housing by private sector, public sector, as well as cooperatives and individuals by amending existing rent control laws,
- To strengthen Building Centre Movement in 200 uncovered districts in the country by allocating central grant allocation of Rs.20 crores.
- *Role of HUDCO needs to be made operationally more efficient by removing roadblocks in their operations and dealings with states for creating housing for economically weaker sections; disaster affected households, disaster rehabilitation; construction of houses for earthquake, cyclone, and flood victims.*
- *Launching strengthening and Retro-Fitting of Housing Stock in Vulnerable Regions threatened by Natural Hazards with the participation of the state governments, BMTPC and HUDCO.*

Eleventh Plan (2007-12)

- Accounting for about 99% of deficiency; Housing shortage remains most acute in the EWS and LIG categories.
- Urgent need to provide affordable housing through JNNURM, Affordable Housing in partnership, ISHUP and RAY

Evolution of different programmes on urban poverty alleviation through the plan periods:

Five Year/ Annual Plan	Year (s)	Major Thrust Areas / Programmes
II	1956-61	<i>Urban Community Development (UCD) project (pilot)</i> , started in 1958, based on an area-oriented approach.
IV	1969-74	<i>Scheme for Environmental Improvement of Urban Slums (EIUS)</i> launched in 1972, to provide basic amenities like safe drinking water supply, sewerage, storm water drainage, pavements, community baths and latrines, street lighting etc. to slum-dwellers. In 1974, scheme was transferred to State Governments for implementation.
V	1974-79	<i>The Urban Land (Ceiling & Regulation) Act (ULCRA)</i> , enacted to prevent concentration of land holding in urban areas, & for construction of houses for LIG.
VI	1980-85	Emphasised integrated provision of services along with shelter, particularly for the poor. <i>Launch of Integrated Development of Small and Medium Towns (IDSMT), and initiation of Urban Basic Services (UBS) programme in 1981</i> , with an aim to cater to the basic physical and social needs of the urban poor with a view to improving their living conditions.

VII	1985-90	<p>Based on the recommendations made by the National Commission on Urbanization (NCU), GoI adopted a four-pronged strategy for addressing the issues of growing incidence of urban poverty namely;</p> <ol style="list-style-type: none"> i. Employment creation for low- income communities through promotion of micro- enterprises and public works; ii. Housing and shelter up-gradation; iii. Social development planning with special focus on development of children and women; and iv. Environmental up-gradation of slums. <p>Consequently, two schemes were started, namely</p> <ol style="list-style-type: none"> i. <i>The Nehru Rozgar Yojana (NRY), 1989 for employment/livelihoods promotion; and</i> ii. <i>The Urban Basic Services for the Poor (UBSP), 1990, which was a modified UBS Programme.</i> The UBSP Programme envisaged fostering community structures comprising urban poor for ensuring their effective participation in their developmental activities.
Annual	1990-92	<p><i>The Constitution 74th Amendment Act was passed by Parliament, which envisaged urban poverty alleviation, slum up-gradation and protection of interests of weaker sections as amongst the functions of Urban Local Bodies.</i></p>
VIII	1992-97	<p>Start of <i>Prime Minister's Integrated Urban Poverty Eradication Programme (PMIUPEP) in 1995</i>, for improving the quality of life of urban poor by creating a facilitating environment through community-based planning and implementation. <i>The PMIUPEP incorporated within itself all the components of UBSP & NRY.</i></p> <p>Launch of <i>National Slum Development Programme (NSDP) in 1996</i>, covering physical infrastructure like water supply, storm water drains, sewer, community latrines, widening and paving of existing lanes, street lights etc. and social infrastructure pre-school education, non-formal education, adult education, maternity, child health and primary health care including</p>

		immunization etc.
IX	1997-2002	Launch of <i>Swarna Jayanti Shahari Rozgar Yojana (SJSRY)</i> , in 1997, after subsuming existing schemes like NRY, UBSP and PMIUPEP.
X	2002-2007	Launch of <i>Jawaharlal Nehru National Urban Renewal Mission (JNNURM)</i> a flagship programme of the GoI, in 2005.

(Source –*Report of Working Source; Group on Urban Poverty , Slums and Service Delivery System - Steering Committee on Urbanization Planning Commission, New Delhi; 19 September, 2011*)

Urban Reforms

Led by globalization, liberalization of economies and following the global trends of population distribution among rural and urban centres, India is also rapidly marching towards higher level of urbanization and concentration of population in few major urban centres. Enhancing the productivity and efficiency of urban areas remains central and higher on the agenda of the government both in policies framed and program initiated by the Ministry of Urban Development. Cities hold tremendous potential as engines of economic and social development, creating jobs, generating wealth through economies of scale. They need to be sustained and augmented through the high urban productivity for ensuring and launching India on the fast trajectory of economic growth. Growth of national economy and reduction of poverty will be largely contingent on the productivity of the cities and towns. For Indian cities to become growth oriented and productive, it will be essential and critical to create an urban system, which is most effective and efficient. This in turn will depend on attaining efficiency and equity in the delivery and financing of urban infrastructure.

The Thirteenth Finance Commission has, for the first time in the history of Finance Commissions, brought in an element of performance-based grant in addition to basic grant, in which the onus is placed on the State Governments to empower and build capacity in the local bodies through carrying out nine identified reforms. High-Powered Expert Committee HPEC, appointed by the Ministry of Urban Development, recommended to the Government (2011), that there is a requirement of investment in urban infrastructure to the tune of ₹ 39 Billion - ₹ 39.2 lakh crore at 2009-2010 prices over the next 20 years for making available identified services including water, sanitation, solid waste management, traffic and transportation, roads, electricity etc. in the urban settlements. In addition, Rs 19.9 billion will be required to meet the operation and maintenance cost of the existing services and new services to be provided. To overcome constraints and challenges, posed by enormous requirements of funds the Ministry of Urban Development initiated institutional, fiscal financial reforms. The 74th Constitutional Amendment Act of 1992, already recognized the role and importance of local self-governments in the process of service delivery in the urban sector at local level.

In August, 1996, the Central Government also framed guidelines entitled 'Urban Development Plans Formulation Implementation UDPFI', which were made available to all State Governments for adoption, which were later reviewed and revised in the year 2014 to include the Regional Planning also and were called Urban and Regional Development Plan Formulation and Implementation Guidelines (URDPFI). These guidelines, apart from other issues, suggest approaches to be adopted for resource mobilization for urban development, using land as a resource. However, guidelines have its limitation which are purely based on the Delhi model. India being a diverse country, has large physical, cultural, social and economic variations and accordingly need local solutions for promoting planned and orderly development of urban and rural areas. India needs simple, effective and efficient system of planning and development to make urban centres more productive. Legal framework operating at state level needs review, revision and redefinition to make planning and implementation process more effective and efficient. Bureaucratization of urban laws needs to be dispensed with. Instead of making subject specific laws and creating multiplicity of planning and development agencies, there is an urgent need of creating integrated laws dealing with the issues related to urban-rural planning and development in a holistic manner. Priority must go to Regional planning rather than Urban planning. Urban-rural planning needs to be integrated through Regional Planning, in order to launch urban and rural centres on fast trajectory of development in a mutually supportive manner and not competing against and cutting one another.

In the backdrop of the New Economic Policy in the nineteen nineties, it was suggested that the traditional system of funding based on Plan budgetary allocations be reduced and

ultimately withdrawn due to existence of large fiscal deficit in the national budget due to widening gap between income and expenditure and export and imports. Subsidies need to be rationalized and urban development plans /projects need to be placed on a commercial format by designing commercially viable urban infrastructure services/ area development projects. This was sought to be achieved by restoring a proper match between functions and source of revenue by giving additional tax measures. Other innovative resource mobilization measures included using land as a resource, increase in the non-property taxes and using Public-Private Partnership in service delivery.

Reforms through decades

Municipal Accounting System

The Task Force constituted by the O/o C&AG of India had recommended for introduction of accrual basis of accounting system for the urban local bodies(ULBs) and suggested model budgeting accounting formats for that purpose. The Task Force Report was circulated to all States/UTs for adoption of accrual-based accounting system as well as the budget accounting formats. Further to provide a simplified tool kit to the ULBs for recording the accounting entries, Ministry of Urban Development in cooperation with the Office of C&AG of India prepared a National Municipal Accounting Manual NMAM and circulated to all States/UTs in January, 2005. The Manual comprehensively detailed the accounting policies, procedures, guidelines designed to ensure correct, complete timely recording of municipal transactions to produce accurate relevant financial reports. The NMAM was intended to help the States prepare their state-level accounting manuals in accordance with their own requirements for use by the ULBs. This initiative expected not only to enhance the capacities of ULBs in municipal accounting leading to increased transparency accountability of utilization of public funds for the development of urban sector but also to help in creating an environment in which urban local bodies can play their role more effectively to ensure better service - delivery.

Service Level Benchmarks

Ministry of Urban Development also laid down Service Level Benchmarks for urban services like water supply, sanitation urban transport. Working towards achieving these Benchmarks would bring about a paradigm shift in working of the urban local bodies to provide world class urban services.

Public-Private Participation Guidelines

Central Government also developed guidelines for involvement of the private sector in infrastructure, which will ensure competitive bidding process in a transparent manner. These guidelines will not only protect the consumers but also ensure integrity of the process.

This would support municipalities in designing the PPP process on the lines of the BOT Centre in Philippines or the PPP in the Ministry of Finance in South Africa.

Push to Reforms through Jawaharlal Nehru National Urban Renewal Mission JNNURM

JNNURM, launched for a period of seven years in December 2005, to promote state of art development in 63 identified major cities of India, including all the metropolitan centres, state capitals and historic cities, made it mandatory that, release of additional central assistance under the Mission would be made conditional to the urban local bodies, carrying out defined urban reforms. The reforms included:

- Implementation of 73rd 74th Constitutional Amendments for decentralization
- Repeal of /Urban Land Ceilings Regulation Act
- Reform in Rent Control Laws
- Rationalization of Stamp Duty
- Enactment of Public Disclosure law
- Enactment of Community Participation Law
- Assigning/associating urban local bodies in planning function
- Accrual based double entry system of accounting
- E -governance
- Property Tax calibration with GIS
- Recovery of User Charge
- Internal earmarking of budget for basic service to urban poor
- Provision of basic services to urban poor
- Revision of bye-laws for streamlining approval process for building construction
- Simplification of law for change in land use
- Introducing property title certification
- Earmarking developed land for housing for the economically weaker sections
- Computerization of registration of land & property
- Revision of bye- laws for rain water harvesting/ water conservation
- Bylaws for recycled water
- Administrative reforms like reduction in establishment cost
- Structural reforms
- Encouraging private - public partnership

Chapter 15

Institutional Framework for Promoting Housing and Housing Finance

Housing and Urban Development Corporation- HUDCO

The Housing and Urban Development Corporation Ltd. (HUDCO), a fully owned company of Government of India, was established more than five decades back on April 25, 1970, with the objective of promoting housing, providing long-term finance for construction of houses, undertaking urban development programs, infrastructure facilities and promoting housing finance industry with focus on the social aspect of housing and utility. Initially incorporated as “The Housing and Urban Development Finance Corporation Private Limited,” as a private limited company, it was later converted ,by the Department of Company Affairs, Ministry of Finance, Government of India, to “Housing and Urban Development Corporation Limited,” as a public financial institution under Section 4A of the Companies Act, 1956 on December 9, 1996, HUDCO was registered with National Housing Bank on July 31, 2001, for carrying out business of a housing finance institution.

Working now under the administrative control of the Ministry of Housing and Urban Development, HUDCO is mandated with building affordable housing and carrying out urban development in the country besides implementing National Housing Policy. It has also been entrusted with the task of implementing priority programmes of the Ministry of Urban Development including; Low-Cost Sanitation, Slum Upgradation, Staff Housing, Night Shelter for Footpath Dwellers, Shelter Upgradation under Nehru Rozgar Yojana, Rural housing under Minimum Needs Programme. Although commercial banks and housing finance companies are doing brisk business in the growing housing finance sector, the housing needs of the poor and low-income groups have remained unaddressed. In such a scenario, HUDCO's role has become more critical and significant in meeting the national objective of Housing for all.

Despite commercial orientation, HUDCO focus remains preferential allocation of resources to the socially disadvantaged section of the society. It continues to promote socially relevant sectors, rather than promoting only commercial and profitable sectors. 92 percent of the 150.93 lakh houses financed by HUDCO are basically dedicated to promote the interests of Economically Weaker sections and Low-Income categories. Providing housing loans directly to the borrowers, instead through state governments / housing agencies, HUDCO, has adopted innovation in its lending operations through the novel scheme named ‘HUDCO Niwas’, which was made operational since 1999. Scheme remains extremely popular in the domain of individual housing loan. HUDCO has moved the government

seeking permission to enter the banking and insurance sectors. HUDCO is ranked high in the domain of construction of dwelling Units for the poor ,

Operating under a decentralized operational approach, HUDCO functions and operates across nation, with zonal office, a research & training institute, 20 regional offices, 34 retail finance units and 9 development offices with head office at Delhi.

Vision and Mission

"HUDCO to be a leading Techno-financial institution, promoting sustainable habitat development for transforming the lives of the people"

Objectives Of HUDCO

The prime objects of HUDCO, as defined in the Memorandum of Association include; housing, urban development, setting up satellite towns, making provision of services, promoting building materials, providing consultancy services, promoting mutual funds etc. as detailed below;

- To extend long term finance for construction of residential complexes or undertake housing and urban development programs in the country.
- To finance or undertake building of new or satellite town, either wholly or partly.
- to subscribe to the debentures and bonds to be issued by the State Housing Boards; Improvement Trusts, Development Authorities etc., specifically for the purpose of financing housing and urban development programmes;
- to finance or undertake the setting up of industrial enterprises of building material;
- to administer the money received, from time to time, from the Government of India and other sources as grants or otherwise for the purposes of financing or undertaking housing and urban development programmes in the country;
- to promote, establish, assist, collaborate and provide consultancy services for the projects of designing and planning of works relating to Housing and Urban Development programmes in India and abroad;
- to undertake the business of Venture Capital Fund in Housing and Urban Development Sectors , facilitating innovations in these sectors and invest in and/or subscribe to the units/shares etc. of Venture Capital Funds promoted by Government/Government Agencies in the above areas; and
- to set up HUDCO's own Mutual Fund for the purpose of Housing and Urban Development Programmes and/or invest in, and/or subscribe to the units etc. of mutual funds, promoted by the Government/Government Agencies for the above purpose.

Housing and Urban Development Corporation Ltd (HUDCO), is valued nationally as the premier techno-financing public sector enterprise, in the field of housing and infrastructure development. With an authorized capital of Rs 2,500 crore, HUDCO has a paid-up equity of Rs. 2,001.90 Crore. With its corporate vision of being among the world's leading knowledge hubs and financial facilitating organizations for habitat development, HUDCO is on the mission of promoting sustainable habitat development to enhance quality of life. HUDCO was upgraded to a Schedule-A PSE in 2002 and conferred the Mini Ratna status in 2004.

Considering urban infrastructure finance, HUDCO make loans for projects relating to:

- Water Supply; Roads and Transport and Power;
- Emerging Sectors, which includes SEZs (special economic zones), Industrial Infrastructure, Gas Pipelines, Oil Terminals and Telecom Sector Projects;
- Commercial Infrastructure and others, which include; Shopping Centres, Market Complexes, Malls-cum-Multiplexes, Hotels and Office Buildings;
- Social Infrastructure and Area Development; and Sewerage, Drainage and Solid Waste Management (collectively, "Urban Infrastructure Finance").
- Promoting planned development of Smart Cities

Main borrowers under Urban Infrastructure Finance are primarily State Governments and their agencies. Sanctioning of new Urban Infrastructure Finance loans to entities in the private sector was stopped since March 2013. Loans for Housing projects in urban areas are offered to Central and State Governments, parastatals bodies, Corporates and Joint sector Agencies for construction of Houses / Flats and development of residential plots including Site and Services scheme, Skeletal Housing and Core housing etc.

HUDCO has emerged as a major player in housing sector during the last five decades of operation; through its project financing window which has so far extended financial assistance for the construction of 7.67 million residential units in the country under urban housing and laid special emphasis to housing for under-privileged and poor in urban area. Corporation offers loans on softer financial terms to Economically Weaker Section and Low-Income Group housing which includes lesser interest rates, larger extent of loan and longer repayment period when compared with financial assistance to other income group categories. In addition, HUDCO also offers financial assistance to different agencies including Central and State Governments, parastatals agencies like Housing Boards/Corporations, Slum Clearance Boards, Police Housing Corporations, Development Authorities, City Improvement Trusts, Municipal Corporations/ Councils, other Urban Local Bodies, Apex State Co-operative Societies and other institutions such as Joint Sector and Corporate Sector etc. for following projects related to Housing :-

- Acquisition of land and Development of plots.
- Housing for EWS/LIG/MIG/HIG and other categories.
- Staff Rental Housing.
- Slum rehabilitation/ in-situ development/ Slum upgradation.
- Repairs and Renewal of houses
- Loans to Apex Co-operative Housing Societies.
- Meeting margin money in projects pertaining to Government of India Action Plan Schemes.
- HUDCO also tends to explore opportunities in related sectors for sustainable profits, which in turn helps to further support its social objectives. Towards expanding its role in the sectors, HUDCO plans to integrate itself along the complete project finance value chain and position itself as sector expert in the identified areas. HUDCO intends to leverage its expertise and experience gained over the years towards augmenting its Interest based activities. HUDCO's IT strategy is also focused on the right technology solutions to meet its business objectives, including setting up an industry bench marked integrated solution spanning HUDCO's business processes.
- HUDCO is considering the option of undertaking larger role in the sector by supporting the growing needs of housing and infrastructure in the coming years with the continued growth of economy with a special focus on the needs for the economically weaker sections.

Sources of Funding

As already stated,; subscribed and paid-up Equity Share capital of HUDCO is Rs. 20,019.0 million. HUDCO sources funds include market borrowings involving;

- NCDs (including secured, redeemable, non-convertible, non-cumulative tax-free bonds), term loans, commercial paper, public deposits and external commercial borrowings.
- Taxable **Bonds Refinance Assistance from NHB**; The NHB offers refinance assistance to HFCs in respect of their loans given for housing under various refinance schemes. These loans had a maturity period ranging from seven years to 10 years.
- **Other Term Loans**; HUDCO avails secured as well as unsecured long-term and short-term loans from various Indian banks. These loans are mostly in the nature of term loans. These loans had a maturity period ranging from 180 days to 24 years and were subjected to floating interest rates.
- **Commercial Paper**; HUDCO also issues commercial paper from time to time.
- **Public Deposits**; Corporation offer a range of deposit products to customers. Public deposits are repayable in accordance with the individually contracted maturities

ranging from 12 to 60 months from the date of deposit. Public deposits remain secured by a floating charge on the statutory liquid assets created by way of a deed of trust as per the HFC Directions.

- **Other Loans;** HUDCO avails unsecured cash credit / overdraft facilities from various Indian banks, which are short term in nature and repayable on demand and are subject to floating interest rates.
- **Bank Guarantee Facilities;** Corporation also avails unsecured bank guarantee facilities from various Indian banks with validity period ranging from 12 months to three years.

International Borrowings

- **External Commercial Borrowings and Loans from Multilateral Institutions;** HUDCO has availed foreign currency loan from the Japan Bank of International Cooperation and Development Bank . Loans from the Japan Bank of International Cooperation and the Asian Development Bank are guaranteed by the Government of India. The loan availed from USAID was in the nature of external commercial borrowings in the form of floating rate promissory notes, guaranteed by USAID and counter-guaranteed by various Indian banks, having a maturity period ranging from 25 to 30 years from the date of disbursement.

Consultancy Services

HUDCO also runs a consultancy unit at its headquarter at Delhi with the objective to, promote, establish, assist, collaborate and provide consultancy services for designing and planning of projects relating to housing and urban development programmer in India and abroad.. HUDCO consultancy has undertaken more than 300 projects in diversified fields under housing and urban development sector covering cost- effective housing, environmental improvement, preparing development plans, post-disaster rehabilitation, landscape and conservation. HUDCO Consultancy Services are suited for institutions that do not have the expertise or manpower, or want to supplement their own efforts; housing or urban development agencies that wish to prepare project reports for implementation on their own or by availing financial assistance from international agencies, Govt. of India, State Governments or housing finance institutions including HUDCO. Consultancy services has multi-disciplinary professional staff including Architects, Town Planners, Housing Experts, Landscape Designers, Engineers, Transportation Planners, Ecologists, Construction Management Specialists etc. at various levels. It can also draw on the expertise available in different disciplines from within and outside organizations.

Building Materials & Technology Promotion Council (BMTPC)

Genesis

- Ministry of Urban Development, Government of India, established the BUILDING MATERIALS AND TECHNOLOGY PROMOTION COUNCIL in July 1990 for bridging gap between research and development; promoting large scale application of new and emerging building material and construction technologies; providing an inter-disciplinary platform under Central /State Governments/private sector for promoting emerging building materials proven technologies; assisting commercial production; systematic dissemination of appropriate technology for the benefit of the construction/construction agencies /different sections of the population; promoting resource-efficient; climate resilient; disaster resistant construction practices; a resource institution to provide S&T support in the area of innovative building materials & construction technologies and disaster mitigation & management.
- **Vision** ; “BMTPC is visioned to be, “World class knowledge and demonstration hub, for providing solutions to all with special focus on common man, in the area of sustainable building materials, appropriate construction technologies & systems including disaster resistant construction.”
- **Mission**; “To work towards a comprehensive and integrated approach for promotion and transfer of potential, cost-effective, environment-friendly, disaster resistant building materials and technologies including locally available materials from lab to land for sustainable development of housing.”
- **Objectives**; BMPTC works in four verticals including materials, technologies, capacity building ,disaster mitigation and project management as detailed below;
- **Building Materials & Construction Technologies**: To promote development, standardization, mechanization and large-scale field application of proven innovative and emerging building materials and technologies in the construction sector.
- **Capacity Building and Skill Development**: To work as a Resource Centre for capacity building and promotion of good construction practices to professionals, construction agencies, artisans and marketing of building technologies from lab to land.
- **Disaster Mitigation & Management**: To promote methodologies and technologies for natural disaster mitigation, vulnerability & risk reduction and retrofitting/reconstruction of buildings and disaster resistant planning for human settlements.

- **Project Management & Consultancy:** To undertake project management and consultancy services including appraisal, monitoring and third party inspection of housing projects under the various Central/State Schemes.

Activities

BMTPC through networking, with academic and research institutions, public & private sector, NGOs, foreign institutions, is mandated to create enabling eco-system for innovative; cost-effective, environment-friendly and energy-efficient alternate building materials and technologies including bamboo based housing solution; propagate industrialized housing systems ; bringing globally successful technologies; promoting resource efficiency, economy, quality, environmental protection, speed and sustainability in housing construction; constructing demonstration houses; spreading awareness and building confidence about new technologies and disseminate technical know-how in various States/UTs under Pradhan Mantri Awas Yojana (Urban).

- Ministry of Housing & Urban Affairs in collaboration with SPA, New Delhi and BMTPC, has already started a NAVARITIH : Certificate Course on Innovative Construction Technologies.
- Playing a pro-active active role in the area of disaster mitigation and management, BMTPC, worked with NDMA, NIDM, and brought out number of Atlas/guidelines/study material on vulnerability, landslide, earthquake, floods, cyclone including first ever Vulnerability Atlas of India (2019, 1996 & 2006), Landslide Hazard Zonation Atlas of India, Guidelines for Improving Earthquakes, Wind/Cyclone and Flood prone Housing Construction(1997 & 2010); Tips on earthquake resistant construction jointly with IIT Kanpur to educate and spread awareness about Disaster resistant design & construction practices for engineers, architects and other stakeholders through workshops; E-Course; publishing valuable guidelines/ manuals on disaster resistant construction and retrofitting of few buildings including life line buildings.
- For creating awareness, e-copy of Vulnerability Atlas of India has also been put on website and an e-Course on Vulnerability Atlas of India is being run jointly by School of Planning and Architecture , New Delhi and BMPTC. For amending /modifying building byelaws Council also organised Technical Workshop for safety against natural hazards and assisted the State/UT to amend their bye-laws.
- Council has prepared upgraded Earthquake Hazard Maps and Atlases for India, State/UT and District (626 Districts). BMTPC is also technical partner in the Global Housing Technology Challenge – India (GHTC-India), launched by the Ministry of

Housing & Urban Affairs ,besides setting up of .A National Urban Housing Fund (NUHF) for aggregating loans from lending agencies / financial institutions.

- BMPTC also demonstrated seismic retrofitting techniques in Hospital, School ,houses besides retrofitting public buildings and training masons and field engineers after the Bhuj earthquake of January 2001

Services; The Building Materials and Technology Promotion Council offers services in the following domains:

- Identification, evaluation of proven and emerging technologies available globally and encouraging joint venture in building materials and construction sector.
- Promoting economy, efficiency and quality in construction
- Up- scaling of technologies, know-how acquisition, absorption and dissemination
- Field level application of environment-friendly, energy-efficient and disaster resistant technologies for proven, locally available and emerging technologies.
- Formulation of Standards on proven building materials/technologies including emerging technologies/systems and incorporation in the schedule of specifications/rates.
- Documentation of benefits, durability and acceptability of cost- effective and innovative building materials and technologies.
- Skill upgradation of professionals and construction workers through capacity building programmes, training programmes, seminars, conferences, workshops, exhibitions nationally as well as internationally.
- Promoting disaster resistant construction technologies.
- Appraisal, monitoring and third-party inspection of housing projects including undertaking project management and consultancy services.

Council disseminates information through: publications, brochures and display panels; Audio –video CD-ROMS; participation in exhibitions, workshops, conferences and seminars; organizing various training / entrepreneurship development programmes, seminars, workshops and exhibitions; advertisement in newspapers and creating website.

National Housing Bank-NHB

Genesis;

- Adequate availability of long term financial resources remains critical for creating adequate housing stock a distinct reality. Major roadblock in making housing for all a distinct reality remains a mirage for people falling in the category of economically

weaker section of the society. Accordingly, creating multiple options. for providing finances remain critical and important. Considering non-availability of long-term finance to individual households as a major roadblock in housing; Sub-Group on Housing Finance for the Seventh Five Year Plan (1985-90), recommended the setting up of a national level institution. RBI examined and recommended the setting up of National Housing Bank as an autonomous housing finance institution. National Housing Bank Act, 1987 provided the legislative framework for the establishment of bank and made bank operational in 1988. Reserve Bank of India contributed the entire paid-up capital. The National Housing Policy, 1988 also envisaged the setting up of NHB as the Apex level institution for housing National Housing Bank (NHB), is the apex regulatory body for overall regulation and licensing of housing finance companies in India. It operates under the jurisdiction of Ministry of Finance, Government of India. NHB has been established with an objective to operate as a principal agency to promote housing finance institutions both at local and regional levels and to provide financial and other support. NHB registers and supervises Housing Finance Companies (HFCs), keeps surveillance through On-site & Off-site Mechanisms and co-ordinates with other Regulators. The Finance Act, 2019 has amended the National Housing Bank Act, 1987 confers the powers of regulation of Housing Finance Companies (HFCs) to the Reserve Bank of India

Preamble

The Preamble of the National Housing Bank Act, 1987 describes the basic functions of the NHB as – “... to operate as a principal agency to promote housing finance institutions both at local and regional levels and to provide financial and other support to such institutions and for matters connected therewith or incidental thereto ...”

Vision

“Promoting inclusive expansion with stability in housing finance market”

Mission

“To harness and promote the market potentials to serve the housing needs of all segments of the population with focus on low and moderate income housing.”

Objectives

NHB has been established to achieve, inter alia, the following objectives-

- To promote a sound, healthy, viable and cost- effective housing finance system to cater to all segments of the population and to integrate the housing finance system with the overall financial system.
- To promote a network of dedicated housing finance institutions to adequately serve various regions and different income groups.
- To augment resources for the sector and channelise them for housing.
- To make housing credit more affordable.
- To supervise the activities of housing finance companies based on supervisory power derived under the Act.
- To encourage augmentation of supply of buildable land and also building materials for housing and to upgrade the housing stock in the country.
- To encourage public agencies to emerge as facilitators and suppliers of serviced land, for housing.

Major Achievements;

1988-89	<ul style="list-style-type: none">▪ Establishment of NHB▪ Launched Refinance Schemes for housing loans▪ Launched Schemes for Land Development & Shelter Projects
1989-90	<ul style="list-style-type: none">▪ Launched Home Loan Account Scheme▪ Issued Housing Finance Companies (NHB) Directions
1990-91	<ul style="list-style-type: none">▪ NHB notified as a Public Financial Institution
1992-93	<ul style="list-style-type: none">▪ Launched Refinance Schemes for Slum Redevelopment Projects
1997-98	<ul style="list-style-type: none">▪ Launched Golden Jubilee Rural Housing Finance Scheme (GJRHFS)▪ Issued Tax Free Bonds to finance GJRHFS
2000-01	<ul style="list-style-type: none">▪ First Residential Mortgaged Backed Securitization Issue in the Country▪ Guidelines issued for Entry of HFCs into Insurance Business▪ Refinance Scheme launched for reconstruction of dwelling units in the earthquake

	<ul style="list-style-type: none"> ▪ affected areas in Gujarat
2002-03	<ul style="list-style-type: none"> ▪ Launched Liberalized Refinance Scheme for Housing Loans
2004-05	<ul style="list-style-type: none"> ▪ First time provided Corporate Guarantee for RMBS
2006-07	<ul style="list-style-type: none"> ▪ NHB RESIDEX was launched (residential housing price index) ▪ Reverse Mortgage Loan for Senior Citizens ▪ Productive Housing in Rural Areas (PHIRA) ▪ Refinance for Top-up loan for Indira Awas Yojana Beneficiaries ▪ Equity Participation in New Rural Housing Finance Companies
2007-08	<ul style="list-style-type: none"> ▪ Establishment of Rural Housing Fund (RHF) with NHB ▪ Rural Housing Microfinance launched ▪ NHB-UNESCAP Study on pro-poor housing finance: ▪ MOC with UNHABITAT signed for water/ sanitation projects for housing ▪ Home Loan Counselling: Diploma program put in place with IIBF
2010-11	<ul style="list-style-type: none"> ▪ Collaborated with KfW, Germany for promoting Energy Efficient Housing
2011-12	<ul style="list-style-type: none"> ▪ Credit Risk Guarantee Fund Trust for Low Income Housing (CRGFTLIH) ▪ set up to be managed by NHB
2012-13	<ul style="list-style-type: none"> ▪ Three new products developed viz Special Refinance Scheme for Urban Low -Income Housing, Refinance Scheme for Installation of Sola Water Heating and Lighting Equipment in Homes, Refinance for Construction Finance for Affordable Housing ▪ 10 year tax free bond issued through public issue
2013-14	<ul style="list-style-type: none"> ▪ NHB entered into a Memorandum of Understanding (MoU) with Indian Green Building Council (IGBC) regarding promoting Energy Efficient Homes, sharing of information, capacity building, networking in events and meetings and establishing Synergy between “NHB Energy Efficient Homes & IGBC Green Homes” ▪

2014-15	<ul style="list-style-type: none"> ▪ Bank designated as Central Nodal Agency for Credit Linked Subsidy ▪ Scheme under Pradhan Mantri Awas Yojana.
2015-16	<ul style="list-style-type: none"> ▪ A 24x7 on-line portal developed/ implemented for PLIs to lodge CLSS ▪ Claims to reduce turnaround time at NHB for processing interest subsidy ▪
2017-18	<ul style="list-style-type: none"> ▪ Launched the revamped NHB RESIDEX ▪ The Finance Act, 2018 amended National Housing Bank Act, 1987, ▪ Enabling transfer of share capital of NHB ▪ Government establishment Affordable Housing Fund in NHB

Training and Capacity Building

As part of responsibility of development of human resources; NH Bank organizes training programmes, seminars and symposia on matters related to housing for Housing Finance Companies (HFCs), Commercial Banks and Public Housing Agencies and provides design and faculty support to various categories of institutions dealing in housing and related activities. National Housing Bank provides support to large number of banks, housing finance companies as well as co-operative sector institutions in the capacity building of the sector .

Housing Boards- For Creating large Housing Stock of Affordable Housing

Housing Boards are known, across India , for their contributions in the domain of creating large housing stock in general and affordable housing, including housing for economically challenged communities of the society, in particular. Housing Boards in India have been set up in most of the Indian states by the governments under a legal framework defined by the state legislatures. Among the various state-led nodal agencies that work towards offering residential housing to the citizens, are the state Housing Boards. These Boards, generally established in sixties and seventies, have been working towards meeting the prime objective of launching housing schemes from time to time including those catering to lower-income groups (LIG) and economically weaker sections (EWS). Apart from residential components, Housing Boards have also been carving out and leasing/selling commercial and institutional sites for raising resources and supporting residential projects for economically weaker sections of the society.

The objectives of the Housing Boards include:

- To provide housing to eligible and needy persons at affordable prices.
- To construct houses and make them available for different income categories including high- income group, middle- income group, and low- income groups
- To select sites, undertake planning and develop them along with services to be provided
- To formulate self -financing housing schemes focusing on middle- and high-income groups
- To construct commercial complexes, multi-storied buildings, and shops to secure financial resources for the Boards.

Some of the states which have established Housing Boards include; Gujarat Housing Board; Andhra Pradesh Housing Board; Himachal Pradesh Housing Board; Orissa Housing Board; Madhya Pradesh Housing Board, Haryana Housing Board etc. Gujarat Housing Board was set up on May 1st, 1960; The Andhra Pradesh Housing Board was established on July 1st, 1960; The Orissa Housing Board was set up in 1968 and Madhya Pradesh Housing Board was established in 1972. Punjab also established the Housing Board in seventies, but subsequently abolished and assets merged into Urban Development Authority in, 1995

The Housing Boards in India have been instrumental in providing accommodation for large number of Indians across the country. Housing Boards have been successful to a large extent and the government of India needs to strengthen these Boards by making available adequate funds to ensure that they are able to continue with their housing projects, effectively and efficiently. In order to explain the overall structure, functioning, operation, development schemes framed by the Housing Boards in India, case study has been made for the Haryana Housing Board, as detailed below.

The Housing Board Haryana came into existence during the year 1971 in pursuance of the Haryana Housing Board Act (Act No. 20 of 1971). The main objective of the Board is to construct houses for allotment to the public in accordance with the guidelines issued by the State Government and the prescribed procedure. The emphasis is to construct houses for socially and economically weaker sections of the society. At the apex level, there is a Board appointed by the State Government under the Act. Chairman heads the Board which decides all its policies and programmes. Chief Administrator is its Chief Executive. The Board has in-house construction divisions, design cell, and other supporting network.

Constitution of board

Board consists of Chairman, Chief Administrator and such other members, not more than twelve and not less than six, appointed by State Government. Chairman is head of the Board and exercises powers as mentioned in the Act. Chief Administrator is Chief Executive of the Board, looks after the day-to-day functioning of the Board and oversees the implementation of policies formulated by the Board. The housing colonies developed by the Board are planned, as per specified planning norms and provided with metalled roads, street lighting, water and sewerage services, storm water drains, open spaces, parks, shopping booths, provision for school etc including houses of different categories..

Housing Schemes;

Subject to the provisions of this Act and subject to the directions of the State Government, the Board is authorized to take up different schemes and incur expenditure and undertake works in any area for the framing and execution of such housing schemes, as it may consider necessary from time to time or as may be entrusted to it by the State Government. Housing scheme framed by different Boards remain different due to provisions made in their Acts. Haryana Housing Board has also taken the initiative of creating large stock of rental housing in the urban centres of the state, which has been detailed in the earlier chapter.

However, Haryana Housing Board Act provides for large number of options to frame Housing Schemes which may provide for all or any of the following matters, namely :-

- a. acquisition by purchase, exchange or otherwise of any property necessary for or affected by the execution of the scheme,
- b. acquisition by purchase, exchange or otherwise of any land, division of the same into plots and the sale thereof after developing it or otherwise to co-operative societies or other persons, in accordance with the scheme,
- c. Laying or re-laying out of any land comprised in the scheme,
- d. distribution or re-distribution of sites belonging to owners of property comprised in the scheme,
- e. The closure or demolition of dwellings or portions of dwellings unfit for human habitation,
- f. demolition of obstructive buildings or portions of buildings,
- g. The construction and re-construction of buildings, their maintenance and preservation,
- h. Sale, letting or exchange of any property comprised in the scheme,
- i. Construction and alternation of streets and back lanes,

- j. Drainage, water- supply and lighting of the area included in the scheme,
- k. Parks, playing-fields and open spaces for the benefit of any area comprised in the scheme and the enlargement of existing parks, playing- fields, open spaces and approaches,
- l. sanitary arrangements required for the area comprised in the scheme, including the conservation and prevention of any injury or contamination to rivers or other sources and means or water- supply
- m. Creating accommodation for any class of inhabitants, industries, institutions, offices, local authorities, co-operative or corporate bodies,
- n. Advancing money for the purpose of the scheme,
- o. Creating and maintaining facilities for communication and transport,
- p. Collection of such information and statistics as may be necessary for the purpose of this Act, and
- q. any other matter for which, in the opinion of the State Government, it is expedient to make provision with a view to provide housing accommodation and, or, to the improvement or development of any area comprised in the scheme or any adjoining area or the general efficiency of the scheme.

Explanation-

1. For the purposes of this section the State Government may, on the recommendation of the Board, by notification, specify area surrounding or adjoining the area included in a housing scheme to be the adjoining area. No housing scheme shall be made under this act for any area for which an improvement scheme has been framed and sanctioned by the State Government under Punjab Town improvement Act, inconsistent with town 1922 or any other enactment for the time being in force, nor planning scheme. Any housing scheme made under this Act shall not contain anything, which is inconsistent with any of the matter included in a town planning scheme sanctioned by the State Government under the Haryana Municipal Act, 1973, or other enactment for the time being in force.
2. If any dispute arises whether a housing scheme made under this Act includes any area in an improvement scheme sanctioned under any enactment referred to in sub-section (1) or contains anything inconsistent with any matter included in a town planning scheme sanctioned under the Haryana Municipal Act, 1973 or any other enactment for the time being in force, the same shall be referred to the State Government whose decision shall be final.

It shall be the duty of the Board to take measures to expedite speedier and cost-effective construction of buildings and the Board may for that purpose do all things for-

- a. Unification, simplification and standardization of building materials,
- b. Encouraging pre-fabrication and mass production of house components,
- c. Organize or undertake the production of building materials required for the housing schemes,
- d. Encourage research for discovering cheap building materials and evolving new methods of economic construction,
- e. Secure a steady and sufficient supply of workmen trained in the work of construction of buildings.

Conclusion

Looking at the entire context of acute shortage of the housing existing in the country, with majority of shortfall recognized in the economically weaker sections of the society, role of Housing Boards become both valuable and critical. All private developers focus on high and middle end housing, which generates lot of profits, whereas EWS housing remains a volume game and not a profit game. So private developer and promoter ignore the low-end housing. In order to bridge the gap between demand and supply in this category, role of state Housing Boards gains importance. State needs to value Housing Boards, support them in terms of resources and capacity so that they can deliver the mandate they have been given. Housing Boards need quality manpower and latest technologies in order to create large stock of low-cost and sustainable housing. If Housing Boards are not empowered it will be difficult for the states and country to achieve the goal of housing for all. Boards should be mandated to search new materials and technologies, which have the capacity to lower the cost and increase the speed of construction of houses. These Boards should also be mandated to promote managerial skill to effectively manage the projects without any cost and time over-runs. Housing Boards need to be given financial resources to take up ruminative schemes and generate resources to subsidize the low-cost housing. These Boards should be supported to source land and create a land bank for creating large scale housing. In addition, state should avoid creating multiple agencies operating in the area of housing and housing construction. These Housing Boards should be facilitated to create rental housing for the migrants to the cities, and labour force working there so that growth of slums is minimized and large scale migration of labour force from the cities is effectively checked in the eventuality of any crisis facing the cities, like Covid 19. Common platform for Housing Boards at the national level needs to be created so that they can learn by sharing knowledge and good practices undertaken by the different Boards. Boards should be permitted to float joint ventures with reputed private developers, on the pattern adopted by West Bengal Housing Board, to create large quality stock of affordable housing in the state. In this case equity of the Board would be land and funds for construction can be made available by the private partners. All Boards need to be mandated to get high degree of

connectivity with the Building Materials Technology Promotion Council, in order to learn the art and science of latest available building materials and state of art construction technologies. Housing Board will need and support from the state to enable them to develop and emerge as institutions of excellence in the domain of housing.

Urban Development Authorities in India

Urban India is on the rolls. Inevitable rapid and uncontrolled growth of the cities has been accepted as a phenomenon, which cannot be reversed. Cities are getting concentrated with people, economic activities, high rise residential and commercial buildings. Higher quality of infrastructure and social services in urban areas remain always very attractive. However, urban systems have already shown inability to cope with the existing population. Cities face enormous stress involving; congestion, acute shortage of housing; water and electricity; transport; maintenance of peace and security; in-migration; poverty, urban Infrastructure; Slum, poor quality of life etc.

To meet these urban challenges, effectively and efficiently, states have been toying with idea of setting up different agencies who could effectively tackle the urban problems and rationalize the urban growth. Starting with urban local bodies, Improvement Trusts were found be better option as agencies outside the local government system to take up the challenges and issues related to urban development. After understanding the limitations of Improvement Trusts, state Town Planning Departments and Urban Directorate were considered the option to regulate the urban development process. After partition of India, with cities facing enormous challenges due to rapid migration of displaced persons, urban development authorities were put in place in few selected cities, starting with the capital city of Delhi.

Development Authorities in India, are the product of the necessity to tackle growing housing problems and poor infrastructure prevailing in large cities. It was thought that given the structure, power, authority and resources, development authorities will help to plan, implement & co-ordinate development activities in a rational and planned manner. Setting up of urban development authorities, ushered the era of preparing and implementing master plans in India.

Starting with Delhi Development Authority (DDA) in 1957, for the Delhi capital city, large number of development authorities came into existence across India. Haryana State level Urban Development Authority – HUDA came into existence in 1977 and the Maharashtra Housing and Area Development Authority (MHADA) was commissioned in 1976 to

accelerate the process of planned development. Punjab came up with its version in the form of Punjab Urban Development Authority in 1995.

From existing scenario, it can be seen that all states have one form or the other of legal framework which mandates the setting up of development authorities. There exist two typologies of development authorities existing in the country ie at state level and at city level. All these authorities are established under the law passed by the state legislature. There is limited uniformity of pattern followed for defining the structure, functions, role, resources etc. to be taken up /performed by different development authorities.

Delhi Development Authority;

Set up under Delhi Development Act, 1957, DDA has been mandated to achieve the objectives which include; To formulate a Master Plan for covering the present and future growth of Delhi and to promote and secure the development of Delhi according to the plan covering all the possible activities; to acquire, hold, manage and dispose of land and other property and to carry out building, engineering, mining and other operations. and, to provide services and amenities incidental to the above. Thus, DDA was to be both planning and development agency with power vested to prepare the master plan for Delhi and implement the same. Under this mandate, Delhi also resorted to bulk acquisition of the land for promoting planned development. In addition, development of all amenities was also to be done by DDA. However, despite three master have been planned and implemented Delhi, orderly growth remains distorted with mushrooming of large number of slums in the city and majority of residents face exclusion from the availability of basic services. DDA remains a city level local development authority with area of operation confined to Delhi capital city.

Haryana Urban Development Authority (HUDA)- a state level development authority has been constituted under Haryana Urban Development Authority Act, 1977 which came into operation in the year 1977. HUDA, as per the Act, is required to; promote and secure development of urban areas in a systematic and planned way with the power to acquire sell and dispose off property, both movable and immovable; use the land so acquired for residential, industrial, recreational and commercial purpose; make available developed land to Haryana Housing Board and other bodies for providing houses to economically weaker sections of the society, and undertake building works. The Authority consists of a Chairman, a Vice Chairman, a Chief Administrator and such other members (not more than 12 but not less than 6) appointed under notification issued from time to time, provided that the number of non-official members shall not, at any time exceed three.

HUDA undertakes various development activities and has developed or facilitated the development of housing projects, public infrastructure, industrial & commercial places, recreational zones. Also, it has played a pivotal role in providing civic amenities like water supply & drainage systems in the urban areas. It also provides developed land to Haryana Housing Board & other institutions to achieve its basic aim of providing housing to all sections of society with special focus on the economically weaker section of the society. HUDA carries out its functions of planning, development, construction, finance, estate management through 12 different wings created within the authority. Which include;

i) **Engineering Wing;** to provide basic infrastructural facilities, including approach roads, electrification, water supply and sewerage facilities; community buildings, parks and other facilities

ii) **Finance Wing;** mandated with financial management of the Authority, including performance budgeting, materials and inventory planning and control based on network and cost- control techniques.

iii) **Town Planning Wing;** entrusted with the job of designing and issuing advertisements in the newspapers regarding sale of sites in City Centers, Shopping Centers and Residential/Industrial Sectors in all the Urban Estates.

iv) **Architecture Wing;** undertakes job related to preparation of architectural controls and Architectural designs of all buildings constructed by HUDA besides designing parks, open spaces and gardens.

v) **Legal Wing;** deals with and monitors all legal matters related with development authority.

vi) **Monitoring Wing;** for monitoring the progress of the developmental works done by the field offices on regular and timely basis,

vii) **Enforcement Wing;** deals with all matters relating to the removing of encroachments

viii) **Vigilance Wing;** to bring out transparency in the functioning of various wings; checking corrupt practices and also to ensure quality in development works.

ix) **Establishment and Authority Wing;** deals with the establishment matters of the employees.

x) **Policy Wing;** deals with all the matters relating to policy and allotment of land to various institutions and Government Department

xi) **Land Acquisition Division;** taking care of acquisition of land for urban development

xii) **Information Technology Wing (I.T.Wing);** to facilitate the internal efficiency of the Department and to provide quality services to the allottees, citizens and external agencies through website of HUDA.

Despite such an elaborate structure, HUDA remains a state level authority, with city development managed by the local government department. HUDA does not have provision for preparing the master plans of the city. Its area of operation remains outside the municipal limits, with city looked after by the urban local bodies, which is a separate department. All plans prepared by HUDA are to be approved by the state Town and Country Planning Department. For all intent and purposes HUDA is treated at par with the private developers and required to pay all charges, fees, levies, duties and conversion charges paid by private developers. Huda operates in urban areas and controlled areas or in new towns. Panchkula is totally planned and developed by HUDA. Recently, state of Haryana has set up city level development authorities for Gurugram and Faridabad.

Punjab Urban Planning and Development Authority (PUDA); In the state of Punjab, urban development authorities came up in the year 1995, with the enactment of the comprehensive town planning act; 'The Punjab Regional and Town Planning and Development Act, 1995'. Act provides for both powers to plan and develop the urban and rural areas. It also provides for preparing Regional Plans and Master Plans for the cities and towns. The preamble of the Act defines the focus and agenda of planned development in the state of Punjab in terms of;

- to make provision for better planning and regulating the development and use of land in planning areas delineated for that purpose,
- for preparation of Regional Plans and Master Plans and implementation thereof;
- for the constitution of a State Regional and Town Planning and Development Board, for guiding and directing the planning and development processes in the State;
- for Constitution of a State Urban Planning and Development Authority, Special Urban Planning and Development Authorities and New Town Planning and Development Authorities, for the effective and planned development of planning areas;
- and for undertaking urban development and housing programmes and schemes for establishing new town; and for matters connected therewith or incidental thereto.

Act provides for constituting both state and local level Development Authorities. Starting with one state level development authority, ie. PUDA- Punjab Urban Planning and Development Authority – state government has now constituted number of Regional level authorities, dividing the entire state under these regional authorities. Regional level development Authorities are GMADA for Mohali Region; GLADA for Ludhiana Region; JDA for Jalandhar Zone; BDA for Bathinda Zone; PDA for Patiala Zone besides Anandpur Development Authority and Dera Baba Nanak Development Authority.

The structure of the Authority, which appears to be based on the structure defined for the Haryana Urban Development Authority, consists of the members appointed by the State Government, namely :- (i) a Chairman ; a Co-Chairman (ii) a Vice – Chairman (iii) a Chief Administrator, appointed from amongst the officers of the Government of Punjab and (iv) not more than twelve and not less than six official and non-official members including the Secretaries to Government of Punjab holding the charge of Local Government and Town and Country Planning. Authority is to perform following functions;

- Preparation and implementation of Regional Plans, Master Plans and New Township Plans and town improvement schemes;
- undertake the work relating to the amenities and services to be provided in the urban areas, urban estates, promotion of urban development as well as construction of houses;
- promote research, development of new techniques of planning, land development and house construction and manufacture of building materials;
- promote companies, association and other bodies for carrying out the purposes of the Act; and
- perform any other function which are supplemental, incidental or consequential to any of the functions referred to in this sub-section or which may be prescribed.

Authority has its manpower, resources to procure land, plan and develop and sell its plots/houses to people/institution by charging the price, it may deem fit. On the pattern of HUDA, PUDA has also its different operational wing. PUDA act is more comprehensive than HUDA Act. Punjab Act, provides for preparing both Regional and Master Plans in the state. Despite elaborate structure, state remains laggard in the urban planning with only 36 master plans prepared out of 157 towns and only one regional plan prepared so far even after 26 years of the law being made operational . Haphazard, unplanned and illegal development appears to be rampant in the state. Issue of unplanned development has genesis in existence and operation of two separate departments of Urban Development

and Local Government Departments, which operates differently in the urban space, leading lot of duplication, overlapping, confusion and contradictions.

Despite creating large number of regional authorities, these authorities remain both ineffective and inefficient due to lack of trained manpower, resources, understanding , capacity and will to undertake planned development. Most of these authorities are managed by the bureaucrats who are frequently transferred and have little understanding of urban complexities. Appointments in such local level authorities , except PUDA, GMADA and GLADA are not being valued and considered of any significance. These authorities are made to run like government departments rather than being treated as authorities having role and importance in managing the cities to make them more livable and productive through the planned/orderly development. Urban development in the state does not appear to be of any significance and value and accordingly is treated with impunity.

Development Authorities: Issues & Challenges

Since their inception, development authorities have undergone various changes to cater to the dynamic needs of growing cities. Post-liberalization of economy (after 1992) saw increased demand for industrialization, commercial activities, and infrastructure. Through efficient planning & better utilization of available resources, these authorities have been able to play greater role in urban development by implementing various development projects involving housing, roads, flyovers, metro rail etc besides focusing on promoting sustainability and launching green initiative to provide a clean & healthy environment to the people at large. Considering India, a fast-developing economy, planned and orderly development is essential to fuel the economic growth. For achieving the objective of orderly and rational development, smart planning and objective implementation of development activities assume critical importance.

Looking at the existing urban scenario, it appears urban development authorities have not been able to achieve the objective of promoting planned and orderly development of the cities. Cities are now facing more challenges in terms of housing, infrastructure, employment, amenities and transportation. Rapid rural-urban migration has led to unplanned, haphazard, sub-standard growth of cities besides coming up of large number of slums and squatter settlements. Developmental pressure exerted by cities have neither been assessed, nor quantified and planned for. Cities on one hand are facing enormous challenge of development, on other hands there exists multiplicity of development agencies operating at the city level with duplication/overlapping of activities without any co-ordination, leading to duplication of efforts and wastage of precious and scarce resources. Development

authorities have assumed monstrous proportions and remain answerable to none. They operate their own agenda of city growth and development. Majority of development problems existing in urban areas can be attributed to the way these authorities operate in the domain of urban development. Further, these city level development authorities are largely responsible for steep rise in prices of the developed land. Holding monopoly, they fix the prices of developed land in an arbitrary manner leading to large scale speculation in land. Policy of auction adopted by these authorities to dispose off the developed land /plots in a limited manner, leads to steep rise in land prices excluding majority of urban residents. Slums have genesis in the very process/practices adopted by these development authorities in planning, development of urban areas. In majority of cases these development authorities operate and behave like private developers with the sole aim of earning money by generating profits using the mechanism of urban development. In fact, development authorities need to be made accountable for all issues related to development.

In majority of states, there exists conflict of interests in the urban space due to operation of two distinct entities involving urban local bodies, who are mandated to manage the urban areas and the development authorities, who only looks after the development of the cities. These two institutions need to be merged and brought under single umbrella to collate their strength and synergies them. Local bodies should look at the urban governance issues and development authorities should operate as the technical/development arm of the urban local body at local level. Multiplicity of agencies need to be avoided and all development agencies existing/operating at local level should be merged into a single agency. Development authorities need to be made more professional and made slim and trim to operate efficiently. Mandate should be to promote development of urban areas, exploring all options and making optimum use of available resources to make urban development sustainable, inclusive, safe and resilient.

Chapter 16

WAY FORWARD--Making Affordable Housing A Distinct Reality

Insight Report on,' Making Affordable Housing A Realty in Cities, states that';

A world in which only a few can afford housing is not sustainable. Everyone deserves a safe place to live: it can transform the quality of life of individuals and families. Today, however, most cities around the world are facing major challenges in providing safe and adequate housing for their people, especially cities that are growing rapidly and where the affordable housing options are limited. Even those who earn steady wages are unable to buy or rent affordable housing. Rents remain alarmingly high and out of line with incomes forcing many to pay more than 50% of their income each month on housing. Key workers such as teachers, police officers, firefighters and nurses cannot afford to live near the communities they serve, instead having to bear the costs – in time and money – of commuting. The extent of the affordable housing challenge, however, varies across geographies. The housing market is affected not only by market conditions but also by socio-political factors, environmental factors and the regulatory landscape of countries and cities. Finding solutions in a particular city requires a broader understanding of what constitutes affordability and the factors that affect it. Ensuring the healthy functioning of the housing market requires actions that address interdependencies on the supply-side while stimulating interventions on the demand-side.

Conventionally, housing for EWS/LIG sections of the economic/social pyramid (which remains the core of housing problem in urban areas) has been considered largely the responsibility of the parastatal agencies with limited role assigned to the private sector. However, considering the large demand for housing in this segment, most of the developers have started working on the affordable housing to explore the depth, breadth and length of the demand on a long-term basis. With major initiatives in the urban development being taken at the national/ state level including launching of National Urban Housing and Habitat Policy, 2007(NUHHP); Jawaharlal Nehru National Urban Renewal Mission (JNNURM), 2005; Basic Services for the Urban Poor (BSUP); Integrated Housing and Slum Development Program (IHSDP); Rajiv Awas Yojana (RAY) , Affordable Housing in Partnership (AHIP) and the Pradhan Mantri Awas Yojna (PMAY), 2015, with prime focus on the housing of the lower end of the pyramid, has led to affordable housing emerging as the priority area. Further, industry analysts and developers have started believing that, if the government takes the initiative to remove the roadblocks, the segment could move to fast trajectory of growth and development. Developers feel it is possible to have a profitable proposition in affordable housing if the project and cost management are made very strong.

Improved technologies can help in reducing timeframe and cutting down cost of construction to a large extent. Context of design of dwelling unit and standardization of housing units/components can help in cost reduction. Further, economies of scale and developing a standard product can keep the cost low. Thus, project design and construction management can lead to making the affordable housing projects risk free and profitable, considering the huge latent demand with salability not an issue. To create large stock of housing in the country and to put affordable housing on fast track of growth and development, following options are suggested:

- **Reviewing, Revising and Redefining National Urban Housing Policy**

First urban focused National Housing and Habitat Policy was put in place in the year 2007, which defined the context, issues and agenda for the urban India to achieve the objective, 'Housing for All'. Despite making the policy operational for more than 13 long years, affordable housing still remains elusive to majority of urban residents. In fact, gap between demand and supply has been seen to be widening, particular in the category of economical weaker sections and low-income groups. In order to bridge the ever-widening gap and achieve the objective of providing housing to all, government of India launched PMAY(U) in the year 2015, to be concluded in 2022, on the eve of 75 years of India attaining independence, by creating 10 million dwelling units in the affordable category, through a four-pronged strategy. Looking at the pattern of urban growth and rapid migration, it appears difficult that every urban resident will ever be able to have appropriate shelter. This calls for reviewing and redefining our housing policy to make it more rational and realistic. With changing contours of urban India, due to rapid growth and migration, urban fabric is undergoing rapid change. Prevailing high cost of urban land has led to exclusion of majority of urban residents from formal system of sourcing shelter. With innovations made, building construction technologies have undergone rapid changes with capacity to create large stock of housing in shortest possible time at most affordable cost. Prevailing institutional framework has not been able to deliver adequate housing stock. Accordingly, it will be desirable that learning from the past experience coupled with looking at the future of urban settlements and learning from successful global good practices, new housing policy should be immediately framed and put in place after due consultation with all the stakeholders and parastatal agencies. This would help in laying down a roadmap and redefining our approach to achieve the target of *Housing for all*.

- **Understanding the Future Urban Context**

Housing remains a major issue in the urban settlements, because of large number of people migrating from the rural to urban areas in search for better options of livelihood,

employment, income, infrastructure, education, healthcare etc. Majority of migration is the outcome of searching for better life and better options of earning and learning, and as such it is rural poverty which predominately migrates to urban areas. As per projections made, India is on the verge of rapid urbanization, population growth/explosion, becoming most populated nation globally and second largest urban system after China in the world. Since urban India is going to grow exponentially, both in size and the contents, it will be critical to understand the future pattern of urbanization. Understanding the contours of future urbanization will help us understand the quantum of housing and infrastructure related problems likely to emerge in future, and will help us prepare to meet those challenges effectively and rationally. Accordingly, it will be desirable that Government of India, should immediately set up a *High Powered Group of Experts* on the pattern of National Commission of Urbanization, with a mandate to study in detail and make recommendations regarding the future pattern of urbanization in India; spatial and physical distribution of urban population and economic activities at the regional and settlement level; capacity of existing cities to absorb population; need for creating new settlements; creating additional and appropriate avenues of employment; assessing future infrastructural requirements of cities including shelter; options for making cities more livable, productive, sustainable, safe, resilient and inclusive etc. Study and analysis would help nation/states/urban centers to prepare a realistic agenda/roadmap in a coordinated, realistic and rational manner, for meeting the future challenges and enable urban settlements to play their defined role in promoting employment, generating prosperity, removing poverty and making available appropriate quality of life to all urban residents. Cities should aim at defining a research-based, long-term vision of anticipated growth for the next 25-30 years, with a plan to phase housing development in important areas. A flexible and transparent land policy should encourage different forms of development that create avenues for affordable housing, accounting for land holdings of all public agencies.

- **Prioritizing Regional Planning to minimize Rural- Urban Migration**

Large scale migration of rural poverty to urban areas has emerged as the major cause for housing shortage and mushroom growth of slums and shanty towns in urban areas. Every fifth urban resident in the country is migrant from rural hinterland. As per studies carried out by Government of India, migrants in mega cities like Mumbai and Delhi, constitute 42% of total population of these cities. With large cities offering better options of livelihood, infrastructure and employment, pace of migration to these metropolitan and mega cities is also going to increase rapidly. Since these migrants have limited financial capacity to hire appropriate housing, they all end up in either derelict housing or in slum areas. Considering the fact that India is going to be the most populated country by 2051, with

projected population placed at 1.6 billion, cities are going to witness enormous influx of migrants. Urbanization level is estimated to go up to 50% as against prevailing 31.1% (Census 2011), and urban India will have a population count of 800 million in 2050 as against 378 million in 2011. Another urban India is waiting to be added in four decades (2011-2051). Accordingly, it will be appropriate that migration to urban areas is reduced and minimized. To achieve this objective of limiting migration, rural areas would require support and empowerment in terms of better economic opportunities, improved services, infrastructure, skill development, education, health care, industry based on Agri-products created in the rural settlements. This requires creating synergy between urban and rural settlements based on adopting Regional Planning as the theme/option for integrated planned development of both rural and urban settlements, rather than focusing on urban areas. Regional planning holds enormous capacity to empower rural areas and reduce migration besides; making optimum use of available resources and promoting rational sharing and clearly defining roles and functions in the domain of development between urban and rural settlements. The strategy will help in making cities and villages better places to live, since majority of urban problems have their genesis in the neglect of rural areas.

- **Registering Migrants**

Housing as a sector, always remains evolving and devolving, never static. In the absence of adequate and reliable data, it looks impossible to have fair assessment of the housing need at any place/settlement. Most of the figures given about housing are the outcome of the data released by various central/state level agencies. Data available remains both hazy and inadequate. In order to have a fair assessment of the housing requirements, it will be desirable to create a realistic and reliable data system at settlement level regarding the availability of housing stock, both in quantitative and qualitative terms. This would help in giving a clear idea about the status of housing in any settlement which can be consolidated to get the housing status at state/national level. Further all cities must introduce a system of registering migrants and recording their housing needs. Further, documenting how people are housed in the city, will help in evolving appropriate strategies for meeting their housing needs. This data would require up-dation on regular basis. Sharing of data and creating a national register for housing will help in not only eliminating duplications and multiplications in registration but will also help in minimizing speculation in housing besides giving a realistic assessment of housing need.

- **Identifying Right Beneficiaries**

Identifying right beneficiaries remains the most complex and challenging task in developing countries, who are in the process of massive and rapid urbanization. However, different countries adopt different approaches to identify beneficiaries eligible for affordable housing. Two different strategies are seen to be followed revolving around- either a targeted or universal approach. In countries such as the US, Canada, Malaysia and India, vulnerable and low-income households are targeted for provision of affordable housing. In countries such as Singapore, the Netherlands, Sweden and Denmark, the entire population is considered to be eligible for affordable housing. The Netherlands, for instance, has the highest share of social housing in the European Union, representing about 32% of its total housing supply and 75% of its rental market, which helps to keep homes affordable (Fidler & Sabir, 2019). While household income is the primary determinant for eligibility in most countries using a targeted approach, other social and demographic factors may also be considered, such as household size, number of children, citizenship status, cast, duration of stay and prior asset ownership. Countries that use a universal approach may also consider these factors. For instance, Singapore caters primarily to “family units” with preference going to married couples: Single people to become eligible for purchasing a flat need to be 35 years old ; unmarried people, even with children, are treated as singles; and older residents without families are encouraged to move to smaller flats. However, in Singapore, one has to be resident of the country. Visitors/migrant are not eligible to buy/allotment of any house and can only rent from the local citizens. It is generally presumed that all slum dwellers need to be provided with shelter by the state/parastatal agencies and they must be included in the list of beneficiaries. This has led to inclusion of large number of people who do not deserve and are not eligible to be included in the list of beneficiaries requiring shelter. Effective and efficient monitoring mechanisms need to be put in place in order to ensure that schemes actually benefit the intended beneficiaries: In the absence of such a mechanism, governments may end up subsidizing beneficiaries who are not those most in need. Conversely, there may be a situation where affordable homes targeted for a certain income bracket are occupied by those below it. In a recent survey of affordable housing units in Austin, Texas, targeted at those earning under 50% of median family income, it was found that the intended occupants had left the area because it lacked decent access to urban transit and public education; instead, the units were serving some of the poorest households in Austin, earning as low as 17% of median family income (Masino & Vanstone, 2018).Majority of problems in housing sector has genesis in wrong identification and targeting of beneficiaries while assessing housing need. In order to rationalize the entire mechanism of affordable housing it will be essential to evolve a system which eliminates possibility of including wrong beneficiaries. Targeting right beneficiaries will not only help in making

realistic assessment of the housing need, rationalize allocation of resources but will also go a long way in eliminating large number of malpractices prevailing in the affordable housing sector.

- **Minimizing Multiple ownership of Housing**

Housing, as a sector suffers from the malaise of abundance with few but scarcity with large population. This phenomenon has genesis in the practice of having multiple house ownership of cities. Unfortunately, housing in India is considered a highly productive and profitable investment, yielding high dividends. People tend to invest surplus funds available with them for buying housing, leading to creating multiple ownerships. In large number of cases, these houses remain vacant because it is easier to sell a vacant house as compared to an occupied house. Already Census has recorded large number of houses, which remain vacant even in the urban India, where housing is in large demand. In order to minimize the speculation in housing, appropriate policy framework needs to be created and made operational, to discourage and disincentivize creating multiple housing ownership and where created, such houses must be made available for use in the city to house people seeking shelter on rental basis. To minimize multiple ownership of dwelling units, Singapore has already mandated that no individual can own more than two dwelling units at any given time in the entire lifespan. Even when dwelling units gets devolved on the basis of inheritance, the said dwelling units shall not exceed the stipulated number of two, with additional units disposed off in the market.

- **Making Affordable Housing Integral part of Corporate Social Responsibility**

In order to allow large flow of corporate funds in the housing sector, affordable housing must be included and made part of CSR list, permitting large corporate houses to invest in making addition to the affordable housing. This will help in creating large housing stock on regular basis in the country. However, it needs to be ensured that affordable housing created under the CSR initiative is not misused and abused for profitable or personal gains by the company. Appropriate framework will be required which will ensure that affordable housing thus created is made available to the people/employees on rental basis.

- **Adopting project-based approach**

Affordable housing is always looked at as losing proposition which invariably involves an element of subsidy for making it affordable. Accordingly, it is avoided by the builders and developers. Considering elements of cross-subsidy and cost-reduction, a project-based approach should be adopted for creating mass housing instead of taking up stand-alone

projects for affordable housing. To make project viable and self-sustaining, all housing projects should invariably involve mixing of all categories including HIG, MIG besides EWS and LIG. While HIG and MIG houses should be permitted to be sold at market prices, EWS/LIG houses should be offered at subsidized rates. Subsidy amount in lower categories can be compensated by the amount of profit generated in the sale of higher end houses. Making provision and addition of commercial component would help in making project profitable and attractive for both public and private sectors.

- **Promoting strong project and cost- management**

Effective and efficient project management is considered most vital in the case of construction projects involving low-cost and cost-effective housing. It is all known that affordable housing is not a profit game but a volume game in which houses are all sold when completed and there is no leftover inventory for speculation. In order to minimise time span for completion of the project, bring high degree of cost- efficiency and to eliminate time and cost-over run, it will be critical to adopt strong project and cost-management approach in the planning, designing and construction of the project to achieve the desired results.

- **Adopting Single Window Clearance**

Time is always considered as money in any construction project. Accordingly, delayed projects invariably involve higher incidental and operational costs, making project cost-intensive. Considerable delays are caused in according approval of the projects by the competent Authorities besides giving completion and occupation certificates. For ensuring early completion of the project and to avoid any cost escalation, it will be important to put in place an effective and efficient mechanism of single window clearance to ensure approval of the projects on a time bound basis within a prescribed time frame, not in any case exceeding three months. Shorter time frame needs to be framed for granting completion/occupation certificates, for logical/timebound conclusion of the project.

- **Creating Land Bank**

Non-availability of right quantity of land, at right place, at right time and at right price remains the greatest roadblock in creating large stock of affordable housing in all urban settlements. In order to ensure the creation of large stock of affordable housing through the active involvement of corporate, co-operative and private sectors, it will be important to create dedicated *Land Banks* within all parastatal agencies involved in creating/promoting housing in the state. Making available, off the shelf land parcels with all required clearances, to developers under a Joint Venture mechanism, will be a game changer and

major propeller of affordable housing in the urban areas. Accordingly, all parastatal agencies involved in housing and real estate development, must be mandated to create land banks within the organisations so that land for affordable housing could be made readily available. In addition, all public land held by the government/parastatal agencies must be documented and evaluated for suitability of housing development and made available to appropriate agencies within a well-defined framework. Parastatal agencies should also be asked to leverage innovative mechanisms for sourcing land for affordable housing from time to time to make addition to the land bank.

- **Adopting Innovative and state of art architectural designs**

Innovative architectural design options/solutions are known to lower down cost of construction, reducing timeline for construction, creating large housing stock in minimum time- frame. Accordingly, promoting/adopting innovative and state of art architectural design would be a pre-requisite for creating cost-effective affordable housing. State of art architectural design should include achieving highest building efficiency, optimum utilization of land resource, optimum structural design, cost-effective building technologies/services, use of large pre-fabricated components and minimum of maintenance and upkeep. Creating innovative design options should be based on the outcome of carrying out detailed study and consultation with the beneficiaries, studying local culture, prevailing climate conditions, using available local materials and making use of existing technologies besides understanding living habits of the beneficiaries. Professional institutions like Indian Institute of Architects should also be actively involved in the process of evolving most appropriate designs by holding dedicated competitions in the category of affordable housing. Studies have indicated that smaller spaces should be cheaper to build and use less energy for heating and cooling, though they still need to be comfortable and functional and comply with local regulations. MIT's Media Lab has developed an 18.5-square-metre prototype apartment with the functionality of one that is three times its size: It uses transformable furniture that can

be flipped, moved and stowed by hand gestures and voice commands (Rhodes, 2015). In San Francisco, Wow believes it can bring down apartment costs by 30–50% by using space more efficiently (Littman, 2018). In India, Carlo Ratti Association- a non-profit organization, 'We-Rise' have developed Living board, a flat-pack housing solution for self-builders, currently being piloted near Bangalore (Dexigner, 2018). In New York, creative agency FramLab has proposed temporary shelters for homeless people in the form of 3D-printed hexagonal pods that can be attached to windowless facades (FramLab, 2018). Another potential space-saving solution is for low-rise multi-family units (three to four storied) to be connected through bridges, enabling them to share stairwells and lifts (Gopalan &

Venkataraman, 2015). A “fabric-first” approach to construction involves maximizing the performance of the materials that make up the building fabric, to minimize operational and maintenance costs (Designing Buildings, 2018). It includes the “passive house” concept, where buildings require little energy for space heating or cooling (Wikipedia, n.d.). One emerging concept in sustainable design is the green roof: covering a building with vegetation, soil, drainage layers, barriers and irrigation systems. Green roofs can lower costs from heating and cooling requirements,

and reduce the number of drainage outlets that would otherwise be required to guard against flooding; they also last two or three times longer than traditional roofs. The Nightingale Housing model in Australia is an example of delivering high-quality, environmentally sustainable, affordable homes. It addresses three types of sustainability concern: financial sustainability, such as reducing living costs by negotiating wholesale energy (heating and cooling) and internet contracts; social sustainability, being designed around a manageable size of 40 housing units sharing semi-private spaces such as rooftop gardens; and ecological sustainability, such as providing no parking spaces and contractually obliging buyers not to own a car (Sorthe, 2018). However, state of art design for affordable houses will have variance, depending upon the climate, culture, economy, social habitats, requirements of heating/cooling/ventilation, materials/technologies used in construction of housing.

- **Promoting Standardisation of building components**

Non- standardisation of various components and large variety of materials used in the design of the buildings have been found to be the prime cause of increasing cost of buildings due to large scale wastage generated in making the building components. Accordingly, it will be critical that available sizes of raw materials available in the market should be used as the basis of designing buildings so that such wastage is minimised. Accordingly, it will be appropriate that for making house cost-effective, focus should be standardisation of designs for a particular region based on the available sizes of the building materials. Standardisation of various building components, based on available size of materials will help in promoting pre-fabrication, reducing wastage, minimising cost, promoting quality and achieving economy of scale through their industrial production on mass scale. It will also go a long way to reduce time frame of construction and labour component involved in the making of the housing to make it affordable.

- **Reviewing and Rationalising Planning Norms**

Major roadblock in large supply of affordable housing is the perpetual shortage of developed land in the urban areas. Major cause for such shortage can be attributed to the norm and standards specified for planning of colonies by various Development authorities, Improvement Trusts, Urban Local Bodies, State Town Planning Departments etc. With residential component limited to 50% of the total area of colony and remaining 50% of land mandated to be used for other purposes including green spaces, roads, parks, institutions, electric/public health services etc; amount of land available for housing remains low. This component needs to be increase to minimum 60%, which can help in increased availability of land for residential areas and creating larger housing stock within the given area.

- **Changing Typology of Housing/Buildings**

Shifting from plotted development to flatted development, can further help in optimising the available land resource by creating more dwelling units in the same area. Where it is considered essential to provide plotted development, size and proportion of large sized plots needs to be restricted. Not more than 15-20% land in any colony should be permitted to be used for plotted development with maximum plot size placed at 300sqm. In order to provide adequate supportive infrastructures, the prescribed land norms would also need review, revision and redefinition, based on use of land on the principle of 24x7x365. In case of plotted development, it needs to be mandated that the plot owner shall construct the building consuming entire floor area ratio, so that area does not remain unused. It has been seen that in majority of cases, more than 30-60 % of the permissible constructed area remains utilised at city level, due to less construction carried out on residential plots. Several reasons can be attributed for under-utilisation of the built- up space in the urban area. Local authorities/agencies regulating the construction on the plots must make it mandatory to construct the entire permissible covered area on the given size of plot, within a given timeframe. In case of limitation of resources available with the plot owner, adequate funds for construction of unbuilt area, need to be made available by financial institutions, to enable owners to undertake remaining construction. Alternately, the owner should be permitted to sell floor-wise area to different persons for constructing the dwelling units. Such a strategy can help in making large addition to housing stock and provide option of having a typology of housing beyond flatted development. This can also help in making speedier construction of houses, as has happened in Chandigarh. Such a mechanism has attracted large number of private builders, who are known to buy plots having less construction and reconstruing number of dwelling units permitted either on sharing basis with the plot owners or making outright sale and reconstructing the entire building for sale. In such option, smaller plots can play vital role in creating large stock of affordable housing

either on rental basis or for outright sale. Considering the limited availability of land, Singapore has already prepared a road map for converting all plotted development to flatted development, in order to meet the increasing demand for housing in the island. A detailed survey for the island has been conducted about the number of existing houses occupying exclusive and independent sites. All these landowners have been informed that their plots shall be taken over by the government to create multi-storeyed housing to create larger housing stock in Singapore. This has been done considering the larger public interest in view as against promoting and safeguarding the individual interests. In order to overcome the acute shortage of housing for the students and single working manpower, the Mayor of New York, permitted the construction of service apartments on the huge flat area available on terraces of all multi-storeyed buildings existing in the Manhattan. Number of such options exist in each city, which can be leveraged for making addition to affordable housing stock by making optimum utilisation of available land.

- **Optimum Utilisation of Vacant Government Land**

Large number of land parcels belonging to the government and para-statal agencies, are available in each city, occupying large proportion of the city, which remain unused, abused, misused and under-used for number of years. These areas are often encroached and many times converted into slums etc. For creating large housing stock in the affordable housing category, these lands need to be appropriately used. Punjab government has already put in operation a scheme by the name- Optimum Utilisation of Vacant Government Lands (OUVGL), which involves identifying all such government land parcels available with different departments, plan them, develop them and dispose them off for construction of residential, commercial, institutional spaces. Punjab Urban Planning and Development Authority has been declared as the nodal agency to identify such land, do a detailed analysis about the potential of such land for urban uses and then to plan, develop and dispose of the different land parcels by open auction based on pre-defined reserve price, as defined in the approved plans. This has helped in increasing supply of the developed land within the urban market. Scheme, with appropriate modifications, can be considered for applicability by other states with a focus to use part of the land for creating affordable housing at the local level. Similarly large amount of derelict land parcels remain available in large cities due to closure of industrial units involving change in manufacturing technology/products getting outdated/financial or operational problems etc. The land under these industrial units, which remain located in the core of the city, should be permitted to be used for residential/commercial purposes by granting change of land use on time bound basis. This will help in making large addition to urban land, which can be appropriately

used for creating housing stock for the city and meeting its various shelter related demand for urban population.

- **Creating Land Development Agency**

In all countries, state and local level parastatal agencies own huge parcels of land which can be effectively utilized for creating large stock of affordable housing. Ireland has recently created the Land Development Agency to optimize use of publicly owned land to speed up the delivery of new homes. Agency is building a comprehensive database of land owned by all government departments and state bodies, and seeking opportunities to collaborate strategically with nearby private landowners to facilitate development. Such agencies and data base of the land owned should also need to set up at the state/local level by all nations, to make optimum use of such lands Source: (Coleman, 2018) and (Melia, 2018).

- **Providing Higher Floor Area Ratio/ Density**

Floor Area Ratio and Density are the two major determinants for achieving optimization of land resource and rationalizing the housing cost. Making available higher Floor Area Ratio and redefining density, based on available infrastructure and carrying capacity of the areas will help in optimising land utilisation, create larger housing stock and making housing cost-effective by lowering cost of land for each dwelling unit. Where possible, making appropriate addition to existing basic infrastructures, will help in specifying higher floor area ratio for achieving higher population densities and creating more dwelling units. Singapore model of optimum utilisation of land based on the premise- Limited Land Unlimited Space—can be studied and made applicable in few selected areas of the city, to create large volume of built space/dwelling units consuming minimum land. Adopting volume based approach to housing design, in the planning norms, instead of area based norms, can help in better utilisation of space within the buildings by offering options to architects to create more dwelling units within the given height.

- **Making Optimum Use of Existing Vacant Urban Land within Cities.**

It is observed that in almost all urban settlements of the country, large parcels of land under private ownership and land developed /allotted by the development agencies, within the urban limits, are either vacant/ under-utilised /not used to their optimum capacity, based on the permitted floor area ratio, height, density, number of dwelling units, covered area etc. The unused capacity ranges between 25- 40% of the total built up area in the city. In addition, large parcels of land also continue to be used for agricultural purposes within urban limits. Irrational use of land /land speculation remains the major cause of inefficient functioning of land market and prevailing high cost of urban land. In order to ensure that

the entire quantity of urban land is put to optimum use, as ordained in the Master Plans /Development Plans/ Building Regulations, owners of the land need to be mandated to complete the permitted construction, on the parcels of the land owned by them, within a reasonable period to be specified, failing which they need to be penalized by levying fee for the unused portion of the permitted built area. Levying of penalty on yearly basis, can help in bringing large unused/underused land into the urban market, lowering the cost of the land and making available large amount of residential built area . To achieve the objective, government has to put in place innovative policies and programs to incentivize the land owners to build the unutilized part of the covered area. This would require enabling legal framework for permitting the landowners to sell the right to roof without losing the ownership of land. In addition, government must facilitate the landowners with softer/easier loans from financial institutions, for undertaking the construction of unbuilt areas to create large housing stock in the city. In a low-income settlement centrally located in Maputo, the capital of Mozambique, where residents were having land rights (DUATs) but the homes were of poor quality. The city used a “land readjustment” approach as part of its affordable housing initiative, *Casa Minha (My House)*, giving rightsholders the option of having new two- or three-storied houses built on their plot – one of which would be for them, and the other sold at market rate, which would be affordable for key workers (Centre for Affordable Housing Finance in Africa, 2018). The policy can be leveraged in the slum areas by empowering the slum dwellers and creating larger housing stock in the affordable sector.

According to Insight Report on Affordable Housing,” another way to encourage more intensive land use could be shifting to a recurring land-value tax model, in which the underlying value of the land is taxed, rather than the property on the land. Land-value tax can also help deter speculative land holding and bring underused land and properties into the housing market. As foreign investment commonly adds to speculation, Vancouver passed a 15% tax on sales to foreign buyers (Fidler & Sabir, 2019). A similar challenge applies to underused land or properties. According to a McKinsey Global Institute analysis in 2016, 28% of parcels zoned for multifamily development in Los Angeles were underused and could add more than 300,000 units to the city’s housing inventory. In San Francisco, the number was 31% (McKinsey Global Institute, 2016). Vacancy taxes can also encourage development of such properties. Saudi Arabia has implemented a “white land tax” to encourage landowners to develop idle plots for residential use. In Vancouver, properties deemed empty are subject to a tax of 1% of assessed value (City of Vancouver, 2018). Every residential property owner is required to submit a property status declaration each year, and the city has projected that this tax will raise \$30 million (Chan, 2018). Some cities have enforced policies on bringing vacant properties into the affordable housing market.

Barcelona has identified 2,000 unoccupied homes repossessed by banks, mostly after the 2007 financial crisis, that have been unoccupied for two years. When these are in high-demand areas, expropriation orders are issued to put the property into the socially rented sector for four to seven years. Banks found to be concealing empty properties to avoid the edict were made liable to pay fines (O’Sullivan, 2018) While vacancy rates of a few percent are important to lubricate markets, in many middle-income countries they are concerningly high. More than 12% of homes in Indian urban areas were found to be vacant by the 2011 census (Gandhi & Munshi, 2017), and in China the figure is 22% – including second homes and temporary units – according to the 2015 China Household Finance Survey (Wong, 2017). It is often difficult to get reliable data on vacancy rates. Research organization Prosper Australia has been using water consumption data in Melbourne to estimate when a property is vacant; complications include accounting for water leaks, single meters on entire apartment blocks, holiday homes etc. Similarly, Paris analysed electricity consumption to estimate the number of vacant homes and offices in the city. Detroit combines geo-spatial analysis with on-the-ground surveys and site photos cross-referenced with municipal data (Cashmore, 2015).

- **Converting unused space into Housing**

Where practical and possible, efforts should be made to promote the conversion of offices, underused or de-commissioned land or buildings for residential use. In Massachusetts, 65,000 square feet (6,000 square metres) of unused buildings were turned into mixed-income affordable housing by Harbor Place Residences, Merrimack Street Ventures, the Planning Office for Urban Affairs and the Greater Haverhill Foundation (Riggs, 2018). Another option which has been leveraged is to extend existing dwellings (garage apartments, basement apartments, backyard cottages etc.) or building on parking spaces. In the UK, where nearly 50% of car parks are publicly owned, the company ZED Pods provides flexible, prefabricated homes to build over surface car parks. Real estate firm JLL has identified 10,500 car parks that could accommodate 400,000 households (Dale, 2017)”. In Germany, companies operate and specializes in converting vacant and neglected rental properties into affordable rental housing. A recent study of 77 large cities in Germany revealed a shortage of 1.9 million affordable apartments. Grand City Properties, a residential real estate company, specializes in acquiring under-rented and undermanaged residential properties – mostly neglected by their previous owners – and reducing vacancies through repairs, maintenance and improved management quality. The company also invests in playgrounds and open spaces, and provides services such as assisting those with language barriers to interact with German authorities. The city of Los Angeles recently passed a Motel Conversion Ordinance that allows conversion of motel rooms – typically by

adding small kitchens – into permanent housing for homeless people, regardless of current zoning requirements. The ordinance will also slash parking requirements and allow “permanent supportive housing” projects to be taller and denser. Source: (L.A. Times, 2018) and (Reyes & Smith, 2018)

- **Adopting State of Art Building Technologies**

Projections made by World Economic Forum has stated that for meeting the demand for improved housing for three billion people on this planet by the year 2030, countries on this planet will have to construct 96,000 houses on daily basis. Considering the fact that about one-fourth of global housing shortage would be in the country, India, as a nation, will have to construct 24,000 dwelling units on day to day basis to achieve the target of housing for all. That means 1000 houses to be constructed every day and 17 houses to be completed every minute in the country. Achieving the target would be impossible without the support of a state of art time efficient and cost-effective technology.

Technologies are known for their role, importance and capacity to lower down cost of construction, reducing timeline for construction, creating large housing stock in minimum time- frame. Promoting state of art and cost-effective building technologies will be critical for reducing not only period of construction but also lowering the cost of construction. Globally, nations, developers and development agencies are actively involved in looking at the most cost-effective building technologies to reduce time and cost of construction of buildings. These technologies have greatly helped in achieving the defined objectives also. All good, cost-effective, energy/resource/time-efficient construction practices need to be documented, studied and analysed for their suitability and adoption at local level. Suggested technologies have to be resource and material efficient, creating minimum waste. Such technologies have to be based on available skills, so that they can be effectively used at the local level. Pre-fabrication, as an innovative technology, has brought in revolution in the construction sector by reducing construction time, minimising waste, lowering down the manpower required and shifting majority of construction from on-site to off-site. – printing technology has been found to have enormous potential to create high-quality houses in a limited time and fraction of cost of traditional construction. Using 3D printer, house has already been made in Europe, which have been occupied. In India, 3D printer home with an area of 56 Sqm was built in state Tamandu in just 5 days period at a cost 30% lower than cost of normal construction. Considering the opportunities offered by 3D printers, to create cheaper and faster housing, if the technology can be further improved, refined, promoted in scale and made more efficient, it will have enormous capacity to put roof over millions of homeless people. Using promising tools include building information modelling (BIM), can

help identify issues in a structure before it is physically constructed, and 'Buildings as Material Banks'(BAMB), a way of tagging and monitoring building materials and data analytics can improve the accuracy of cost and time estimates. Automated equipment such as self-driving bulldozers and bricklaying robots can also improve productivity: Built Robotics, a company launched in 2016, has used an autonomous tracked loader to excavate a site for 700 homes in Lathrop, California (Kendall, 2018). New York-based Construction Robotics has developed a bricklayer robot, SAM (Semi-Automated Mason). running along a track and building a straight wall, SAM can lay five to ten times more bricks than a human bricklayer – more than 3,000 in an eight-hour shift, with a margin of error that can be measured in millimeters. It is currently being operated on a few sites across the US. Perthbasedn Fastbrick Robotics has developed Hadrian X, a truck-mounted robotic arm that can “print” a house using blocks 15 times larger than a regular brick, placing them more than 30 meters away with sub-millimeter accuracy. The firm is piloting its technology in Mexico in partnership with GP Vivienda, one of the country’s largest construction companies. Source: (Wilkinson, 2018; Tchertvertakov, 2018)

- **Reducing and rationalising government levies, charges, fees and taxes**

Government charges, fees, taxes etc form considerable proportion of the total cost of housing, which unfortunately is being increased from time to time. In order to reduce the cost of the house, it will be desirable that these charges are rationalised and minimised, to make housing affordable in real sense of the term. Reducing these charges would involve redefining land use conversion charges; plan scrutiny fee, internal and external development charges. In all affordable housing projects, no land use conversion and licensing charges should be levied, building scrutiny fee should be charged @25% of prescribed rates whereas EDC should be charged @50% for EWS and@ 75% for LIG categories. Haryana model for affordable housing can be considered for adoption with appropriate modifications for making affordable housing a distinct reality. The City of Portland, Oregon, recently estimated that “government fees” added an average of 13% to total housing development costs. In 2010, the city waived development charges on construction of accessory dwelling units (ADUs) – which has ranged from \$8,000 to \$11,000–and applications increased fourfold (Bertolet, 2017).

- **Creating Long term Tie Up of conventional materials**

Due to longer gestation period of the construction projects and other externalities, it is observed that not only the cost of essential materials invariably goes up but also sometimes their supply is also disrupted, which adversely impacts the sustainability of the project. In order to hedge the projects against the cost-escalation of essential materials including

cement, steel, bricks, tiles sand, wood etc and to ensure the assured supply of critical materials during the project life cycle, it will be desirable to have long term tie up with the producers/suppliers of such materials.

- **Adopting co-operative-based approach**

Co-operative system is known for its strength and distinct advantages for involving all the stakeholders in any project by pooling their resources, labour, skills, knowledge, understanding and expertise in any given endeavour. This mechanism needs to be effectively leveraged in creating affordable housing. Creating co-operative societies of beneficiaries, adopting co-operative-based approach and promoting co-operative culture would be vital for involving stakeholders, sourcing their support and resources for creating adequate housing stock, minimising transfer of such units and procuring easy loans from financial institutions. Encouraging people/stakeholders/beneficiaries to form co-operative societies and making allotment of land to such societies on preferential basis by parastatal agencies and development authorities, can help in promoting co-operative culture and creating large housing stocks in the affordable category.

- **Treating Affordable Housing a volume Game**

Major component of housing cost constitutes of the undue profit made out of the sale of the house besides the cost of construction. Accordingly, for making the affordable housing really affordable, the middlemen profit has to be minimised. In addition, element of speculation needs to be eliminated to rationalise the cost of housing. Affordable housing is not to be treated as a profit game but a volume game based on the principle of creating large housing stock with minimum cost, within a short span of 18-24 months and disposing off the entire stock within the time span of the project. Taking up large housing projects with number of units ranging from 1000-1500 for promoting economy of scale have proved to be highly successful in promoting affordable housing

- **Separating 'Right to Shelter from Right to Ownership of Shelter'**

Shelter remains the basic human requirement, which needs to be made available to all human beings to lead a civilised and dignified life. All civilised society should accept providing appropriate shelter to all its inhabitants as the basic human/fundamental right. But this right to shelter should not include the right to own the shelter. For achieving the objective of housing for all the, '*Right to shelter must be separated from Right to Ownership of Shelter*'. This concept will help in promoting optimum utilization of the available housing stock, minimising speculation and eliminating transfer of affordable housing to non-beneficiaries/ higher strata of society

- **Graduating from Creating Ownership to Providing Shelter**

Considering the gigantic task of housing the second largest population of the planet with limited availability of land and resources, India should close the option of creating ownership for housing for all. Making available shelter should be the focus of all the housing policies and programs launched by parastatal agencies. This will help in creating large volume of housing stock in the country and will minimise the multiple ownership of houses besides putting all housing stock to use.

- **Encouraging Construction of Housing**

In order to overcome the shortage of housing, efforts must be made to promote the construction of affordable houses on large scale. This would essentially involve flow of large funds in the housing sector. Stock markets have emerged as one of the mechanisms in free markets for channelising flow of large amount of funds in different sectors. Government must leverage the strength of the stock market to generate funds for housing which will help in overcoming the shortage of funds for construction of housing in the country. In addition, all development authorities should be mandated to promote housing construction on continued basis at local level. For making housing attractive destination for investment, it should be made cost-effective and time efficient, ensuring adequate returns. Encouraging formation of large number of housing companies, listing the housing stock on the stock exchange and providing incentives to companies dealing with real estate can help in promoting affordable housing on large scale.

- **Promoting Rental Housing by State Agencies**

Rental housing in India has very low penetration unlike many developed economies which have emphasized on affordable or social rental housing that constitutes up to 20-30 percent of their housing stock. In these countries, governments play large critical role in promoting social housing as most of the rental houses are provided by government or by limited or nonprofit housing associations that utilize government incentives (KMPG). In order to promote rental housing, in addition to rationalizing the Rent Control Act, Government of India must mandate that houses constructed by the State Agencies should not be put on outright sale and should only be created as Rental Housing, to be made available to all the migrant, poor, students and those who are in need of shelter in the city. Protecting and expanding affordable housing on rental basis, as a mission approach, needs to be leveraged in the urban setting. Such a strategy will not only help in having ready access to shelter for the migrants, but will also eliminate the emerging problem of mushrooming of slums in the cities. However, rent fixed for the housing should be both reasonable and affordable. Offering variety of shelter options, should be based on

affordability of the hirer. Government must come out with innovative options to make shelter for all a distinct reality. Rental income coming from such housing, on continued basis, for a period spanning over 30-50 years, will help make the state housing agencies self-sustaining and self-reliant. However, specialised agencies will have to be hired for all estate management besides ensuring proper maintenance and upkeep of the housing stock created. Strategy could also be adopted for solving the problem of slums in the urban area, by leveraging the potential of land occupied by the slums and creating large stock of rental housing rather than creating housing for exclusive ownership. For creating large stock of rental housing on sustainable basis, it will be appropriate to increase the amount of long-term affordable rental housing, especially in high-opportunity communities besides protecting existing affordable rental housing from physical deterioration and financial insecurity besides supporting affordable housing projects currently in the pipeline that face financial obstacles due to the pandemic. Considering the distinct advantage, part of the funds allocated under PMAY(U) needs to be used for promoting rental housing so as to avoid undue hardship caused to the migrants in the urban settlements.

- **Creating Multiple Options for Shelter**

Creating adequate stock of affordable housing in the country has suffered because nation has followed only a single pattern of creating such housing and that too of defined sizes, areas, accommodation, amenities etc, which is both cost-intensive and time-consuming. With limited availability of resources, number of houses created also remain limited unable to meet the ever-increasing demand of such houses in the urban market. In order to create large space for sheltering various stakeholders, there is need to create multiple options catering to affordability, need and requirements of people seeking shelter. Accordingly, creating multiple options of providing affordable shelter needs to be considered on priority based on affordability, family size, shelter requirements, marital status, type of avocation, skill, tenure etc. Night shelters, mobile housing, bachelor/single accommodation etc at various places should be used as options for augmenting shelter and minimising quantum of formal and expensive housing.

- **Build-to-Rent Housing**

Build- to Rent Housing is an emerging purpose-built affordable housing solution for middle-income households to be rented out rather than sold. Comprising of blocks /clusters of housing units, they are owned and operated by a single institution. In the US, the BTR sector is the largest real estate class, bigger than commercial and retail property: Typically, BTR offers lower returns, but also involve lower risk. In 2017, over 11,000 BTR homes were under construction in London, representing 17% of the private rental market in the city. The

concept has also been picking up in many cities in Europe and Japan, but not yet in developing economies, where investors are put off by high land taxes and lack of government incentives. Source: (PwC, 2017; Future of London and LSE London, 2017; Greater London Authority, 2018; Davies, 2017 with inputs from PwC Australia)

- **Creating Built up Houses for EWS in Private Colonies/Townships**

In order to create adequate housing for the economically weaker sections of the society, majority of laws mandate that certain proportion of land under housing in case of plotted development, and certain percentage of built-up houses in case of group housing, are to be reserved for them in all the sanctioned colonies. In certain cases, these reservations are applicable only in case of colonies having certain minimum areas and in case of group housing, number of flats must exceed the prescribed limit. In case of state of Punjab, the reservations are applicable only when the area of the colony exceeds 40

hectare and minimum number of flats to be constructed are 100 or more. Majority of developers /colonisers, in order to avoid these reservations, make sure that the minimum prescribed limits are not exceeded and accordingly, no -reservations becomes applicable. In order to ensure that reservations made for the LIG & EWS categories in the approved colonies/townships, under the legal framework are made available, it must be mandated to provided such reservation in the shape of built up houses only which would help in creating readily available affordable housing stock in various cities. Existing provision of providing plots for these groups must be dispensed with and replaced with built up houses. In order to avoid the misuse of such parcels of land earmarked for EWS housing, option must be given to promoter either to construct these houses or transfer the land to the designated state agencies/Housing Board/Development Authority on a pre- defined cost, who should then be mandated to construct such houses and make them available to identified beneficiaries. In addition, the proportion of such housing to be constructed must be increased keeping in view the prevailing housing shortage. Reservation should be made irrespective of the size of the colony or group housing. Under the Pradhan Mantri Awas Yojana (PMAY), the proportion of economically weaker sections housing has been placed at 35% with minimum project size under PPP model to be 250 houses with carpet area of the house limited to 30 sqm, which needs to be adopted with appropriate modification and made integral part of state and local legal framework.

- **Rationally Siting of the affordable housing projects**

It has been observed that many projects providing options for affordable housing remain unaccepted/unoccupied by the beneficiaries due to wrong siting and location due to dichotomy between place of work and place of residence. Precious resources spent on creating housing stock gets wasted. This all happens due to wrong siting of the projects and ignoring the place of the employment of beneficiaries. Siting of the mass housing projects will have to be done with utmost care and caution in order to ensure success and viability of the projects. Such projects should not to be constructed far away from place of work leading to considerable loss of time in travel and increased expenditure on travel. Making available cost-effective, efficient and reliable public transport from the project area would be critical to promote the acceptability/success of the project.

- **Providing Essential/ Basic Amenities as Integral Part of Project**

Making all residential colonies of affordable housing self-contained and self-sufficient for meeting basic day to day needs of the residents will be pre-requisite for such housing projects to be successful. These housing will have to be planned and developed as self-contained neighbourhood units. Accordingly, providing basic amenities on well-defined norms and standards, involving education, healthcare, recreation, child care, shopping, community centre, open spaces etc and meeting day-to-day needs of the residents should be made integral part of the project to make it self-contained and self-sustainable.

- **Making Optimum Use of Peri- urban areas**

Considering the acute shortage of developed land coupled with prevailing high land prices within the municipal limits, creating affordable housing within cities appears to be a remote possibility. This calls for looking at other options of sourcing land which makes it possible to create cost-effective housing. Peri-urban areas offer option for creating cost-effective housing, provided it is carried out in a planned manner and under a well-defined policy framework, so as to integrate the development with the future development of the city, when the urban limits are extended. Urbanisable area defined in the Master Plans/Development Plans, located in the close proximity of the municipal area; earmarked for housing can be used an option for developing affordable housing. Accordingly, Peri-urban areas in metropolitan cities, duly supported with basic infrastructures, services and transport should be permitted to be used for creating affordable housing due to lower prevailing land cost and its locational advantage of being in close proximity to urban areas.

- **Formulating well-defined, transparent and objective guidelines**

Most of the affordable housing problems have genesis in the non-availability of housing related data and multiplicity of agencies operating independently and exclusively in the domain of housing without any co-ordination and sharing of information. Considering the complexity and diversity prevailing in the country and within the states, it will be appropriate that an effective and efficient operational mechanism is put in place on priority. Formulating well defined, transparent and objective guidelines with a networked system of sharing information, would be critical and essential for identifying right beneficiaries eliminating speculators, minimising multiple ownership and illegal transfer/ sale of units at the local, state and national level.

- **Using PPP Model**

Housing, remains largely an individual based and private sector activity. Leveraging land for market-based strategies and PPP models, would help in actively involving individuals and private sector in improving supply of affordable housing. Public Private Partnership mechanism is known for its capacity to synergise the strength of both public and private sectors to achieve the defined targets. State of West Bengal is known to have successfully leveraged this model to create large stock of affordable housing in the state by creating partnership between Bengal Housing Board, who supported with making available land for development and eminent developers, who brought resources and technical know-how to plan, design, construct and manage the housing stock. These models need to be replicated, with appropriate modifications where needed, in various states to create large stock of affordable housing.

- **Creating Revolving Fund**

Promoting easy access to institutional finance at an affordable cost for creating cost-effective housing through a dedicated Revolving Fund, created at the national and state level with contributions made by central and state governments, urban local bodies, development authorities and assistance provided under different centrally and state sponsored schemes, would be a pre-requisite, critical and essential to ensure creation of affordable housing on large scale. Under the recently launched PMAY scheme, rate of interest has been pegged @6.5% with a central grant of Rs one lakh per house for slum re-development projects to make them viable.

- **Making land market more efficient**

Making land market more efficient by streamlining the land ownership record, rationalising stamp duties, minimising benami transactions, eliminating speculation by taxing vacant

urban lands, minimising monopolisation, regulating land use conversion, creating dedicated land use zones for affordable housing in the Master Plans, rationalising building bye-laws, zoning regulations, development controls, densities, ground coverage, floor area ratio, height etc would be pre-requisite for making land market more efficient and promoting affordable housing.

- **Promoting Large Ticket Size of the Project**

Studies made and analysis carried out of ongoing housing projects have revealed that affordable housing projects having area in the range of 15-35 acres, with number of dwelling units ranging between 1500-3500, located not beyond 20-25 kms from the city centre of metro cities, with area of dwelling units ranging between 250-350 sft, constructed as low rise G+3/G+4 walk up apartments, completed within 18-24 months and provided with all basic amenities, have proved to be successful and should be taken as role model for constructing the affordable housing.

- **Shifting Housing from Construction to Manufacturing**

Housing is known to be an activity which requires lot of planning, designing, time, materials, supervision for construction, which acts as a major deterrent to people having resources to construct houses. In order to create quality housing with minimum cost and best of quality, eliminating hassles of the material procurement, sourcing labour, hassles of supervision etc, it will be appropriate to shift the approach from construction to manufacturing of houses and from on-site construction to off-side manufacturing, based on technology of pre-fabrication. Large scale manufacturing of building components outside the site and their standardisation will help making housing construction highly time-efficient besides reducing considerably wastage of material, which normally happens in traditional construction. Leveraging innovative and low-cost technologies including pre-fabrication, can be used to construct affordable and cost-effective housing. Despite the fact, pre-fab materials are 15-20 percent costlier, still the final cost of the building remain lower due to higher efficiency and lower labor costs. Precast concrete and engineering-homes technology, used extensively in Europe and the Middle-East, has helped saving up to 64 percent of the total man hours needed when using conventional methods.

- **Making Affordable Housing beneficiary led Program**

Unfortunately, in India demand side of affordable housing is always looking at government, as the sole supplier and provider of housing, with very little effort/contribution made by beneficiaries for creating housing stock. This has led to mushrooming of large number of slums/squatter colonies in the urban areas because

majority of migrants feel that this is the best option to secure a legal house in otherwise hostile urban environment. In majority of cases election manifesto of political parties also revolves around either regularising all the illegal colonies or providing appropriate house to the resident of these illegal colonies once they are elected to power. This puts enormous pressure on the parastatal agencies to provide such housing. With limited availability of resources with parastatal agencies to create adequate stock, ongoing gap between demand and supply for affordable housing is getting wider and wider. In order to bridge this gap, it will be desirable, to shift existing approach of housing from- government-led to beneficiary-led mechanism, with government creating an enabling environment and empowering beneficiaries to lead the program for creating their own houses, making it beneficiary-led scheme rather than Government- ed mission. This would help in creating ownership of beneficiaries, their active involvement and contribution in creating large stock of housing. Government support should be limited to, in the form of providing loan at the low rate of interest, providing technical support for procuring material, skilling them in construction technologies and helping them in sourcing land at affordable price. Active involvement and participation of beneficiaries, in cash, kind or both, would be critical for the success of the project involving slum up-gradation and provision of shelter. This will help in pooling the resources of beneficiaries and actively involving them as co-parceners in the race to achieve the objective of, 'Housing for All'.

- **Bringing Vacant Houses into the Urban Market**

India, as a nation, is suffering from a strange malaise of dichotomy and contradiction so far as affordable housing is concerned. On one hand there exists large shortage of housing prevailing in large urban centres, on other side large housing stock, ready to occupy, is lying vacant. In Pune metropolis, every sixth house remains unoccupied because of obsolete and anti-owner stance of the prevailing Rent Control Act. Similar position prevails in other metro cities of the country. In order to bridge the existing gap between demand and supply, it will be critical to frame appropriate policies and amend legal framework which should help in bringing the vacant housing stock into the market. Putting in place appropriate provisions to disincentivise the housing remaining vacant will be helpful in bringing such vacant houses into the market and reducing the gap between demand and supply of housing.

- **Skilling Manpower**

Considering large housing stock required on continued basis, skilling manpower will be critical to promote cost-effective and quality housing in the country. Skilled labour is known for its large number of positivities, in terms of increased productivity; doing more

work within less times; ensuring quality of work; wasting little material and completing project within given time frame and defined cost without involving any time- overrun and cost-overrun. Studies made and analysis carried out at construction projects have shown that changing the semi-skilled labour with skilled labour along with change in site layout helped increasing labour productivity for reinforcement binding by 50%; reducing time and labour cost, leading to substantial saving for entire building. Using work -study -work - measurement techniques, are known to help in reducing labour cost up to 20%. (Prachi Ghate& Pravin. Minde) . In order to promote skilling of the construction sector manpower, government must set up institutions for imparting training in the techniques of construction. Large number of ITIs and Polytechnics created in the country, should be mandated to run both short/long term courses for skilling manpower in the art and science of construction. Institutions imparted technical education should also be actively involved and roped in to run such courses in construction management besides running short-term courses on regular basis and also during vacations. Since majority of technical institutions have their location in the rural setting, such institutions need to be incentivised to run dedicated courses for skilling the available manpower in the rural areas in the domain of building construction. Large number of industrial units engaged in the producing materials for construction like steel, cement, tiles, lighting, plumbing, painting, woodwork, doors, windows, PVC, chemicals etc also need to be actively involved on large scale to create large reservoir of skilled manpower for the construction sector in the country. Making skilling manpower integral part of CSR will help in providing adequate resources for skilling.

- **Promoting Research and Development in Construction**

In order to launch construction sector on the fast trajectory of growth and development besides making it state of art and qualitative, it will be critical to promote large scale research and development in the domain of construction materials and construction technologies, besides redefining processes and procedures involved in construction. To promote appropriate research, all agencies involved in the construction should be mandated to earmark a minimum of 5% of their total budget for promoting research in the construction sector to make it more productive, effective, efficient, qualitative and cost-effective. It should also actively involve collaboration and co-operation with technical institutions of repute to promote research by making available dedicated funds for the purpose. All parastatal agencies must also create dedicated units within the organisations to undertake and support research in the various components of construction activities. Dedicated units at local, district and state level should be created to bring all stakeholders involved in construction on the same platform and to promote synergies in approach by pooling their resources, knowledge, experience and expertise. States must promote

innovations in the construction sector by recognizing and instituting award given annually to the buildings displaying best options in planning, designing, construction, materials, technologies, cost-effectiveness, quality etc. Innovations made in machinery designed to achieve cost-effectiveness and time efficiency, should also be given due recognition to promote reduction in period of construction and minimizing labour component.

Emerging technologies of the Fourth Industrial Revolution are likely to create enormous opportunities and challenges for affordable housing. The internet of things (IoT) offers the potential to reduce maintenance costs through sensors monitoring factors such as air quality, temperature, carbon monoxide, humidity, energy efficiency- Making Affordable Housing a Reality in Cities. Combined with artificial intelligence (AI), the data gathered can provide insights into how properties can be better managed and monitored, informing future purchase decisions and providing landlords with early warnings of repairs and maintenance issues, minimizing financial losses or the potential for litigation (Housing Technology, 2017). Remote monitoring can alert providers of urban services to anomalies, such as water flow being outside the normal range (McQuillan, 2014). Better monitoring can help tenants manage energy consumption in their homes (Housing Technology, 2017). Artificial intelligence could also help in other ways: supporting tenants with housing applications or logging service requests; ensuring all legal protocols have been followed; offering predictions on whether a tenant will be able to pay their rent on time and providing debt counselling services when needed (Davison, 2018).

- **Promoting Building Materials on large Scale**

Construction of large housing stock would require the support of uninterrupted supply of large volume of construction materials. Sourcing construction materials from outside will require the need of large number of transport vehicles to ferry the materials. Accordingly, it will be desirable to use material available locally for housing to achieve cost-reduction in construction. Using local materials in the natural form are known to promote buildings, which remain cost-effective over the entire life-cycle of building. In order to make available cost-effective materials, it will be important to consider the option of producing materials based on agricultural or industrial waste. In addition, using materials which are self-regenerating and are fast growing can also be effectively leveraged for the construction of buildings. Substituting non-renewable materials with renewable material could be another option to save valuable resources. Cities are known to produce large volume of construction and demolition waste because of the ongoing construction/demolition activities in the urban areas. These materials pose greatest challenge to urban local bodies for their disposal, as these materials don't easily degenerate. However, construction waste offers the greatest opportunity of creating building materials for new construction. Many cities are mandating

that construction waste must be sent to a designated place and should not be disposed on streets and public places. Heavy fines are being imposed for illegal disposal of building waste. Waste dumped can be recycled to create materials which can be used in the new buildings. Large number of industries can be started for producing building materials from this waste, to meet the demand of materials for construction. In addition, large volume of other kind of waste produced in the cities could be intelligently used for construction. Globally, it has been seen that plastic, which is considered as the worst problem of human living can be converted into greatest asset for construction sector. Plastic is now being used in the construction of sustainable roads. Plastic is also being shredded and compacted with binders to be made into blocks to be used for construction of housing. Similar innovations will be required in the building industry to produce materials from waste which would go a long way in not only creating large volume of materials required for construction but also consuming large waste which cities generate on day-to-day basis. This will also help in making buildings cost-effective and cities carbon neutral. Besides creating opportunities for large scale employment. Cement and concrete remain the most commonly used materials for structural components, but cheaper alternatives may be feasible in some contexts. Researchers estimated that nearly 35% of cement can be replaced with fly-ash or pozzolana material (Shinde & Karankal, 2013). In Nigeria, a cement plant that sources pozzolana locally has been piloted and could save developers as much as 30% compared to imported materials (Ayeyemi, 2018). In Kenya, experiments are underway with cement-coated expanded polystyrene (EPS) panels for the construction of houses. This has been found to reduce construction costs by 25% and halve construction times (Kagai, 2017).

Glass fibre-reinforced gypsum (GFRG) – a green building material restructured in India would be the material of future to change the contours of building construction. GFRG panels are made of high-quality gypsum plaster reinforced with special glass roving, prefabricated at low cost and with low energy requirements, and erected on-site with cranes. GFRG panels were first introduced in Australia in 1990 (also known as Rapid Wall), as either load-bearing or partition walls. After a decade of research, the Indian Institute of Technology (IIT) Madras has now proposed a complete building system using GFRG panels, with minimal use of concrete and steel and no use of bricks. The government of India has approved standards for the structural design of GFRG buildings. The resulting houses will be fire and earthquake resistant, and can be up to 10 storey in low seismic zones. The thermal resistance of GFRG also reduces the need for air conditioning. GFRG panels can be made using gypsum waste generated by India's fertilizer plants, and have been confirmed as a green material by the United Nations Framework on Climate Change. Source: (Diwaker, 2018) and (Anam, 2018)

- **Promoting Start-ups in Housing**

Start-ups have shown enormous potential in creating unending options, based on technology and innovations, to achieve impossible, by promoting easy availability of goods and services across the globe at the most affordable and competitive price. Amazon has emerged as a giant in the consumer market, without owning any manufacturing units. Ola has excelled in promoting mobility without owning any vehicle within/across cities. Similar options need to be considered in the housing sector also to create large affordable housing stock in the country.

- **Rationalizing Government Charges**

As already stated, Government levies, charges fees, taxes including GST constitute considerable proportion of the total housing cost and invariably leads to making cost of housing much higher, despite best of the efforts made in the planning and construction of such buildings. Considering the context of various taxes, National Housing Bank, on the advice of the MoHUA, got conducted a study on the impact of changes in stamp duty and registration charges on *Residential Property*, and suggest a revenue neutral model for enabling "Affordable Housing for All". The study was awarded to Indian Institute of Management, Bangalore (IIMB). The Study, inter-alia, covered the history and evolution of document registration and stamp duty, stamp duty rates, international evidence of stamp duty rates, evidence and estimate of under reporting of stamp duty and its impact, circle rates or guidance value, highlighting the position of stamp duty as a major contributor to the State Government's tax revenues.

The Study provided a revenue neutral proposal to lower Stamp Duty (SD) and Registration Charges (RC) rates, especially for low-value housing. State Governments generate tax revenues every time a house is built and transacted (or registered). Several lakhs of additional houses are expected to be built under Housing For All (HFA) with direct or indirect Central subsidies. Along with increase in housing stock, lower housing prices are essential to enable Affordable Housing, a success in our country. An empirical model has been developed for a revenue-neutral approach to lower SD and RC rates for low value housing using data of Government of Karnataka. Forecasts of State's SD revenues without active policy intervention for low -value housing and with active policy intervention for low-value housing have been included in the Study. The key recommendations of the study are as under

- All stamp duty and registrations charges (including those on mortgages) may be waived off for the affordable housing segment. Thus, any securitized pool consisting of only

affordable housing loans may also be exempted from stamp duty and registration charges.

- Loss of revenue from such waiver may be compensated by the additional taxes that the State Government would generate out of the additional construction activities owing to the Housing for All (HFA) impetus. Alternatively, if the stamp duty and registration charges are capped and standardized nationwide, this will enable all type of mortgages to be securitized without distinguishing between affordable housing loans vis-à-vis others and will encourage more securitization. Special Purpose Vehicles (SPVs) to be set up in all the States.
- The Excel utility function developed as a part of the Study, computes the trade-off between the additional revenue each State Government would generate from housing activity initiated under HFA and loss of revenue by lowering SD and RC on low value housing by modifying key inputs and thus shall act as a quick reference guide.
- **Moving from Affordable Housing to Affordable living**

Studies have revealed that while looking at and considering life-cycle cost of housing, only 10-15% of the total cost goes into making of the house, whereas rest of the 85-90 % cost is used for its operation and maintenance, after the house is occupied and made operational. This cost is used for meeting the expenses incurred on heating, lighting, ventilating and modulating the temperature and humidity in the building to promote comfortable living besides taking up routine maintenance and upkeep of building. It is universally known and acknowledged that buildings are large consumers of energy, water and resources besides generators of large waste. Consumption of energy and water leads to making the house owner pay the water and electricity charges on monthly basis , which constitute considerable amount of expenditure to be borne by the house owner.

Even if the consumption of energy and water is low, house owner is required to shell out minimum charges prescribed by the agencies regulating the services. In order to minimize the operational cost of the housing , it will be important that these charges must be minimized. For achieving the objective and promote affordability in the real sense of the term , we need to move from affordable housing to affordable living. This objective can be achieved , if the buildings are designed and constructed as buildings which are energy and water efficient. Green Buildings are known for their inherent advantages and qualities as energy efficient and water efficient buildings. Such buildings are known to consume up to 50% less energy and up to 40 % less water as compared to similarly placed normal buildings. Green buildings can lower considerably the water and electricity bills of the house to promote desired level of affordability in living. Accordingly, for promoting

affordable living, affordable housing should be mandated to be planned, designed and constructed to be green housing. Even if the cost of affordable housing exceeds by 3-5%, more than the cost of normal housing, higher cost incurred can be recovered within 3-5 years, and thereafter buildings continue to maintain its tangible benefits during the entire lifespan of the building besides intangible benefits of making people and occupants happy, healthy and more productive.

- **Funding Urban Local Bodies**

Housing remains largely a local problem, accordingly for its effective resolution, it must find local solutions. In order to create large stock of affordable housing, it will be appropriate that urban local bodies, who are locally placed and have best understanding of the local issues, are actively involved in creating enabling environment and also make contribution to affordable housing stock. Unfortunately, in India, urban local bodies have least involvement in creating housing. These agencies even do not provide rental housing for their employees who are left to seek their own housing options. Urban local bodies are known to inherit large chunk of land, which is transferred to them as part of enlarging their boundaries, which brings number of villages and large village land into the urban fold. This land can be effectively leveraged to create large housing stock on rental basis in the city, either by the urban local bodies themselves or through PPP model involving private sector, on revenue sharing model, which can go a long way in not only creating large assets for the local bodies and generate income on regular basis but also help in creating large housing stock at the local level. Government must come out with schemes for encouraging urban local bodies to create housing in the affordable segment and offer loans/financial support on softer terms. Urban local bodies should also be encouraged to tap market potential to raise resources for housing, in addition to earmarking dedicated funds in their budgets. Similar support can also be given to agencies of repute and established credibility involved in promoting affordable housing segment.

- **Maintaining Existing Affordable Housing Stock**

For overcoming the challenges posed by inadequate availability of affordable housing, it will be critical not only to make large addition to existing housing stock by building new houses but also to appropriately maintain in good health, the stock already created from time to time. It has been observed, large proportion of affordable housing stock already created, is lost due to perpetual neglect and poor maintenance /upkeep of these houses on year-to-year basis, due to low financial resources available with these income groups to maintain them. Accordingly, it will be vital that an appropriate mechanism is put in place to ensure that the existing stock of affordable housing is well maintained so that they can serve

the inhabitants for a longer time span. To ensure appropriate maintenance of these housing, government should either create a dedicated fund for maintenance, which can be made available to the beneficiaries of these housing or they are given rebate in taxes and fees charged by the local authorities for the maintenance of houses. In addition, issues related to proper maintenance of the affordable housing can be appropriately and effectively addressed, if maintenance cost for minimum period of five years is added and made part of the initial housing cost. This will ensure the availability of dedicated funds available for maintaining the housing stock. Making agency constructing the houses responsible for maintaining the houses, have proved its effectiveness and have shown positive results in proper maintenance of such housing.

Supply Side Challenge

As per findings of the *Insight Report*; globally investment in housing remains largely contingent upon two major factors; land with a legal title and, security involving tenure and property rights. Sourcing land for affordable housing remains major challenge facing supply side besides rational and optimum use of land for development. *Development controls, land use and zoning regulation* are the other areas which are known for their capacity to adversely impact the use of land, which would need rationalization for land optimization. In order to ensure supply of adequate housing in the affordable sector, it will be desirable to create an enabling environment which would permit land related challenges faced by the supply side are adequately overcome to enable it to operate at optimum level. Development options and innovative strategies which can be leveraged for making adequate land available for affordable housing besides its optimum utilization would include;

- ***Land-pooling-*** Innovative mechanism of sourcing land through planning process, where an undeveloped piece of land in an unplanned area is exchanged for a smaller developed piece of land in a planned area.
- ***Tradeable Land Quota-*** Uses a barter system under which agricultural land on the periphery of a city is permitted to be used/converted for urbanizable purposes in lieu of opening up other parcels of land located beyond the city's boundaries for agriculture purposes.
- ***Focusing on ensuring Property Rights*** – through prioritizing on right not to be forcibly evicted, rather than formalizing property titles
- ***Promoting Partnerships between Community Land Trusts,*** which own and steward land on behalf of a community,
- ***Municipal land banks,*** - Acquiring and preparing vacant land for development

- *Transit-Oriented Development*, which mandates linear development involving expansion of cities, planned around new urban transport infrastructure.
- **Logarithmic 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.
- *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.
- Securing finances for funding the affordable housing through providing *tax incentives, grants or exemptions* for private developers to develop certain types of property or develop in designated areas.
- *Subsidize construction costs*: For rationalizing the construction cost, the Government should provide exemption on taxes and duties on construction materials; provide subsidy to developers for R&D in new low-cost materials and technologies can lower the cost of borrowing for development of affordable housing projects by granting guarantee on the loans etc. Government can provide exemption from sales tax and reduction in stamp duty.
- *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
- *Design and construction-* Besides land cost other major component of housing cost involves development and construction costs, which sometimes exceed land cost. Construction cost can be reduced and made more affordable through;
- *Minimizing bureaucracy*, reducing fees and costs of complying with complicated building codes to rationalize project cost;
- *Using technology* to provide cost-effective solutions like 3D printing, robot bricklayers, self-driving bulldozers – and solutions related to the internet of things (IoT) and artificial intelligence (AI) that could bring down operational and maintenance costs;
- *Using alternative construction materials* such as fly ash, cement-coated expanded polystyrene panels, glass fiber-reinforced gypsum, cross-laminated timber and compressed earth blocks and
- *Promoting Public-private partnerships* on training to address skills shortages in the construction sector.

- *Single window approval for projects*: Delays in the project approvals result in substantial cost overruns. Single window approach will help the developers reduce delays and costs.
- *Adopting inverse- incentive FSI*", which rewards developers for building smaller apartments by allowing them more FSI to use on larger apartments. Cities set a benchmark apartment size, and developments below this benchmark earn the developer "incentive FSI" based on the difference: For example, if the benchmark is 75 square metres and a developer builds apartments of 50 square metres, it could buy 25 square metres of FSI from the city government at below-market price up to a stipulated limit. It can then use this FSI to construct large apartments. This mechanism ensures a balance between apartments of all sizes (Salgia, 2018).

- **Demand-Side challenges**

Besides making supply side more productive, effective and efficient, it will be critical to address the issues faced by the demand side to overcome the crisis in affordable housing. Basic issue remains, should strategies try to make available housing affordable for everyone, or target assistance at certain sections of the population and how should targeted populations be defined? Demand side challenges essentially involve identifying real-time/deserving beneficiaries through objectivity and transparency, based on well-defined criteria, using indices involving income level, age, number of children, employment.

According to 'Report on Making Affordable Housing A Reality in Cities meeting demand side challenges should include;

- *Adopting different forms of tenure*-- Going beyond a binary choice between rental and home ownership, for offering more options to city residents struggling to afford a house involving *build-to-rent, shared ownership and shared equity ownership*.
- *Rent Controls*- which offer the potential to protect tenants, but must also take care not to restrict the future supply of properties to rent by unfairly disadvantaging landlords.
- *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 must include *subsidy* recapture and *subsidy* retention

- **Conclusion--Housing, Urbanization**

Urbanization remains a natural and continuing consequence of economic growth and all nations are undergoing this process through variable degree. In the face of rapid and massive urbanization, globally nations are facing large number of crisis which include crisis of development; crisis of employment; crisis of identity; crisis of services; crisis of unplanned and mushroom growth and above all crisis of shelter. These problems are faced

by both developed and developing nations, however only their intensity varies. Failure to provide access to adequate and appropriate housing has created numerous social, physical and environmental problems which are patently visible in the suburbs of all the cities. These problems have adversely impacted the capacity of cities to remain happy, healthy, productive and efficient. Cities and communities have suffered to a large extent in the face of inadequate and sub-standard housing. Considering the larger interest of the communities, both developed and developing nations, need to work out appropriate strategies and framework of action to effectively respond to the problems and opportunities associated with rapid urbanization. Ignoring these problems and opportunities will be fraught with danger and may pose considerable risk to their rational growth and development. Addressing these challenges and making optimum use of available opportunities, appropriately and rationally, will not only help in promoting economic and social development but will also expand and leverage the business opportunities. State and local governance will be empowered, have better stability, capacity, and the need for crisis intervention will be minimal. Analyzing objectively and rationally, addressing urban issues and opportunities appropriately considering the larger public interests, invariably helps in leveraging public and private investment in cities; enabling markets for goods and services to reach their optimum potential; minimizing environmental and health hazards and lowering security risks and costs of crisis intervention. Urbanization is known for its capacity to create opportunities for growth and development. Urbanization per se is not the problem but poverty remains always an issue. Cities as engines of social, technological, and cultural progress are known to provide more than one-half of the economic growth of every country of the world, with percentages ranging from 55% in developing nations to 85% in the developed countries. Urbanization also correlates with improved household income and health and declining household size. Globally, cities accommodate 3 billion people and cities of the developing world will have to accommodate another 3 billion over the next 3 decades. Majority of existing Cities lack adequate resources and the capacity to provide appropriate shelter and basic services to the projected large addition to urban areas. Accordingly, challenges posed by providing adequate shelter and services will be both enormous and formidable. Our capacity to meet these challenges, effectively and efficiently, will hold the key and will determine the future of people, communities, cities and towns, states, nations, humanity and the planet earth.

Chapter -17

Rural Housing in India

Despite the fact that housing has been recognized as one of the basic human requirement and necessity, besides being the major determinant of quality of human living, still good quality housing remains elusive to majority of human beings. Human settlements are known to face issues related to provision of adequate housing to all its residents due to reasons of lack of financial resources, poor affordability, lack of saving, low income, poverty, non-availability of land, high incidences of government taxes, rising cost of construction, low availability of low-cost housing and building materials etc. However, rural areas, where majority of population of developing countries live, face the problem of inadequate housing to higher intensity due to; prevalence of high incidence of poverty, inadequate availability of resources, poor saving, obsolete technologies and lesser means of livelihood. With 824 million people, out of 1210 million, living in rural India (68.8%), India's major housing problem has genesis and roots in the acute shortage of rural housing, both in quality and quantity. Housing shortage is known to have major implications in terms of quality of life and also deprivation caused to the homeless in terms of benefits of economic development and employment. Households suffering from homelessness are known to be deprived of the benefits of numerous welfare schemes launched by the governments.

Housing besides having social implications also is known to be promoter of economy and prosperity of any community and nation besides promoting industrialization and employment. Housing and GDP are interlinked and contribute to each others' growth. Investment in housing sector does not only help to tackle the problem of housing shortages but it also provide livelihood to a large number of population and facilitate the economic development of the country.

Household Count

Census of India during its enumeration operations carried out in 2011, placed total household count in the country at 330.9 million; divided into 220.7 million (66.7%) for the rural India and 110.2 million (33.3%) for 7935 urban settlements. Rural India housed two-third households of the country as against one-third by urban India. Holding lesser proportion of Households (66.7%), as compared to the total population (68.9%), clearly indicates a slight congestion and high population density, in rural areas as compared to urban settlements. Beside quantitative shortage ,rural settlements have recorded high degree of qualitative shortage of housing in terms of high degree housing obsolescence, low availability of rooms, poor quality of construction, existence of large number of temporary and katcha houses, absence of basic amenities and services essential for human living.

Vacancies in Households

Data made available by Census revealed that there exist large number of vacancies existing in the household stock. During the said count, 24.7 million (7.5%) houses were found to be vacant, which means every thirteenth available household was unoccupied in the country. However, vacancies prevailing in housing were much higher in urban India (11.1 million), as compared to rural India (13.6 million), where as against 6.16% vacant households in rural India, vacancies in urban housing was found to be of the order of 10.08%. This means large housing stock, which is ready for occupation remains out of the housing market and remains the major cause of housing shortage prevailing in the country, This also causes enormous loss to the nation, because resources used in creating the household remain locked, unused and abused.

Quality of household- structure

Looking at the qualitative aspects, in terms of typologies of housing structure existing in rural India, based on the classification made by the Census 2011, it has been found that rural India is poorly placed with only half of its household (52.0%) falling in the permanent category as against 62.7% for the country. Proportions of semi-permanent and temporary housing in rural India were observed to be 30.1% & 16.7% as against 23.9% & 12.3% for the India, as a nation, clearly indicating that rural housing stock is poorly placed as against housing quality prevailing in the country. Census has further sub-divided the Temporary housing into two distinct categories- comprising of Serviceable and Non-serviceable households and based on the data collected it, has found that more than half of the temporary houses (56.0%) were of serviceable quality while the remaining houses (44.0% per cent) were of non-serviceable quality in rural India as against 56.2% and 43.8% for the urban and rural India.

Usage of households

Considering the use to which existing households have been put, Census of India recorded that out of total of 304.9 million occupied households in the country, 236 million houses (77.4 %) were used for residential purposes whereas 8.5 million houses (2.8 %) were used as residence-cum-other uses and remaining 60 million houses (19.8 per cent) were used for institutional purposes. As against this, the distribution of households was placed at 160 million (77.4%) 6.2 million (3.1%) and 40.4 million (19.5%) for rural India and 76.1 million

(77.4%), 2.4 million (2.5%) and 19.8 million (20.1%) respectively, for urban India. Looking at the data, urban and rural India are similarly placed with regard to residential households whereas in case of institutional component, urban areas are better placed with higher proportion of households used as institutions, as compared to rural India, whereas Rural India has an edge over urban areas in the case of households being put to multiple usage.

Conditions of households

Dividing the households, based on conditions of households, Census 2011, came to the conclusion that at the national level 53.2% households can be rated as good, as against 41.5% livable and 5.3% rated as dilapidated. In the rural areas 46.0% households were counted as good, 47.5% as livable whereas 6.5% put under dilapidation. Similar count for the urban areas, divided available households as 68.5% good, 28.5% livable and remaining 2.9% dilapidated. Looking at the facts detailed above, urban India is best placed in the categories of good and livable households with proportions recorded at 97.1% of the total households as against 93.5% for rural India and 95.1% for India as a whole. In terms of good quality households, rural India has less than half (46 per cent) share of housing stock as against two-third of such households in the urban areas. In terms of dilapidation, rural India remains worst performer having 6.5% housing stock as against 2.9% in urban areas, which means rural India faces higher level of housing dilapidation, which is more than twice such houses existing in urban areas.

Housing Shortage

Governments in power, Planning Commission of India and Ministry of Rural/Urban Development, Government of India have been looking at the status of the housing stock existing in the country periodically, both in rural and urban areas, for making various housing related policies and programs. Data generated by Census of India, NSS housing rounds and other sources have been used from time to time to come to a conclusion regarding the shortage of housing existing in India. However, consensus has always eluded the experts' committees constituted with regard to figure related to housing shortage existing in India. Working Group constituted in 2006 (MoRD 2007), on rural housing for the 11th Five Year, estimated that housing shortages in rural India was of the order of 47.4 million houses. Working Group formed for the 12th Five Year Plan came to the conclusion that total housing shortage would be 48.8 million houses for the plan period (2012-17) (MoRD 2011), with 90% shortages falling in the categories of BPL families. Working Group for 12th Plan also arrived at another figure of shortage of 43.7 million houses based on the

data generated by projecting growth trends of housing stocks, households, pucca and semi-pucca house. Estimates have also been made at the level of experts regarding extent of shortage of housing existing in rural India, who placed housing shortage at more than 62 million units, much higher when compared with the estimates made by the Expert Committee set up by the Government (Kumar, 2014). However, housing demand remains highly

dynamic, ever evolving and devolving, never static, accordingly, it becomes difficult to precisely define the shortage in housing due to existence of large number of externalities and factors impacting the need and demand for housing. But the fact remains, globally cities and nations are facing increasing gap between demand and supply, particularly in the domain of affordable housing and housing for the lower end of economic pyramid. However, nations need to leverage technology and evolve a rational system of assessing the housing need, which essentially has to be done at local level by all urban and rural settlements, before working out the housing need/shortage at the state and national levels.

Currently, the housing shortage in the rural areas is in excess of 43 million houses. The shortage recorded in the rural sector is more than twice that existing in the urban sector. Together with huge shortage, the prevailing conditions of housing and availability of concerned amenities in rural areas are way behind the urban areas. Despite these facts, rural housing has been overlooked and neglected repeatedly, under urban biased policies and programmes. The adverse effects of this neglect are quite evident

while studying and analyzing the housing condition and amenities indicators of the rural households. Looking at different factors relating to housing in terms of congestion, housing construction, access to electricity, drinking water and sanitation facilities, rural households lag far behind their urban counterparts. Due to poverty and lack of access to any formal sources of finance, the rural poor are rendered incapable of constructing safe, sustainable and livable houses. Amidst the crisis of quality, adequacy and amenities supporting the housing in the rural area, most vulnerable sections facing the brunt of the existing shortage of essential amenities etc. are the marginalized sections of the society falling in the categories of SCs and STs who are at a clear disadvantage in terms of housing conditions and amenities when compared to other social categories. Government of India has committed the nation to provide, 'Housing for All,' by 2022. Given the magnitude of challenge existing in the rural housing, the commitment and task appears to be, both challenging and ambitious, difficult to accomplish and achieve.

Housing Conditions

Rural housing remains different and distinct from urban housing in terms of their planning & designing of internal spaces, materials, construction and management. Rural housing is rooted to the local culture, available materials and the local technologies as against urban housing, which remains more formal in nature and space, using latest materials, technologies and numerous mechanical and plumbing related appliances. As against this, rural housing remains simple in space requirements, catering to various human needs including living, storage of agricultural produce, rearing animals etc. Urban areas provide easy access to basic services in more organized manner, involving water supply, sewerage, electricity, roads etc., which are essential for human living whereas in the case of rural areas such basic facilities may be available only in limited number of rural settlements and that too in a disorganized manner. Urban housing has been found to be generally located in planned areas /localities /townships but rural areas invariably remain unplanned having little access to amenities.

However, it will be relevant to look at different aspects of the rural housing, in terms of ; ownership pattern; number of rooms available; type of structure, condition of house and availability of kitchen etc.in order to assess, status, efficacy and efficiency of such housing. These factors have been valued and considered relevant and important for defining the quality of houses and well-being of the occupants.

- **Ownership;** Looking at the social fabric, security and culture of rural society; rural areas largely believe in ownership of houses, as compared to urban housing where besides living, house is also considered as an opportunity to generate income by renting out to individuals who come to cities for study, job, healthcare etc. Accordingly, the proportion of house ownership, as per Census 2011, in rural areas was 93.3%, much higher in comparison to the one existing in the urban areas (61.2%). As against this, percentage of rented houses, was found to be much higher in urban areas as compared to rural areas. Similarly housing ownership in rural areas was also found to have connectivity with social status. Proportion of ownership among Scheduled Tribes (STs) and Scheduled Castes (SCs) was found to be higher when compared with other Backward Classes (OBCs) for the reason house is valued as the greatest asset and security in rural India.
- **Number of rooms;** Number of rooms available in the house is an critical indicator for quantifying the prevailing congestion and quality of living. Despite the fact that average household size was found to be large, number of dwelling rooms in rural

areas were on the lower side. Number of houses having one room and two rooms were found to be higher in rural India than urban areas, whereas house with 4 rooms and more were lesser in villages (39.6 %) as compared to urban areas. Even in rural areas, prevailing pattern of congestion was variable and was found to be highest in case of houses belonging to SC & ST households (Census,2011)

- **Pucca houses;** Quality of houses was also found to be different in urban and rural setting with urban area scoring over rural areas in terms of Pucca/ all-weather durable and sustainable houses. While proportion of such houses was found to be 93.6 % in the urban areas as compared to merely 65.8%in rural areas, indicating better physical status of housing in urban areas as compared to rural areas.
- **Kitchen;** Rural areas were also found to be deficient in terms of availability of independent kitchen in the houses. As against 47.4% rural households, 66 % urban households enjoyed the facility of independent kitchen, which leads to the conclusion that in more than half of rural households, occupants used living rooms for cooking food, leading to pollution and other related problems in the rural houses.
- **Animal shed/poultry farm facilities;** Rural houses were found to have an additional requirement for animal shed/poultry farm facilities. 62.1 % of rural households had such sheds either attached with /detached from, the house. In the urban areas, only 15% houses were found to be with similar space. This gives a clear message that animals/poultry play critical role in providing security net in the rural India. Accordingly, rural housing needs to include the provisions of sheds for animal /poultry , as an integral part of rural housing.. However, it has not happened so far under any study or housing related policy framed prepared or made operational so far.
- **Housing Amenities:** Housing never remains a space created by four walls, enclosing the structure but has much wider connotations, both social, economic and environmental. Housing for a community and a place cannot be seen and made to exist in isolation. It has to be made integral part of larger community, known as neighbourhood. For housing to remain relevant to human living, it must be supported by basic amenities and services which are relevant for the rational growth of individuals and the communities. Basic amenities including drinking water, sanitation, electricity, drainage, accessibility etc. remain most relevant and indispensable for any housing. NSSO 69th round, Schedule 1.2, (2012) provides basic information relevant to basic amenities existing in housing.
- **Safe Drinking Water;** Looking at the availability of safe drinking water, rural housing was found to be poorly placed as compared to urban areas. It was found to be 88.5 % for rural houses as against 95.3% for urban houses, based on the classification used by the NSSO definition. Among rural households, families

belonging to Scheduled Tribes in rural areas were placed in the most disadvantaged position with large dependence on unsafe drinking water to the tune of 79.4% as compared to other social categories. Looking at the locational aspect of drinking water, wide gap was observed between rural and urban areas. As against, three out of four households (77.5 %) in urban areas having whereas in rural India only 46.3% households had access to drinking water within the premise; which shows that large majority of rural households were placed in a disadvantaged position, as compared to urban households, to source water from outside the house/ from a public source etc.

- **Sanitation** facilities remains valuable and important for safe and sustainable living. Access to proper sanitation is not only linked with hygiene and cleanliness but also with human dignity. Sanitation, can be looked in terms of availability of latrine facilities, bathroom facilities and drainage facilities.
- **Latrine** facilities can be further grouped into three categories – Own latrine, public latrine and no latrine. Public latrines are rarely found in rural areas. Following the pattern prevailing in other facilities, 60.2% of the rural houses did not have any latrine whereas the percentage of such houses in the urban areas was found to be merely 9.4%, indicating a wide divide between the quality of housing in the rural and urban areas. With the launch of Swachh Bharat Mission, government is targeting all household in rural India to be provided with latrine facilities. However, task remains daunting and most challenging.
- **Bathroom facilities.** In terms of access to bathroom facilities, urban areas are much better placed than the rural areas. Looking at the context of availability of bathrooms In the rural areas, it has been found that only 15.5 % houses were having bathrooms attached to them, another 22.2 % houses had bathroom detached from the house and 62.3% houses did not have any bathroom, as compared to urban areas where, 55.4 % houses were having attached bathrooms, another 27.9 % detached and 16.7 % with no bathrooms.
- **Drainage ;** In the availability of drainage facilities, the rural areas again were found to be laggard. Only 15 % households in the rural areas were found to be with covered drainage system as against 60 % in the urban areas. Almost half of the rural houses were recorded to be without any drainage facilities, leaving the waste water flow in the public streets or in the open public spaces.
- **Electricity;** Availability of electricity remains critical to human living, working and doing day-to-day operations besides major determinant of their operational efficiency. While the urban areas are almost universally covered with electricity connections, the rural areas still

- remain far behind. Nearly one-fifth of the total rural houses had no electricity, adversely impacting the quality of life, education, healthcare of the occupants (Census2011).
- **Roads;** Accessibility to the household remains vital for making optimum use and securing maximum benefits of the space provided by the house. Without accessibility, houses face deprivation for accessing large number of amenities and services like water supply, sewerage, sanitation, tele-communication etc., which are provided as integral part of road network. Absence of roads, sometime leads to making house inaccessible during rains etc., and limits to a large extent connectivity with the community and infrastructures, services existing at the neighborhood and city level. Rural households invariably suffer from acute problem of accessibility and in large cases majority, of rural households remain inaccessible due to absence of any metaled road in the area. In terms accessibility, only 45% of the rural houses were found to have the advantage of being linked through motorable roads as against 73% in the urban area. The availability of other roads and no- roads (non-motorable) were found to be in higher proportion in rural areas 40.4 % & 14.6 % as against 21.9% and 5.1% in urban areas. Accordingly, rural households remain poorly connected in terms motorable approach road.

Housing Finance

As per information provided by the NSS 69th round (2012), during surveys carried out, households recorded ten different types of sources for financing the construction/purchase of house/flats for residential purposes which included; own money and labour. six institutional sources – government, bank, insurance, provident fund (advance/loan), financial corporation /institution and other agencies; and three non-institutional sources – money lender, friends and relatives besides other sources. In India, the predominant source of finance remains own-source which includes own earnings, savings and labour. Nearly 81% houses have been said to be financed by this source, where 82.4% rural households and 71.8% urban household have used this source for their house construction or purchase. Government source of finance was found to be higher in rural areas (9%) than urban areas (3.2%). In the rural areas, SC and ST groups remained major beneficiaries of the government sources. Low-income households have been found to be availing relatively more finances from money lender than the upper income households in the rural areas.

Looking at the existing scenario it can be seen that there exists apathy and neglect of rural housing in India. In order to address the roadblocks existing in the rural housing, government will do well to put in a policy framework which puts rural housing at par with urban housing, by making available large financial resources for the rural housing.

Rural Housing- Through the Five-Year Plans

Housing had been made integral part of Five -Year Plans, which India followed to provide various people centric facilities to launch nation on the path of rapid growth and development. Journey treaded by housing has been slow and steady, with gap between demand and supply of housing in both urban and rural areas widening over the years.

However, while dealing with allocations of resources and framing of the housing related policies and programs , urban India was invariably placed on priority as compared to rural housing. Journey of both rural and urban housing through these five year plans, has been enumerated in the successive five year plans along with the provision made in the plans to overcome the problem of housing shortage related to rural housing.

- ***First Five Year Plan (1951-56)***; Forced with the challenges posed by large number of migrants to urban areas due to partition of the country in 1947, and lack of finances available with government with priority going for settling the migrant in urban areas. nothing tangible was achieved on the rural front during the First Five Year Plan.
- ***Second Five Year Plan (1956-61)***; Plan focused on providing housing in rural areas by launching the, *Community Development Scheme* in 1957, by providing loans to individuals through cooperatives to construct houses.
- ***Third Five Year Plan (1961-66)***; Third plan had two components for rural housing involving, continuation of the CDM scheme in the revised format by including providing technical and financial support for the construction of cheap and sustainable houses and providing housing sites to rural landless agricultural labourers.
- ***Fourth Five Year Plan (1969-74)***; Considering the important role of land in promoting housing, fourth plan provided for launching Crash Scheme to make available free housing sites to the rural homeless. The Housing-cum-Construction Assistance Scheme (HSCAS) was introduced to leverage the co-operative sector to empower the marginalized sections of the society for creating appropriate shelter.
- ***5th Five Year Plan (1974-79)***; Plan included three schemes related to housing which involved introducing; Minimum Needs Programme (MNP) and Integrated Rural Development Programme (IRDP) to improve the standards of living of the poor and eradicate rural poverty besides making Twenty Point Programme operational for providing housing to the rural poor. The Village Housing Scheme (1957), providing assistance for construction, was transferred from centre to the states, during this plan period.
- ***Sixth Five Year Plan (1980-85)***; Plan included mandating HUDCO and the GIC, to provide housing finance to rural housing in addition to urban housing. 353.5 crore

rupees were allocated for rural shelter to construct 13 million dwelling units, but scheme achieved only one-third of the target due to poor implementation.

- **Seventh Five Year Plan (1985-90);** Plan is known for its major contribution to promote rural housing because during this period, government made financial assistance to banks and cooperatives to fund the construction of houses to overcome shortage which increased from 16 million to 18.8 million . Rs 2890 million were allocated to facilitate research and development, extension work etc. Indira Awas Yojana (IAY) was launched with the objective of providing financial assistance to SCs/STs and to freed bonded Labourers, for the construction of their houses. The National Housing Bank (NHB) was also established in 1988 to expand the base of housing finance. Draft National Housing Policy (1988) was also framed with the objective of providing *Housing for All*. Policy proposed to covered both urban and rural housing.
- **8th Five Year Plan (1992-97);** Plan saw the launching of the National Housing Policy (1994) calling for reducing homelessness, improve the conditions of the dilapidated houses and to provide minimum level of basic services and amenities to all in rural India, besides providing housing for all. The operational domain of the policy also included both urban and rural housing.
- **Ninth Five Year Plan (1997-2002) ;** Plan initiated the modification of IAY to include the credit-cum-subsidy scheme and launch of Innovative Stream for Rural Household and Habitat Development (ISRHHD) for providing cost effective, environment friendly and qualitative houses to the beneficiaries. Rural Building Centres (RBC) were established pan India in all the districts for disseminating technological to rural areas besides training local manpower in construction of houses and making available precast building components at affordable cost. National Housing Bank was mandated to finance one lakh rural dwelling units under the *Swarna Jayanti Housing Finance Scheme* . HUDCO was asked to allocate 15% of its funds towards rural housing. The *Samagra Awas Yojana* was launched in 1999-2000 for the development of sustainable habitat
- **Tenth Five Year Plan (2002-2007);** Nirman program (2005) was launched, by the government towards rural infrastructure development and rural housing on a national scale for EWS/LIG people. The IAY continued to promote rural housing pan rural India. The National Bank for Agriculture and Rural Development (NABARD) also contributed towards the rural sector by providing finances to the beneficiaries for the construction of houses.
- **11th Five Year Plan (2007-12);** Working Group for the Rural Housing (2006) was constituted by the Planning Commission for understanding the crisis faced by rural sector; estimating the rural housing shortages and define viable options for the

government agencies on how land and finance can be sourced for sustainable housing besides promoting technology and R&D; mandating financial institutions and implementing agencies for making housing facilities more accessible to the rural homeless.

- *12th Five Year Plan (2012-17)*; New Working Group was constituted to provide affordable housing in rural areas and provide homestead plots to all rural poor by 2011-12 along with basic amenities necessary for sustainable habitat. Role of the state governments was redefined as facilitator rather than as a provider, along with other stakeholders in rural housing such as NGOs and corporate sectors. National Housing and Habitat Policy 2007, was launched which only focused on creating shelter for urban settlements, without providing any window for rural housing. Plan also tried to converge the IAY with various other schemes for providing rural poor, access to basic amenities along with the housing units. Later in March 2016, IAY was replaced by the Pradhan Mantri Awas Yojana.

Road blocks in Rural Housing

Rural housing failed to get adequate attention of policy planners and successive governments till the onset of the Sixth Five Year Plan. Urban bias remained quite prominent during these plans when the government allocated majority of its resources and finances towards the urban sector in order to cater the rapidly increasing population in the cities. Although some attempts were made to improve the condition of rural housing through the introduction of various programs and schemes such as Community Development Movement, Housing Sites cum Services Assistance Scheme and Village Housing Scheme, these attempts failed to bear any substantial results. Following factors seem to have impacted the supply of the housing in rural India;

- Inadequate statistical data posed serious problems in identifying and quantifying the housing shortage, making realistic and rational plans and monitoring progress.
- Severe shortage of funds and allocation of inadequate financial resources for rural housing restricted and adversely impacted the effective and efficient implementation of the housing schemes. With inadequate funds made available, only a small portion of the targeted housing units could be constructed.
- Lack of any monitoring or administrative body led to the mismanagement and misallocation of resources and finances, depriving large number of rural poor from the benefits of these schemes.
- Scarcity of land emerged as the major roadblock in creating adequate housing due to reluctance on the part of landowners to give land to landless households.

- Absence of agencies involved in conducting housing related research and development in the defining sustainable and low-cost housing in the rural areas led to making the house construction cost-intensive and slow.
- Launching multiple housings related schemes during the Ninth Five Year Plan led to their ineffective and inefficient formulation and implementation.
- Low allocation of funds for rural housing by HUDCO's (15%) only proved to be beneficial to a handful of states such as Andhra Pradesh, Tamil Nadu, Karnataka, Kerala, Odisha and West Bengal.
- Lack of clarity in defining standard criteria to identify the eligible beneficiaries, leading to the exclusion of large number of eligible beneficiaries.
- Involving large number of agencies and absence of effective and efficient co-ordination mechanism for monitoring led to efficient operation and reduced supply of the housing stock in rural areas.
- Flagship schemes like IAY suffered due to numerous challenges faced in terms of; lack of funds; shortage of housing sites; mismanagement of financial resources; lack of research and development in the field of sustainable housing; exclusionary criterion of selecting beneficiaries etc.
- Adopting traditional methods of construction,
- Lack of skilled manpower at local level for construction of houses
- Lack of availability of local materials for construction
- Lack of knowledge on the part of beneficiaries regarding good construction practices
- Absence of involvement of technical institutions
- Problems in getting appropriate design of household
- Inadequate access to formal sources of finance due to large documentation and lack of transparency
- Absence of a transparent system of monitoring transfer of money to the beneficiaries
- Absence of appropriate mechanism to monitor the progress of construction on the plot by the beneficiaries.
- Delayed transfer of amount to the targeted beneficiaries.

Rural Housing in the context of National Housing Policies

Rural housing has been addressed in the past through National Housing Policies, which Government of India has been evolving from time to time, over a period of time. First housing policy was put in place in the year 1988 and last was made operational in the year 2007. Earlier policies addressed both urban and rural housing but 2007 policy focused on urban housing. Infact since 1998, India does not have any policy looking at the rural housing, which showcases that rural housing does not appear to command priority by the government. Looking at different policies clearly indicates that all policies were largely

urban biased and ignored the rural housing despite the fact rural India housed more than two-third of the total population and households of the nation.

First ever National Housing Policy (NHP) was drafted in 1988, about 41 years after India, as a nation, became independent. Said policy was framed as a response to the International Year for Shelter for the homeless declared by the UN in 1987. Policy only remained a draft, as it was not approved at the highest level of governance. 1988 policy made no attempt to elaborate how the objectives listed in the policy were to be achieved nor it briefed about the role of private sector in promoting housing (Kundu, 1987). Objectives of the 1988 policy revolved around;

- Providing housing and minimum level of basic amenities to the people
- Improving the available inadequate houses;
- Considered housing as a consumptive investment rather than a productive investment;
- Identified the role of the government, as a provider for the poor and the marginalized sector and facilitator for the middle and higher income groups
- Removed the legal constraints in the access to land and finance.
- Established National Housing Bank (NHB), for providing finance to housing.

Draft National housing policy 1988 was reviewed, revised and redrafted as the National Housing Policy 1994. Draft was placed before the Parliament in 1992, which was approved in August, 1994. The policy revolved around;

- Recognized the role and importance of both rural and urban housing in the overall development of the poor, in both the rural and urban areas.
- Providing housing for all.
- Government's role to be that of a facilitator to housing rather than a provider of housing.
- Increasing supply of land serviced and supported with basic services for promoting quality living
- Bringing down homelessness and to provide a minimum level of basic amenities.
- Upgrade all the unserviceable houses and houseless households particularly those belonging to the marginalized groups.
- Providing easy and adequate access to finance.
- The National Housing and Habitat Policy, 1998, continued the agenda of the NHP 1994 with focus on;
- Constructing 2 million houses annually – 0.7 million urban and 1.3 million in rural settlements.
- Involving by incentivizing the private and co-operative sectors in the development and construction of houses in general and for poor in particular.

- Creating additional stocks of houses for increasing population
- Providing quality and cost-effective housing; targeting the poor and the vulnerable sections of the society.
- Skilling construction labourers for generating ample employment opportunities through creating building centres.
- Promoting sustainable development of habitat by providing the basic amenities and services along with the shelter.
- Setting up a National Shelter Fund to meet the requirement of low- cost funds for the housing needs of the poor.
- Promoting research and development (R&D) in housing materials and construction technologies, to make optimal use of locally available raw materials.
- Empowering local bodies to discharge their defined responsibilities by preparing District Housing Action Plans (DHAP) for rural areas to meet housing shortages.

Last housing policy in the country was made operational in the year 2007- National Urban Housing and Habitat policy (NUHHP)- besides a Draft National Rental Housing Policy in 2015,- but both these policies focused entirely on the housing needs of the urban areas to the neglect of rural housing. No specific policy for rural India was ever put in place to address the issues and challenges faced by rural housing, despite the fact that housing backlog existing in rural India was more than double than what existed in urban India . Besides, all the three housing policies that came up during 1988-1998 had a urban bias, contributing to the neglect of the rural housing, leading to the growth of huge housing shortages in the rural areas.

Housing Agencies: Assessing their Role in Rural Housing

One of the basic reasons for housing shortages in rural areas is the lack of adequate finance and non-availability of adequate housing sites. The houses for the poor have to be made cost-effective so that they become affordable. In order to address the problem, the Government of India has established dedicated agencies, which are expected to act as a catalyst for promoting the housing in the rural areas on large scale. In the following section. Role and importance of few important agencies have been reviewed in brief, with regard to their context in promoting the cause of housing.

National Housing Bank (NHB)

National Housing Bank (NHB) ,wholly owned subsidiary of the Reserve Bank of India, as an apex financial institution to provide housing finance to the urban and the rural housing

in India, was established in 1988 under the NHB Act of 1987 . NHB does not finance rural housing directly. it promotes housing finance institutions at the local and regional levels schemes funded by Government of India

The policy framework evolved by NHB, revolved around adopting different financing strategies for different income groups. The higher income group could be served by raising resources through the open market and deliver credit with minimum necessary prudential regulations by the regulator. For the BPL families, the institutional credit needs to be provided taking into account the employment and poverty alleviation programmes ,which invariably have an element of subsidy. The middle-income group comprising almost half of the population could be served through formal financial institution without any element of subsidy. through its refinance schemes (Vora, 1999).

The NHB has implemented centrally sponsored, *Golden Jubilee Rural Housing Finance Scheme (GJRHFS)*: GJRHFS for rural areas to provide credit to construct modest new house or improve the existing dwelling units in rural areas. National Housing Bank also launched *Rural Housing Fund*, in 2008 to finance the rural housing. However, allocations remained meagre and inadequate. Despite the fact rural India having more than 70 per cent of the total housing shortages, allocations made was only 10 percent of the total housing finance. In order to provide *Affordable Housing for All*, a sum of Rs. 1200 crore was allocated to be used for funding the housing of the people falling under the weaker section of the society.

Housing and Urban Development Corporation (HUDCO)

HUDCO established in 1970, as a public sector company, under the Ministry of Housing and Urban Poverty Alleviation (MoHUPA), for accelerating the housing growth in urban areas, was also mandated to look after and contribute a portion of its fund to rural housing with focus on the Economically Weaker Sections (EWS). Housing schemes financed by HUDCO in rural areas were:

- i) EWS rural housing schemes for landless persons.
- ii) EWS rural housing schemes for land owning persons;
- iii) The development of village *abadi* scheme including repair of houses.

Under first scheme, HUDCO supplemented the efforts of the state government in providing housing sites for the landless poor; second scheme focused on providing cost- subsidy loan to facilitate the construction of houses while third scheme aimed at improving the quality of houses and the habitat by facilitating sanitation, drainage system, toilets, water supply,

road links etc. HUDCO has an important role to play in providing housing finance to the rural areas but majority of its funds are allocated towards the urban middle class. Although HUDCO has schemes for the EWS landless, EWS land owning and the village *abadi* schemes but they have remained mostly inaccessible to the rural masses

The National Bank for Agriculture and Rural Development (NABARD) has also been financing rural housing under the segment of non-rural farm sector to individuals as well as cooperative societies.

Major Housing Schemes promoting Rural Housing and Habitat

Rural housing in India, has been impacted to a large extent by two major and large scale housing related schemes namely; Indira Awaas Yojna and Pradhan Mantri Awaas Yojna-Grameen. Schemes, which have been detailed below.

Indira Awas Yojana

- Indira Awas Yojana (IAY) remains the first and the most forward looking housing programme, ever launched by the government focusing on the rural India, for providing housing to the rural population in need of appropriate housing. Yojana has its roots in the 6th Five Year Plan when it was launched as a sub-scheme of RLEGP. Later it was made a sub-scheme of *Jawahar Rozgar Yojana* (JRY) and in 1996, it became an independent programme under the Ministry of Rural Development, Government of India.
- Yojna was , primarily and essentially, conceived as the part of the larger strategy of reducing and eradicating poverty in rural India. IAY is conceived and operated as a cash subsidy- based programme under which assistance is provided to the rural BPL families for constructing dwelling units on their own, using their own design and technology.
- The subsidy provided to the beneficiaries is shared between the centre and the state with centre being the major contributor.
- The IAY was implemented through the District Rural Development Agencies (DRDAs).
- At the village level, Gram Sabhas was given the power, authority and mandate, to identify and select the beneficiaries.
- The Department of Rural Employment and Poverty Alleviation, government of India, was entrusted with the responsibility of the release of the central share of funds; providing overall guidance and undertaking policy-making, monitoring and evaluation of the rural housing programme, at the national level.

- From 1993-94, IAY covered the non-SC/ST people who belong to the BPL category. From 1995-96 onwards, the IAY benefits were later extended to widows or next-of-kin of defense personnel killed in action. Benefits had also been extended to ex-servicemen and retired members of the paramilitary forces as long as they fulfilled the normal eligibility conditions of IAY.
- Three per cent of funds were reserved for the disabled persons living below the poverty-line in rural areas. Since 2006-07, IAY funds were also being earmarked for minorities.
- The share of IAY was made to increase from 6 per cent to 10 per cent out of the total fund of JRY. Since 1999-2000 the scope of IAY was further widened since it also started covering the improvements in the *kutchha* unserviceable houses of the rural areas in order to provide sustainable living.
- IAY provided credit with subsidy for the rural poor to improve the quality of their houses.
- Since inception of IAY, 351 lakhs dwellings had been constructed, incurring an expenditure of Rs. 1,05,815.80 crores (GOI, 2016)
- IAY, despite being the flagship programme for the rural housing, was marred with number of shortcomings right from its inception.
- Though IAY guidelines had a mention of providing basic amenities with housing, the schemes meant for basic amenities never got interlinked with the IAY. There was a complain of partiality and biasness in the selection of beneficiaries by *panchayats* and concerned officials, due to limited availability of funds. (Majumdar, B., 2005).
- Local NGO and SHG were not involved in educating and creating awareness about the benefits and process of implementation of the scheme to the people.
- The major problem was inadequate allocation of funds under the scheme, which were not sufficient to successfully construct a decent and livable house, and therefore called for significant enhancement of the funds under the scheme (Government of Haryana, 2015).
- Due to insufficient allocation of funds made available to the beneficiaries, houses built under IAY were largely unsustainable and provided poor living conditions. The poor construction of the houses made houses economically unviable, since the repair costs incurred from time to time had put a massive financial burden on its inhabitants. Newly constructed houses were accordingly not maintained properly by the beneficiaries.
- The average lifespan of a house constructed under IAY was supposed to be 30 years but in reality, these houses did not last any longer than 10 years. The dilapidation of houses at such a fast rate had only added to the housing backlog.

- The Panchayati Raj Institutions (PRI) role had been approached more as an instrument rather than for integration (Sharma, 1996). Subsidized houses provided by the government lacked adequate space for living and were defined without making a thorough research on the space needed by the household in rural areas.
- Due to different activities taken up by the beneficiaries, for livelihood in rural areas, the occupants needed more area for keeping their livestock and agricultural produce etc. Moreover, the rural poor needed durable and serviceable house as it was not economically viable for them to repair and replace it frequently.
- Evaluation made of the performance audit, conducted by Comptroller and Auditor General of India (C&AG), in respect of Indira Awaas Yojana (IAY) in the year 2014

identified number of gaps. Audit made of the Indira Awaas Yojna found that scheme was riddled with , numerous design and operational problems at various levels of conceptualization and implementation, in terms of;

- Non- assessment of realistic Housing Shortage
- Lack of transparency in selection of beneficiaries
- Weak mechanism for monitoring
- Low quality of houses and lack of technical supervision
- Lack of convergence
- Loans not rationally used by the identified beneficiaries
- Indira Awaas Yojana could not bridge the gap in housing shortage in the country significantly and the problem of housing shortage assessed at the beginning of 11th Five Year Plan remained almost static.

Migrating from Indira Awas Yojana to Pradhan Mantri Awaas Yojana (Grameen)

Housing being universally recognized and valued as one of the three basic human needs. Reducing rural housing shortage and improving the quality of housing especially for the poor has been accepted and recognized as an important component of the poverty alleviation strategy of the Government of India. As detailed above, Indira Awaas Yojana, as an independent scheme, started in January 1996 for making available houses for poor in rural India, was found to be riddled with numerous design and operational problems at various stages of conceptualization and implementation.

To address the gaps and inadequacies pointed out in IAY by the Comptroller and Auditor General of India (C&AG) in its audit report, and to make the scheme more transparent, rational, focused, effective and efficient, Government of India reshaped and redefined the intent, content and scope of the scheme and renamed the scheme .Making substantial changes in the Indira Awas Yojana, the Government of India, under its, 'Housing for All',

mission, renamed it as Pradhan Mantri Awas Yojana (Gramin) in 2016, with following changes;

- Financial assistance hiked substantially from Rs 70,000 & 75,000 to 1.2 lakhs per housing unit for the plains and 1.3 lakhs for the hilly areas,
- Area of the dwelling unit increased and enlarged from 20sqm to 25 sqms.
- Mismanagement of funds checked and monitored, by electronically transferring the money directly into the account of the beneficiary, with progress of the payment tracked through a mobile application.
- Creating National Technical Support Agency (NTSA) to ensure the quality of the houses constructed.
- Basic amenities and sustainable living provided to the rural houses through integration with the various existing schemes introduced by the government of India including; Swachh Bharat Mission; National Rural Drinking Water Program for supply of water; Deen Dayal Upadhyay Gram Jyoti Yojana Rural Electrification Program for making available electric connection; Pradhan Mantri Ujjwala Yojana and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) for generating employment.
- Using MGNREGA for facilitating the production of building materials and basic group/individual amenities, such as development of housing sites, bio-fencing, paved pathways, approach roads etc.
- Making available Corporate Social Responsibility funds for utilization, by the state and union territory governments, for the welfare of the beneficiaries.
- Ensuring completion of pending IAY houses by providing additional funds. Progressive reforms of the PMAY-G also been extended to IAY houses, enabling beneficiaries to construct decent houses for themselves.
- Effective monitoring and evaluation has led to completion of 43.02 lakh IAY houses in last four years ie between 2016- 17 and FY 2020-21

Pradhan Mantri Awaas Yojana– Grameen

With Government of India recognizing housing as one of the basic human need ; promising to bridge the gaps existing in the rural housing schemes and to fulfill the commitment of providing “Housing for All” by 2022; Indira Awaas Yojana was re-structured into Pradhan Mantri Awaas Yojana –Gramin (PMAY-G). Launched on November 20, 2016 with the objective to construct 2.95 Crore houses in the rural India by the year 2022. PMAY-G, aims at providing a pucca house, duly supported with basic amenities, to all identified houseless families and families living in kutchha and dilapidated houses in rural India, based on housing deprivation data sourced from Socio – Economic Caste Census (SECC)-2011 survey.

Recent assessment made of the status of the scheme, by the Government of India, has revealed that, 82 lakh listed beneficiary households have either constructed their houses during the intervening period or were found ineligible, leaving 2.13 crore eligible beneficiaries. Till March30,2021, 1.92 crore houses have already been sanctioned and 1.36 crore houses have been completed. Accordingly, in all 2.10 crore rural homes have been completed under both the schemes , IAY & PMAY-G, during last 7 years of their operation ie 2014-2021.

Salient features of PMAY-G :

Major identified features of the PMAY-G, include;

- Using SECC-2011 house deprivation data for identification of beneficiaries under the scheme.
- Construction of 2.95 crore rural houses by the year 2022.
- Increasing and enhancing the monetary assistance under the scheme to Rs.1.20 lakh in plains and Rs.1.30 lakh in hilly states, difficult areas and Integrated Action Plan districts in tribal and backward regions. Add on to the PMAY-G, other benefits, makes total support works out to be Rs 1,50,000/-per beneficiary household.
- Size of the housing unit (house) increased from ,20 sq.mt. to 25 sq.mt. including a dedicated area for hygienic cooking.
- Direct Benefit Transfer, of assistance promised, to the bank account of beneficiaries
- Convergence of all prevailing Yojnas and Missions launched for rural areas with the scheme for providing basic amenities to beneficiaries.
- Conducting Awaas+ survey to identify otherwise eligible households, who got left out in the SECC 2011,with ceiling of 2.95 crore houses to be constructed.
- Monitoring progress of construction of houses, through geo-referenced photographs using Awaas App.
- Providing beneficiaries with wide range of choice of structurally sound, aesthetically, culturally and environmentally appropriate house designs to choose from rather than following standard cement concrete house designs
- Training of Rural Masons for undertaking quality construction
- Improving quality of house construction and timely completion of houses in the shortest time span.
- Reducing the time period of completion of houses.
- Ensuring construction of quality houses by the beneficiaries using local materials and trained masons.



Source- Government of India; Department of Rural Development.

Promoting Convergence;

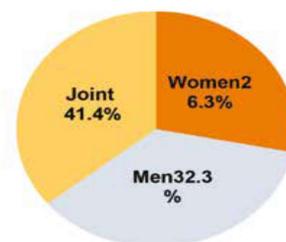
For making scheme more effective, efficient, financially viable and productive besides converting, “House” to Home”- PMAY-G, includes convergence with other Government schemes involved in making provision of basic amenities viz., toilet, drinking water, electricity, clean & efficient cooking fuel, treatment of solid and liquid waste etc., Accordingly;

- A toilet has been made integral part of the PMAY-G house. The house shall be treated as complete only after the toilet has been constructed. Support (Rs.12,000/-) for toilets is available under Swachh Bharat Mission – Gramin .
- Making provision of 90/95 person days of un-skilled labour wage permitted under MGNREGA for construction of house, over and above the unit assistance, amounting to about Rs 18,000/-
- Houses electrified through Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY)/ Saubhagya scheme of Ministry of Power.
- Free LPG connection provided through Pradhan Mantri Ujjwala Yojana (PMUY) of Ministry of Petroleum & Natural Gas.
- Efforts are also being made for providing piped water supply under Jal Jeewan Mission.
- Add on to the PMAY-G- makes total support works out to be—Rs 1,50,000/- for each housing unit.

Identifying right Beneficiaries-

Innovations used for the identification and selection of the beneficiaries, in an objective and transparent manner , remains one of the most important and valuable features of PMAY-G, which include;

- Selection based on the housing deprivation parameters defined in the SECC 2011 data and validation of the beneficiaries by the Gram Sabha to ensure that the assistance is provided to the genuine and needy people with priority going to houseless households living in kutcha wall and kutcha roof.
- SPainting, on the walls of public buildings and Panchayat offices, Gram Panchayat-wise Permanent Wait List to ensure that eligible households are aware of their eligibility and can bear the wait for their turn
- Putting in a place an appellate process to address the grievances of the beneficiary selection,
- Allotment of house made jointly in the name of husband and wife except in case of widow, unmarried and separate person. 68% of the houses have been sanctioned either solely or jointly in the name of rural women.



Promoting Quality Construction

- For ensuring good quality of house, training and certification programs have been launched pan-India to train rural masons to construct good houses using locally available material.
- 1.18 lakh rural masons have so far been trained and certified to exacting skill standards (NSQF), to provide quality masons for construction of the houses (April 8,2021).
- Choice based options made available to beneficiaries in terms of large number of house designs ,involving disaster resilient features, suitable to local geo-climatic conditions, to choose the most appropriate design for their house.
- A compendium of region-specific house designs with the name 'Pahal' including 108 house designs for 62 housing zones in 15 States , published and released by the Ministry
- House designs based on promoting environment, ecology, energy conservation and climatic conditions to make them cost-effective, and disaster resilient, considering local geo-climatic and local cultural; having minimum carbon footprints.

Supporting Beneficiaries

Making provision of basic amenities integral part of house and promoting active participation of the beneficiary in the construction of his Pucca house, have been stressed as integral part of implementation of the Yojna, for creating a sense of belongingness with the place. In order to make this happen, scheme provides number of options for handholding and support to the beneficiaries in terms of;

- Sensitizing beneficiaries about the scheme.
- Providing number of options for house design
- Making available list of trained masons with contact details
- Organizing visits to model/demonstration houses.
- Making available contact details of material suppliers in the area dealing with specific requirements of house designs.
- Providing support in construction of houses; the old and differently abled beneficiaries

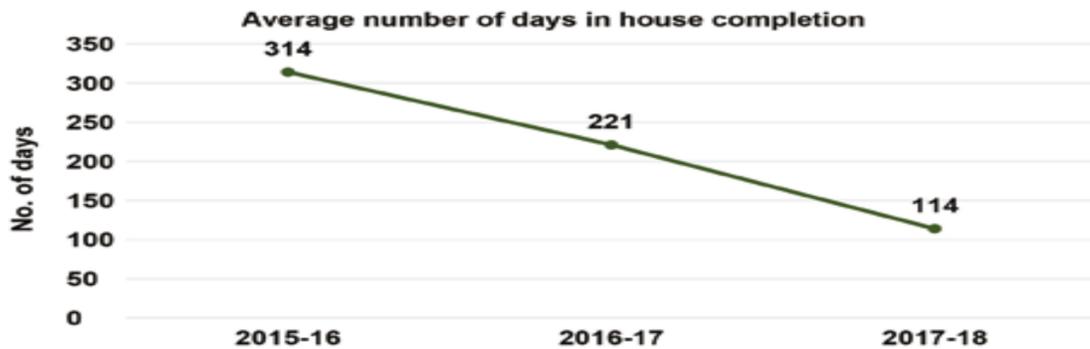
Evidence based Monitoring and Impact Assessment

In order to eliminate any mismanagement of the benefits provided under Yojna and to ensure that houses are actually constructed on ground; a system of evidence based monitoring has been built in the scheme, involving;

- Scheme monitored through an end-to end e-Governance model – using MIS Awaas Soft and Awaas App-- mobile application.
- All critical functions of PMAY-G, right from identification of beneficiary to providing construction- linked-assistance, carried out on MIS-Awaas Soft.
- The payment to the beneficiaries routed through Direct Benefit Transfer (DBT) into the accounts of the beneficiaries
- Geo-tagging and time stamped photographs of different stages of house construction, linked with the release of subsequent instalments of financial assistance.
- Captured photographs used for reviewing the construction quality/ completion of the houses.
- Making available entire progress data in public domain for promoting transparency.
- Multi-level Monitoring involving Social Audit through Community participation and DISHA Committee meetings ,headed by Members of Parliament
- National/state level monitoring by Central and State Government officials.

Impact Assessment

- The evaluation study of Governance reform under PMAY-G , conducted by the National Institute of Public Finance and Policy (NIPFP) during 2018-19, provides that average number of days taken for completion of a house has come down considerably from 314 days in FY 2015-16 to 114 days in FY 2017-18.



- Source: NIPFP study
- The Evaluation Study Report (2020) of NITI Aayog provides that reforms introduced under PMAY-G, have brought improvements in identification of beneficiaries. Use of IT in resource management and funding pattern, has resulted in better performance in completion of houses and in monitoring mechanisms. The study also highlights improvement in the standard of living of PMAYG beneficiaries.
- **Going an Extra mile during COVID-19 crisis-** As per details made available, time for completion of houses under PMAY-G has been drastically reduced from 114 days to a mere 45-60 days during the pandemic--classic example of converting the coronavirus crisis into an opportunity.

Garib Kalyan Rozgar Abhiyan

- Under Garib Kalyan Rozgar Abhiyan (GKRA), launched during the pandemic, number of projects have been completed across various states, generating employment opportunities on large scale. As per GKRA portal, a total expenditure of Rs. 5618.19 Crore has been incurred under PMAY-G.

Way-forward to Approach Rural Housing

- Considering the magnitude of housing problem existing in rural India, estimated to be more than double the urban housing shortage, rural housing needs to be dealt on priority based on exclusivity and independent footing, both in terms of policy and action formulation to achieve the objective of '*Housing for All, 'in rural areas*
- *Rural India , may also need a dedicated Rural Housing Policy on the pattern followed in the National Urban Housing Policy 200,7 to focus and promote rural housing.*
- Considering the context, nature, complexities, culture and magnitude of problems, rural housing has to be dealt on different footing when compared with urban housing.
- Rural housing remains simple, economical and rooted to the local culture and as such needs to be dealt differently and distinctly from urban housing.

- Rural housing should not to be seen in isolation, but linked to larger economic and social context of; generating employment and generation of resources for empowering rural poor to make value addition to their living.
- Creating additional dedicated rural- focused financial institutions for making large funds available to rural India with ease and minimum of documentation on affordable and low rate of interest, to minimize the incidence of sourcing high-cost funds from informal resources.
- Mandating NHB and the HUDCO to provide and make accessible increased finances to the rural areas by allocating majority of its funds to rural housing instead of urban housing.
- Allocating higher percentage of GDP for rural/urban housing sector, for making available adequate financial resources for funding the rural housing.
- Skilling rural India would be critical for making early completion of houses and making them sustainable and cost-effective.
- Skilling rural India in the art and science of cost-effective, reliable and time-tested construction technologies, to ensure qualitative construction of housing,
- Involving IITs/NITs and reputed technical institutions involved in construction of buildings for promoting research and development in the area of local building materials and construction technologies, to make construction of houses both cost-effective and time-efficient.
- Promoting industries engaged in construction for large scale production of building materials from agricultural and industrial waste to ensure uninterrupted availability of building materials.
- Viewing housing in the larger context, duly supplemented with appropriate physical and social infrastructure, to make them integral part of rural habitat.
- Planning rural housing, duly supported with the basic amenities, following a cluster approach, for optimizing the use of available land, promoting planned, self-contained and cost-effective rural shelter in an integrated manner.
- Planning and designing rural houses differently from urban housing with focus on optimum utilization of available space, putting them to multiple uses and moving for formal to informal living.
- Engaging and involving actively, Architects, planners and engineers in aiding, advising and assisting in the planning, designing and construction of dwelling units.
- Making village planning , development along with providing basic amenities and services , integral part of rural housing to make villages self-reliant and self-sustaining habitat.

- Adopting Co-operative mode for planning ,designing and construction of rural housing rather than making an individual based activity for bringing operational efficiency and promoting overall development of rural settlements.
- Villagers need to be skilled in the art and science of construction and operation of housing for promoting self-help in construction and promoting innovations and cost-effective housing.
- Nirmiti Kendras (Building Centres), need to be promoted and empowered for skilling rural India in the art and science of producing goods and products to be used in construction and aiding and advising beneficiaries to construct their houses in an effective and efficient manner.
- Rural houses need to be planned, designed and constructed for safety, to secure them against all natural and manmade disasters.
- Local materials to be used in construction, must be reinvented, improved and upgraded to promote longevity requiring minimum maintenance and upkeep.
- Houses to be constructed must be viewed in life cycle cost rather than initial cost to make them promoters of affordable living.
- New housing to be constructed should be planned, designed and constructed in close vicinity of existing rural settlement to make them integral part of social fabric of existing rural settlement and not removed to far off place, to isolate such households from main social life of village.
- Area allocation to individual households has to be seen in the larger context of living and working and not merely for living alone. Cultural habits of the villagers need to be seen and studied in detail, before designing the proto-type houses. Role of animals/birds as integral part of rural living should also be considered, studied and evaluated.
- Housing design should invariably focus on providing adequate air, light, ventilation, privacy and security. and ventilation to all spces provided in the house to promote healthy living.
- Adopting innovations promoted by Lauri Baker in the area of rural housing by; combining traditional building construction methods with modern architecture to ensure cost- effectiveness, environment friendliness and structural strength of the houses, while preserving cultural identity.
- Promoting rat- trap bond for laying bricks for constructing walls; using Mangalore tiles for roofing; using frameless doors on pivots; replacing windows with jaalis ; making flooring with red or black oxide; using recycled scrap wood for switchboards/lamps; using corbels or arches and brick on edges instead of beams and lintels; sharing common walls; minimizing number of doors; using lime as mortar instead of cement, for promoting cost -effectiveness in rural housing.

- Synergizing rural and urban housing to make optimum use of innovation made in both the sectors by linking effectively and efficiently both PMAY-G& PMAY-U, to avoid duplication, overlap and contradictions emerging in their planning, designing and construction.
- Facilitating access to information on innovation, design, structures, construction materials, building technologies, safety of structure to avoid construction of poor-quality housing.
- Putting in place an effective mechanism to ensure addition of good quality rural housing stock on continued basis to meet the existing shortage and cater to the additional need of the housing arising due to increased rural population and families becoming unitary.
- Evolving effective and efficient system of retrofitting of existing housing to save existing rural housing stock from dilapidation, damage and obsolescence.
- Evolving effective strategies and appropriate options for design and construction of safe and secure rural housing, to save large destruction of rural housing stock in the coastal areas prone to cyclone and housing falling in the earthquake zone.
- Providing accessibility to education, healthcare facilities, livelihood and infrastructure, as an integral part of rural housing for ensuring sustainable rural growth.
- Taking up Regional Planning, District Planning and Metropolitan Planning, on priority to ensure rural- urban continuum and taking care of the shelter related needs of both rural and urban areas.
- Making Corporate Social Responsibility, integral part of rural housing for making larger funds available for rural housing and creating adequate and affordable housing stock in rural India, by involving corporate and private sectors.
- Empowering *Panchayati Raj* institutions, for land mobilization, selection of beneficiaries, ensuring quality construction, proper implementation and monitoring of the schemes, besides making them active partners in policy formulation.
- Reinventing the construction sector, by creating easy-to-use construction machinery, pre-fabricated components, using agricultural and industrial byproduct-based construction materials, and introducing advanced architectural features that enhance the quality and sustainability besides making value addition to the rural houses, without increasing the cost and adversely impacting the safety.
- Promoting labour intensive construction activities involving locally sourced materials and indigenous building techniques to generate employment opportunities.

- BMTPC and NBCCL to be involved and made active partner in promoting sustainable housing technologies, through technology dissemination; sourcing and distribution of cost-effective and sustainable construction materials.
- *Note ; This writeup is based on contents of Working Paper Rural Housing in India Status and Policy Challenges; Abhay Kumar, Aniruddha, Deba Rajat Sinha, September 2016 and Booklet- Pradhan Mantri Awaas Yojna- G; Door to dignity; Ministry of Information and Broadcasting; Government of India; which is gratefully and thankfully acknowledged.*

Chapter 18

Norms and Standards for Housing

Introduction

Norms and standards are integral part of the planning process. No physical planning of any area, place, community and city can be made rational, unless supported and based on the rational, realistic, effective and efficient system of well-defined and well-articulated norms and standards, related to various amenities and facilities to be provided. These norms and standards try to bring objectivity by avoiding subjectivity driven by whims and fancies of planners and other stakeholders. They are also known to promote optimum utilization, cost-effectiveness and efficiency of the available resources by avoiding over and under-provision of basic essentials for any project. They remain demand driven, catering to basic human needs of the residents. These norms and standards remain valuable for serving the larger public interest and making sure that development remains relevant to the purpose of making human settlements, sustainable, equitable, inclusive and people centric. These standards are used while carrying out the planning, sub-division of land and preparing layout of any area or defining the future fabric of the city. They are in the form of codes or regulations put in place by statutory authorities, pertaining to defining space requirement, population served, usages permitted, facilities to be provided etc. They generally remain population, area and location specific. They form integral part of the legal system/framework, regulating and guiding the development of the area so that communities residing in the area remain self-contained and self-sufficient in the basic day-to-day human needs. They are defined following a hierarchy of facilities to be provided in the city and remain relevant to the levels; they are supposed to serve.

Providing access to basic services and promoting social well-being, remains the primary and essential duty of every physical planner, engaged in undertaking the planning of any area. No social well-being can be ensured and achieved without making adequate provision of supportive facilities, amenities and infrastructure in the human settlements. Norms and Standards, defining the essentials for human living in that physical space, remain relevant for improved performance and quality of life in the area besides providing measurement for the provision of social services and public facilities. They also serve as a guide to planners, promoters and developers by defining amenities and services to be provided and included, besides serving as a ready-reckoner for the authorities for evaluating any planning proposal, with regard to adequacy of amenities and services in the area proposed for development, before granting statutory approvals.

According to, 'International Standards Organization', norms and standards are documents that provide requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose. Norms and Standards allow technology to work seamlessly and establish trust so that process of planning is able to promote state of art development of any area. Standards ensure consistency of essential services, such as quality, equity, accessibility, ecology, safety, economy, reliability, compatibility, interoperability, efficiency and effectiveness. Standards codify the latest technologies and remain invaluable source of essentials for the physical planning process. Norms and standards never remain static. They are always evolving and devolving in order to remain relevant to the prevalent culture, changing needs of the community, technological innovations, socio-economic and cultural development of the area and community. They remain relevant and connected to the size of the city, number of people to be served, services to be provided, prevailing densities, permissibility with regard to build-space, floor area ratio, height, existing physical terrain, physical limitations, available land and legal framework guiding, regulating and defining the social, physical, economic fabric and structure of development. Norms and Standards and their developmental framework, invariably impact and guide, almost all areas of human living and physical planning.

"Norms" have also been defined, in the parlance of planning, as the socially or institutionally set of values which shape and govern the behavioral pattern of human living including physical and social relations in a given space, "Standards" have been defined as level and quality of infrastructure services that would be required to make the built environment livable, sustainable, functional and desirable.

Physical planning of cities, towns including their different uses/components, as a process, has been integral part of human history. In large majority of cases, these plans have never been on the same wave-length and platform, because norms and standards defining the land-uses and providing basic infrastructure and services were conspicuous by their absence. Accordingly, many such plans failed on the altar of providing adequate and supportive infrastructures and services to the communities, for which they were planned. Communities and cities accordingly, suffered enormously due to inadequate availability of essential and basic services. Planning and development intervention failed in the process to provide an appropriate level of quality of life and also failed to quantify, provide and meet the long-term demand /needs of the essential services for the cities. Accordingly, formulation, defining and detailing of the Planning Norms and Standards became necessary and assumed importance, to manage effectively the urban environment, improve the economic efficiency and the quality of life of urban area.

The main objective of this planning norms and standards remain centric to;

- Facilitating urban designers, planners and policy makers to identify and forecast essential infrastructure needs of an urban area; as well as help prepare rational and realistic urban plans and programs.
- Enriching understanding of urban form and land use to create synergy and balance between them.
- Guiding the development and management of physical, social and economic infrastructure services in a planned manner.
- Working as a tool for standardizing the planning of urban development projects.
- Defining, qualitatively and quantitatively, norms and standards for land use, physical, economic, social, environmental infrastructures.
- Ensuring conformity of planning with specified standards of development
- Acting like a *control mechanism* to make physical development process compliant with the needs of population of the area.
- Promoting spatial equity.
- Focusing on existing and future growth potential.
- Leveraging private sector.
- Avoiding overlap, duplication and wastage of resources
- Defining hierarchy of utilities/spaces/ levels of services
- Removing mismatch between equality and equity.
- Making planning people and community centric.
- Categorization of urban spaces
- Ensuring safety, security, health, comfort, quality of life to the community served and quality of environment.
- Ensuring adequate provision of the physical, social and economic infrastructure and services on the prescribed and specified norms.
- Ensuring equity-based access to even the poorest of the poor of the citizens to the basic and essential services and amenities.
- Making development sustainable and eco-friendly.

Defining norms for social infrastructures

As already stated, housing does not imply and remains confined to four walls enclosing the social space for a family, but has much wider connotations for human living, growth and development. Accordingly housing needs to be supported with all physical, social and economic amenities and services so that all four basic human needs of living, working, culture of body & mind, and circulation are appropriately met with and provided as

integral part of housing. Such services include; water supply, sewerage, roads, sanitation, drainage, electricity, healthcare, education, leisure, open spaces, parks, play grounds, shopping, security, fire services etc. Since they are to be provided as integral part of the planning process, accordingly, it will be logical and rational, that they are appropriately defined and detailed. These amenities are generally defined in two distinct terms for housing.

Firstly, these norms are defined in terms of housing as a structure, which aims at make house a home and a healthy and happy place to live besides making it secure and safe. This will include, site, location, materials used in construction, technology used in construction, provision of services, air, light, ventilation, promoting structural safety, availability of adequate living space, minimum standards of rooms for human habitations, public health services, circulation, both mechanical & human driven, fire/earthquake safety, water supply/efficiency, sewerage, drainage, landscaping, rain water harvesting, solar energy, set-backs, height, coverage etc.

Secondly, in the larger context, house is seen as integral part of community, neighborhood and the urban habitat, where it is located. Accordingly, house will have to be supported by amenities which remain relevant and essential for human living and development. These amenities are treated as social amenities/infrastructures and are defined in terms of norms and standards for healthcare, hospitals, dispensaries, education both at school and higher level of technical education; entertainment, leisure, shopping, parks, open spaces , play grounds, fire station, police stations, disaster centres etc. Few of these have been defined below. However, these norms and standards are defined basically on the following broad parameters considering the level / of city where they are provided. These norms are defined to minimize the use of land; optimize the use of available land; promoting cost-effectiveness; promoting equitable spatial distribution; promoting equity; ensuring universal accessibility; considering basic human needs; prevailing culture; socio-economic status; existing physical terrain; physiography etc. These norms and standards are specified based on following considerations;

- Population Threshold (both minimum and maximum); population proposed to be served.
- Capacity – number of users which can be accommodated
- Density defined in the Development Plan
- Maximizing overall Accessibility
- Achieving affordability
- Achieving equitable access to minimum level of services/economic and business opportunities/recreational facilities/range of transport options/ shelter etc
- Threshold of Area proposed to be served
- Hierarchy of the infrastructure- city/sub-city/district/NH/housing cluster

- Distance required to achieve the minimum population to be served
- Services to be rendered and amenities to be provided
- Number of beds required- in case of healthcare
- Covered/ built area and open space requirement
- Parking space required
- Siting of the facility
- Achieving gender equality
- Achieving multiple usage
- User's perception
- Choices available
- Looking at sustainability
- Looking at prevailing culture
- Ensuring cost-effectiveness
- Making optimum utilization of land
- Making optimum utilization of available resources
- Minimizing travel and traffic
- Age, socio-economic status of the beneficiaries
- Area of the Site
- Development controls; permitted height, floor area ratio, height etc.

However, there exists no uniformity in norms and standards, specified and they continue to differ from state to state and even city to city, in intent, content and scope. However, National Building Code; and Urban and Regional Development Plans Formulations and Implementation guidelines (URDPFI), framed by the Ministry of Urban Development, Government of India, has made an attempt to bring uniformity in the planning related norms and standards in the country, but the objective of uniformity remains elusive. Most of the planning norms and standards detailed out in the URDPFI guidelines have their genesis and basis in the norms and standards specified in the Delhi Master Plans and remain Delhi centric. To what extent these are based on research, study and analysis, remains a moot question. However, Delhi, being the National Capital, has a different context. Delhi cannot be taken as a role model of planning norms and standards and they should not be blindly copied and pasted. Planning norms need to be defined by each state, logically and rationally, considering their culture, pattern of development and needs of the community. Planning norms will be different for hill states of India and cities having hilly terrain. Planning norms should also be defined for the rural settlements, making provision of the essential services on the prescribed norms so as promote quality of life in these settlements and allowing states to assess the livability in the rural settlements by quantifying the infrastructural gaps in these settlements.

Planning norms and standards, defining the infrastructures, amenities and services required, as a part of planning process, remain valuable, essential and critical and they need to be quantified both in terms of quantity and quality, to rationalize the planning process and make it effective, efficient and community centric. Since all amenities and services are essentially consumers of land, accordingly they need to be made land efficient. Since India already suffers from low per capita availability of land (2.4% global land holding 17.7% of global population); accordingly it will be both relevant and rational, to optimize the available urban land, treating land as the most valuable resource and a gift of nature to mankind and not treating it as a commercial commodity for sale and speculation.

Further, since creation of urban amenities consume lot of financial and other resources, accordingly, it will be logical and essential to make provision of amenities /infrastructure, both cost-effective and efficient. Cost-effectiveness can be easily achieved, if the available facilities are put to multiple use. Like running schools/educational institutions in double shifts instead of single shift, which can help in minimizing the number of such facilities by half; lowering the cost of amenities and lowering the cost of imparting education, to make it affordable and cost-effective for majority of Indians. School grounds can be used by the community, as play spaces in the evening, can eliminate the need of providing separate playgrounds at the local level.

Since cities are large consumers of energy and resources besides generating lot of waste, accordingly, planning norms and standards must be defined in such a manner so that cities consume minimum non-renewable resources and promote urban sustainability. Further rationalizing of planning norms can go along way in reducing the carbon footprints of the city. It calls for redefining our approach and strategy of evolving all planning norms and standards, so as to make them urban sustainability-centric and promoters of zero- energy; zero-carbon communities/cities.

This would involve undertaking detailed study and analysis of exiting framework and rationalizing it to make them more productive and community focused, requiring least cost. Planning schools and professional institutes and state Departments of Town Planning /Urban Development working jointly can take up this challenge and help redefine the planning norms and standards for making them more rational, realistic, effective and productive.

Norms and Standards of Social Infrastructure

(Source; URDPFI Guidelines 2014-- Ministry of Urban Development)

A. Educational Facilities Pre-Primary to Secondary Education

1. Pre- Primary/Nursery School

- one school for a population of 2500
- area -- 0.08 hectare;

2. ***Primary School*** (class I to V)
 - one school for a population of 5,000
 - Capacity- 500
 - area - 0.40 hectare;
 - Building area-0.20 hectare
 - Play field area -0.20 hectare
 - minimum size of 18 x 36 m to ensure effective play

3. ***Senior Secondary School*** (VI to XII)
 - Capacity----1,000
 - one school for a population of 7,500
 - area -- 1.8 hectare;
 - Building area- 0.60 hectare
 - Play field area – 1.00 hectare
 - Parking Area -- 0.2 hectare

4. ***Integrated School-- without Hostel Facility (I to XII)***
 - Capacity----1,500
 - One school for a population of 90,000- 1,00,000 persons
 - Area -- 3.50 hectare;
 - Building area- 0.70 hectare
 - Play field area – 2.50 hectare
 - Parking Area - 0.3 hectare
 - To be located near the sports facility

- 5 ***Integrated School-- with Hostel Facility (I to XII)***
 - Capacity----1,500
 - One school for a population of 90,000- 1,00,000 persons
 - Area -- 3.90 hectare;
 - Building area- 0.70 hectare
 - Play field area – 2.50 hectare
 - Hostel area -- 0.40 hectare
 - Parking Area - 0.3 hectare
 - To be located near the sports facility

6. ***School for Physically Challenged***
 - Capacity---- 400
 - One school for a population of 45,000 persons
 - Area -- 0.70 hectare;
 - Building area- 0.20 hectare

- Play field area – 0.30 hectare
- Parking Area - 0.20 hectare
- To be located near Park; non-noise polluting zone
- All schools should face service roads and roads with less traffic intensity

7 Technical Centre and Coaching Centre

- Area -- 0.3 hectare;
- -----

B. Professional Education

1. Engineering College

- Capacity----1,500
- One College for a population of 10,00,000 persons
- Area -- 6 hectare;

2. Medical College

- One College for a population of 10,00,000 persons
- Area -- 15 hectare;
- Area of site to include space for a General Hospital

3. Other Professional Colleges

- Capacity---250 to 1,500
- One College for a population of 10,00,000 persons
- Area of site -- 2.0 Hectare--for a student strength of 250
- Additional Area @ 0.50 Hectare- for every additional student strength of 100 or part there of upto a strength of 1000
- Area of Site - 6.00 hectare for student strength of 1000-1500.

4. Nursing and Paramedical Institutes

- One College for a population of 10,00,000 persons
- Area of site -- 2000 Sqm (Subject to the norms prescribed by Nursing Council of India/ Ministry of Health)

5 Veterinary Institute;

- Area per norms as prescribed by Veterinary Council of India- Subject to availability of land.
- -----

C Healthcare Facilities

1. Dispensary

- Number of beds --Nil
 - Population served—15,000
 - Area -- 0.08-0.12 hectare
2. ***Nursing Home, Child Welfare and Maternity Centre***
- Number of beds --25- 30
 - Population served —45,000 to 1 lakh
 - Area -- 0.20-0.30 hectare
3. ***Polyclinic***
- Number of beds -- Some observation beds
 - Population served— 1 lakh
 - Area -- 0.20-0.30 hectare
4. ***Intermediate Hospital- category B***
- Number of beds -- 80 beds; Initially 50 beds may be provided including 20 maternity beds
 - Population served— 1 lakh
 - Area -- 1.00 hectare
 - Hospital – 0.60 Ha & Residential Accommodation- 0.40 Ha
- 5 ***Intermediate Hospital- category A***
- Number of beds -- 200 beds; Initially 100 beds may be provided
 - Population served— 1 lakh
 - Area ---- 3.7 hectare
 - Hospital – 2.70Ha & Residential Accommodation- 1.00 Hectare
- 6 ***Multi- Specialty Hospital***
- Number of beds --200 beds; Initially 100 beds may be provided
 - Population served— 1 lakh
 - Area --9.00 hectare
 - Hospital – 6.00Ha & Residential Accommodation- 3.00 Ha
- 7 ***Specialty Hospital(NBC)***
- Number of beds -- 200 beds; Initially 100 beds may be provided
 - Population served— 1.0 lakh
 - Area -- 3.7 hectare
 - Hospital – 2.70Ha & Residential Accommodation- 1.00 Ha
- 8 ***General Hospital(NBC)***
- Number of beds -- 500 beds; Initially 300 beds may be provided
 - Population served— 2.5 lakh
 - Area -- 6.00 hectare
 - Hospital -4.00 Ha & Residential Accommodation- 2.00 Ha

9 Family Welfare Centre

- Number of beds -- As per Requirement
- Population served— 50,000
- Area --- 500-800 Sqm --

10 Diagnostic Centre

- Number of beds - Nil
- Population served— 50,000
- Area -- 500-800 Sqm

11 Veterinary Hospital for Pets and Animals

- Number of beds -- Nil
- Population served— 5 lakh
- Area -- 2000 Sqm

12 Dispensary for pet Animals and Birds

- Number of beds -- Nil
- Population served— 1lakh
- Area -- 300 Sqm

13 Rehabilitation Centre

- Number of beds -- Nil
 - Population served— Not Specified
 - Area -- As per Requirement
-

D. Hierarchy of Organized Greens;

1.Housing Cluster

- Population served/unit -- 5,000
- Area Requirement -- 0.50 hectare
- Number of Green spaces—3-4 local parks & playgrounds

2. Neighbourhood

- Population served/unit -- 15,000
- Area Requirement -- 1.00 hectare
- Number of Green spaces—3-4 local parks & playgrounds.

3 Community Centre

- Population served/unit -- 1 lakh
- Area Requirement -- 5.00 hectare
- Number of Green spaces—2-3 community level parks & open spaces

4 District/Zone

- Population served/unit -- 5 lakh
- Area Requirement -- 25.00 hectare

- Number of Green spaces— One district level park; & Sports Centre ; Maidan

5 Sub- City Centre

- Population served/unit -- 10 lakh
- Area Requirement -- 100.00 hectare
- Number of Green spaces— One city level park; Sports Complex, botanical/zoological garden ;Maidan.

Notes;

- Open Spces should be spatially distributed over the entire area and put to multiple use
- Open spaces must be provided, for recreational purposes, in any sub-division/planning of any area exceeding 0.3 Ha or more, located in the residential/commercial zones --
- Minimum area of recreational space should not be less than 450 sqm
- Minimum average dimension of the recreatishall not be less than 7.5 m length of open space shall not exceed 2.5 times the average width.
- Each recreational area/structure on it shall have an independent means of access.
- Building line to be at least 3 m away from the boundary of recreational open space.
- Zoological garden to be as per Central Zoo Authority provisions
- Green areas and other associated/non-commercial economic activities should be preferably proposed on Government reserve land .
- In case the open/green spaces, which do not generate income, are proposed on privately owned land, then local authority preparing the plan, shall part with a fair compensation as per, 'The Right to Fair Compensation and Transparency in LARR Act, 2013' to the land owner.

E Sports Facilities

1. Residential unit play area

- Population served per unit- 5,000
- Land area required - 5,000sqm

2. Neighbourhood play area

- Population served per unit- 15,000
- Land area required - 1.5 ha

3. District Sports Centre

- Population served per unit- 1 lakh
- Land area required - 8.00 ha

4. Divisional Sports Centre

- Population served per unit- 10 lakh

- Land area required - 20.00 ha

F. Safety Management- Norms for safety facilities

1. Sub Fire Station / Fire Post

- Distribution of Population--- Within 3-4 km radius
- Area Requirement ---0.6Ha (with essential residential Accommodation)

2. Fire Station

- Population --- 2 lakh or within 5-7 km radius
- Area Requirement ---1.0 Ha; with essential residential Accommodation)

3. Disaster Management Centre

- Population --- one in each administrative zone.
- Area Requirement ---1.0 Ha; along with suitable open area or
---2.0 Ha; if soft parking, temporary shelter, parade ground etc.,
included.

4. Fire Training Institute /College

- Population --- City level- one site in urban extension
- Area Requirement ---3.0 Ha

G Norms for Police, Civil Defence and Home Guards

1. Police Post

- Population --- 40,000- 50,000(area not served by PS)
- Area Requirement ---0.16 Ha inclusive of essential residential Accommodation)

2. Police Station

- Population --- 90,000
- Area Requirement-- 1.5Ha; (Area inclusive of essential residential Accommodation)
---0.05 Ha, additional area provided for civil defence and home guards

3. Traffic and Police Control Room

- Population --- as per requirement

4. District office and Battalion

- Population --- 10 lakh
- Area Requirement --4.8Ha;(District Office=0.80Ha; Battalion=4.00 Ha)

5. Police Line

- Population --- 20 lakh
- Area Requirement -- 4.00 – 600 Ha

6 District Jail

- Population --- 10 lakh
- Area Requirement ---10.0 Ha;

7. Civil Defence and Home Guards

➤ Population --- 10 lakh

➤ Area --2.00 Ha

8. Police Training Institute/ College

➤ Population --- City level- to be located in fringe area

➤ Area -- 5.00 Ha

9. Police Firing Range

➤ Population --- City level- to be located in fringe

➤ area -- up to 10.00 Ha

10. Police Camp including Central Police Org/Security Forces(CSF)

➤ Area -- up to 10.00 Ha

11. Police Booth

➤ Population --- City level- at Major Road intersections

➤ area -- 10-12 sqm(to be provided by transport planners)

➤ -----

H Hierarchy of Commercial Spaces

1. Housing Cluster

➤ Commercial space—Convenient Shopping

➤ Population - 5,000

➤ Area - 1500 sqm

➤ Number of shops—1 for 110 persons

2. Neighbourhood

➤ Population served/unit -- 15,000

➤ Commercial space— Local Shopping including Service Centre

➤ Area Requirement -- 4600 sqm

➤ Number of shops— 1 for 200 persons

3 Community

➤ Commercial space—Community Centre

➤ Population served/unit -- 1 lakh

➤ Area Requirement -- 5.00 hectare

➤ Number of shops— 1 for 200 persons

4 District/Zone

➤ Commercial space—District Centre

➤ Population served/unit -- 5 lakh

➤ Area Requirement -- 40.00 hectare

➤ Number of shops— 1 for 300 persons

5 Sub- City

➤ Commercial space— Sub-city Centre

- Population served/unit -- 25-50 lakh
- Area Requirement -- As Per Requirement

6 City

- Population served/unit -- 50 + lakh
- Commercial space -- City Centre
- Area Requirement -- As Per Requirement

7 Local Wholesale Market /Mandi

- Population served/unit -- 10 lakh
- Area Requirement -- 10 hectare

8 Weekly Market

- Population served -- 1-2 locations for 1-2 lakh population
- Area Requirement -- 0.40 hectare per location

9 Organised Informal Eating Spaces

- Population served -- 1 lakh
- Area Requirement -- 2000sqm

➤ -----

I Norms for Informal Units for Urban Street Vendors

1 Retail

- Number of Informal Units- 3-4units /10 formal shops specified in norms

2 Government and Commercial offices

- Number of Informal Units- 5-6 units /1000 employees

3 Wholesale Trade & Freight Complexes

- Number of Informal Units- 3-4 units /10 formal shops

4 Hospitals

- Number of Informal Units- 3-4units /100 Beds

5 Bus Terminals

- Number of Informal Units- 1 unit /2 Bus bays

6 Primary School

- Number of Informal Units- 3-4 units

7 Senior secondary/integrated school

- Number of Informal Units- 5-6 units

8 Regional/district Parks

- Number of Informal Units- 8-10 units/ major entry

9 Neighbourhood Parks

- Number of Informal Units- 2-3 units

10 Residential

- Number of Informal Units- One units/ 1000 population

11 Industrial

- Number of Informal Units- 5-6 units/ 1000 employees

12 Railway Terminals

- Number of Informal Units- to be based on survey conducted at the time of preparation of the project -----

J Cremation /Burial Grounds/Dhobi Ghat

1. Electrical Crematorium

- Population served -- One for Town
- Area Requirement -- 2.00 Hectare

2. Cremation Ground

- Population served -- 5 lakh
- Area Requirement -- 2.50 Hectare

3. Burial Ground

- Population served -- 5 lakh
- Area Requirement -- 4.00 Hectare

4. Dhobi Ghat – with arrangement for water supply/drainage

- Population served -- 1 lakh
- Area Requirement -- 5,000 sqm

Note; For details of the other Social Infrastructure; please refer to para 8.4 of the URDPFI Guidelines

Haryana Town Planning Norms- Parameters for Grant of Licence:

(Source; website Haryana Department of Town and country Planning; <https://www.tcparyana.gov.in/FunctionAndPolicy.html>)

State of Haryana, remains a pioneer, front runner and ranks high among states in the country in the domain of; involving private sector on large scale in the urban development process; making experimentation, innovations in the art and science of the town planning; giving recognition to the profession of town planning and generating large amount of revenue for the state besides promoting orderly and planned growth of urban and rural settlements.

Haryana model remains unique, distinct and most innovative model of town planning in the country. Model works on the premise that no two settlements are same and each settlement has its specific potential of growth and development. Considering the potential of different settlements/areas , Haryana Town and Country Planning Department has divided the state into three distinct zones. Division of the state into three zones is used for

the purposes of physical planning; licencing of colonies ; defining area norms, fees and charges to be levied for different purposes while licencing colonies. Three distinct zones into which state of Haryana has been divided include -**Hyper/ High Potential Zone; Medium Potential Zone and Low Potential Zone**. The parameters prescribed for licencing of each category of colony are detailed below:-

1. Residential Plotted Colony:-

- Minimum area of residential colony shall be;
- Hyper/ High Potential Zone- 100 Acres
- Medium Potential Zone -50 Acres
- Low Potential Zone -25 Acres
- Plottable area/saleable--not to exceed 55% of the total area of colony ; inclusive of 4% commercial area
- 45% area-- utilized for roads, community buildings, utility buildings and open spaces.
- Sites for community building provided based on prescribe norms
- Norms population based; worked out on densities defined in the Development Plan
- Minimum width of road -- 12 mtrs.
- 20% plots reserved for EWS housing ;minimum plot size-- 50 sqm .
- 25% of total plots under category of 'No Profits No Loss' plots
- (NPNL) i.e. at rate prescribed by Director - size of plots ranging between 125 to 225 sqm.
- Population in colony not to exceed densities defined in Development Plan.

2. Group Housing Colony:-

- Minimum area of Group Housing colony shall be;
- --Hyper/ High Potential Zone- 10 Acres
- -- Medium Potential Zone -5 Acres
- Low Potential Zone -5 Acres
- Group Housing governed by approved zoning regulations
- Ground coverage not to exceed 35% of site area
- Floor area ratio (FAR) fixed at 175
- Maximum habitable height is 60 mtrs .
- Area under group housing not to exceed 20% of sector area.
- Community facilities provided on prescribed norms based on population worked out on density defined in development plan, ranging from 100 to 400 persons per acre

- Convenient shopping to occupy 0.5% of the site area with single storey shops and maximum height of 4 mtrs
- 15% of total number of flats are reserved for EWS
- 10% of the main dwelling units required for service apartments /for domestic help.
- minimum two-level basement for parking and services
- Compulsory provision of one car space for every flat in the housing complex (except EWS)
- Area for EWS and service apartment to be 200 sq.ft. and 140 sq.ft. respectively.
- Mandatory to provide 15% organized green space in the group housing complex.

3. Commercial:-

- Private sector permitted development of maximum 50% of designated commercial areas in the development plans. Parameters for licence in residential colonies are as below:-
- *Minimum area of commercial colony shall be;*
- --Hyper/ High Potential Zone- 8,000- 16000sqm
- -- Medium Potential Zone -8,000-16,000 sqm
- -- Low Potential Zone -4,000- 8,000 sqm
- The commercial colonies licenced for sites falling along the peripheral/sector road in residential sector of the Development Plan.
- Area under licenced colony in a residential sector not to exceed 3.5% of the sector area, subject to minimum and maximum prescribed area limits.
- c) Site to be along a sector peripheral road within provision of service road.
- Maximum ground coverage allowed is 40%
- Floor area ratio is 150 or 175 as opted by a colonizer.
- Maximum Height habitable area limited to 60 mtrs
- Three level basement permitted for providing parking and services .
- No storage allowed in the basement.
- Parking norms -- one car space for every 75 sq. mtrs covered area.

4. Cyber City/Cyber Park:-

- Minimum area of Cyber city colony shall be;
- --Hyper/ High Potential Zone- 50/5-15 Acres
- -- Medium Potential Zone 50/5-15 Acres
- Low Potential Zone -50/ 5-15 Acres
- Location --Site located on the sector peripheral road in residential or industrial sector in the Development Plan.
- In case of residential sectors, the permissible area for IT Park/ Cyber Park not to exceed 5% of the sector area.
- The permissible ground coverage is 40%
- FAR permitted -- 250.
- For cyber cities-- 10% of the area of the site can be utilized for Group Housing and 4% of the area for commercial use.

- In Cyber Parks only 4% of the area can be utilized towards commercial uses. No group housing is permissible.
- Parking requirement-- one car space for every 40 sq. mtrs of covered area.
- Three level basement permissible for parking and service.
- No storage is to be allowed in basement
- In the area designated for IT activities, no other use is permissible. In case of violation-- the colonizer will be required to pay the fee and charges on commercial rates for the area where violation are being committed.
- In case of Cyber City, the colonizer is required to complete at least 30% of the IT area within 5 years of the grant of licence and in case of Cyber Park within three years of grant of licence.

5. Fees and Charges:-

Fees and charges to be paid by colonisers along with its application for grant of licence will include;

- *Scrutiny fees* @ Rs. 10/- per sq. mtrs for the gross area of the colony
- For Group Housing , Commercial and IT, scrutiny fees to be paid based on proposed FAR.
- *Licence fee* and *conversion charges* as prescribed by the Government
- *Infrastructure Development Charges* as per rates prescribed in the Schedule in Rules 1976.
- *External development Charges* (EDC)--proportionate cost of development of the town level infrastructure for a town as decided by the development agency(Haryana Urban Development Authority).

Note; Preparing this document is based on the information sourced from URDPFI Guidelines prepared by the Ministry of Urban Development; Government of India and website of Department of Town & Country Planning, Haryana; which is gratefully and thankfully acknowledged.

Chapter 19

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- Text of Slums in India is based on the data and details reflected in the ppt titled; 'Housing Stock, Amenities& Assets in Slums- Census 2011; by Dr C Chandramouli ; Registrar General & Census Commissioner, India- which author fully appreciates and thankfully acknowledges.
- The text is based on the contents contained in the- National Housing and Habitat Policy, 2007 prepared by the government of India in the Ministry of Housing & Urban Poverty Alleviation, New Delhi.
- The write up is primarily based on the policy document of Affordable Housing Policy, 2013, put in place by the Department of Town and Country Planning, Haryana in 2013, to create large stock of such housing in the urban areas of the state.

Chapter -20

Acronyms and Abbreviations

Source; World Cities Report 2020-The Value of Sustainable Urbanization

- AAAA- Addis Ababa Action Agenda
- AFINUA-- Action Framework for Implementation of the New Urban Agenda
- BRT-- Bus Rapid Transit
- C40 ---C40 Cities Climate Leadership Group
- CAF-- Development Bank for Latin America
- Can\$-- Canadian dollar
- CCI-- Centre for Community Initiatives, Tanzania
- CIS --Commonwealth of Independent States
- COP21-- 2015 United Nations Climate Change Conference
- COP25 -- 2019 United Nations Climate Change Conference
- COVID-19 Coronavirus Disease
- CPI-- City Prosperity Index
- ECLAC-- United Nations Economic Commission for Latin America and the Caribbean
- EDGE-- Excellence in Design for Greater Efficiencies
- FAO-- Food and Agriculture Organization
- FDI- Foreign Direct Investment
- FMDV - Global Fund for Cities Development
- GCF- Green Climate Fund
-
- GDP- Gross Domestic Product
- GNI - Gross National Income
- GPS - Global Positioning System
- GTF- Global Taskforce of Local and Regional Governments
- Habitat III -- United Nations Conference on Housing and Sustainable Urban Development
- HLPF -- United Nations High-level Political Forum on Sustainable Development
- ICLEI-- Local Governments for Sustainability
- IDPs - Internally Displaced Persons
- ILO- International Labour Organization

- IoT- Internet of Things
- IPBES- Inter-governmental Science-Policy Platform on Biodiversity and Ecosystem Services
- IPCC - Intergovernmental Panel on Climate Change
- IUCN- International Union for Conservation of Nature
- LDCs-- Least Developed Countries
- LGF - As Local Government Funding Agencies
- NBS-- Nature-Based Solutions
- NDCs-- Nationally Determined Contributions
- NEN -- National Ecological Network
- NUA-- New Urban Agenda
- NUPs --National Urban Policies
- ODA-- Official Development Assistance
- OECD --Organisation for Economic Co-operation and Development
- PFM -- Pool Financing Mechanism
- PPPs-- Public Private Partnership
- PSUP-- Participatory Slum Upgrading Programme
- R&D - Research and Development
- SDGs- Sustainable Development Goals
- SDSN- United Nations Sustainable Development Solutions Network
- SIDA- Swedish International Development Cooperation Agency
- SMEs --Small and Medium Sized Enterprises
- SPV-- Special Purpose Vehicle
- TfL-- Transport for London
- TRC - Truth and Reconciliation Commission (TRC), Canada
- UCLG- United Cities and Local Government
- UK - United Kingdom
- UNCDF - United Nations Capital Development Fund
- UNDESA - United Nations Department of Economic and Social Affairs
- UNESCO - United Nations Educational, Scientific and Cultural Organization
- UNFCCC - United Nations Framework Convention on Climate Change
- UNICEF- United Nations Children's Fund
- US - United States

- US\$ - United States dollar
- VLRs - Voluntary Local Reviews
- VNRs - Voluntary National Reviews
- WCR - World Cities Report
- WHO - World Health Organization
- WRI - World Resources Institute

LEAVING NO ONE BEHIND--- The United Nations World Water Development Report 2019

- AECID -- Agencia Española de Cooperación Internacional para el Desarrollo – Spanish Agency for International Cooperation and Development
- AIDS-- Acquired Immune Deficiency Syndrome
- ANDA-- Autoridades de la Administración Nacional de Acueductos y Alcantarillados – National Water and Sewerage Administration of El Salvador
- BIOPALT-- BIOSphère et Patrimoine du Lac Tchad - BIOSphere and Heritage of Lake Chad
- BOT - Build–operate–transfer
- CDD --Community-driven development
- DALYs --Disability-adjusted life years
- DDT-- Dichlorodiphenyltrichloroethane
- DEWATS --Decentralized wastewater treatment systems
- ECHO-- European Civil Protection and Humanitarian Aid Operations
- Eco-DRR- Nature-based solutions for disaster risk reduction
- ESD --Education for sustainable development
- EWS-- Early warning systems
- FAO-- Food and Agriculture Organization of the United Nations
- FESPAD- Fundación de Estudios para la Aplicación del Derecho – Foundation for Studies on the Application of Law in El Salvador
- GDP-- Gross domestic product
- GEM-- Global Education Monitoring
- GLAAS-- Global Analysis and Assessment of Sanitation and Drinking-Water
- GPOBA - Global Partnership on Output-Based Aid
- HALEP - High Alert List for Emergency Preparedness
- HDI- Human Development Index
- HICs- High-income countries
- HIV- Human Immunodeficiency Virus

- HRBA- Human rights-based approach
- IBT- Inter-basin transfer (Chapter 2)
- IBT - Increasing block tariff (Chapter 5)
- ICESCR International Covenant on Economic, Social and Cultural Rights
- ICRC- International Committee of the Red Cross
- ICT- Information and communication technology
- IDPs - Internally displaced people
- IFAD- International Fund for Agricultural Development
- ILO - International Labour Organization
- IPCC- Intergovernmental Panel on Climate Change
- NGO- Non-governmental organization
- ODA - Official development assistance
- OHCHR --Office of the United Nations High Commissioner for Human Rights
- OECD -- Organisation for Economic Cooperation and Development
- O&M --Operations and maintenance
- POE-- Point of entry
- POU-- Point of use
- PPP- Purchasing power parity (Prologue, Chapters 7 and 9)
- PPP --Public-private partnership (Chapters 5 and 10)
- PRESIBALT-- Programme de Réhabilitation et de Renforcement de la Résilience des Systèmes Socio- Ecologiques du Bassin du Lac Tchad - Programme to Rehabilitate and Strengthen the Resilience of Lake Chad Basin Systems
- SDGs-- Sustainable Development Goals
- SMEs-- Small- and medium-sized enterprises
- SOIL-- Sustainable Organic Integrated Livelihoods
- SSS --Small-scale system
- SUEN-- Türkiye Su Enstitüsü – Turkish Water Institute
- UIS --Urban Inequities Survey
- UK --United Kingdom
- UN-- United Nations
- UNDESA-- United Nations Department of Economic and Social Affairs
- UNESCAP-- United Nations Economic and Social Commission for Asia and the Pacific
- UNESCO-- United Nations Educational, Scientific and Cultural Organization
- UNHCR --United Nations High Commissioner for Refugees

- UNICEF-- United Nations International Children's Emergency Fund
- USA-- United States of America
- USAID --United States Agency for International Development
- UTI --Urinary tract infection
- WASH- Water, Sanitation and Hygiene
- WETUM --Water Employees Trade Union of Malawi
- WGF-- Water Governance Facility
- WHO-- World Health Organization
- WSSCC-- Water Supply and Sanitation Collaborative Council.

APPENDIX- I

Pradhan Mantri Awas Yojana- Housing for All (Urban)

(Government of India ;Ministry of Housing and Urban Affairs)

Introduction

Pradhan Mantri Awas Yojana (Urban) (PMAY-U), a flagship Mission of Government of India implemented by the Ministry of Housing and Urban Affairs (MoHUA), was launched on 25th June 2015. The Mission addresses urban housing shortage among the EWS/LIG and MIG categories including the slum dwellers by ensuring a *pucca* house to all eligible urban households by the year 2022, when nation completes 75 years of its Independence. PMAY(U) adopts a demand driven approach wherein the Housing shortage is decided based on demand assessment by States/UTs. State Level Nodal Agencies (SLNAs), Urban Local Bodies (ULBs)/ Implementing Agencies (IAs), Central Nodal Agencies (CNAs) and Primary Lending Institutions (PLIs) are main stakeholders who play an important role in implementation & success of PMAY(U). The Mission covers the entire urban area consisting of Statutory Towns, Notified Planning Areas, Development Authorities, Special Area Development Authorities, Industrial Development Authorities or any such authority under State legislation which is entrusted with the functions of urban planning & regulations. All houses under PMAY(U) have basic amenities like toilet, water supply, electricity and kitchen. The Mission promotes women empowerment by providing the ownership of houses in name of female member or in joint name. Preference is also given to differently abled persons, senior citizens, SCs, STs, OBCs, Minority, single women, transgender and other weaker & venerable sections of the society. A PMAY(U) house ensures dignified living along with sense of security and pride of ownership to the beneficiaries.

PMAY(U) adopts a cafeteria approach to suit the needs of individuals based on the geographical conditions, topology, economic conditions, availability of land, infrastructure etc. The scheme has hence been divided into **four verticals** as given below:

i. *'In-situ' Slum Redevelopment (ISSR):*

Slum redevelopment grant of **Rs. 1 lakh per house** is admissible for all houses built for eligible slum dwellers under the component of ISSR using land as Resource with

participation of private developers. After redevelopment, de-notification of slums by State/UT Government is recommended under the guidelines.

Flexibility is given to States/Cities to deploy this central grant for other slums being redeveloped. States/Cities provide additional FSI/FAR or TDR to make projects financially viable. For Slums on private owned land, States/Cities provide additional FSI/FAR or TDR to land owner as per its policy. No Central Assistance is admissible in such case.

ii. **Credit Linked Subsidy Scheme (CLSS):**

Beneficiaries of Economically Weaker Section (EWS)/Low Income Group (LIG), Middle Income Group (MIG)-I and Middle Income Group (MIG)-II seeking housing loans from Banks, Housing Finance Companies and other such institutions for acquiring, new construction or enhancement* of houses are eligible for an interest subsidy of 6.5%, 4% and 3% on loan amount upto Rs. 6 Lakh, Rs. 9 Lakh and Rs. 12 Lakh respectively. The Ministry has designated Housing and Urban Development Corporation (HUDCO), National Housing Bank (NHB) and State Bank of India (SBI) as Central Nodal Agencies (CNAs) to channelize this subsidy to the beneficiaries through lending institutions and for monitoring the progress. The scheme for MIG category has been extended upto 31st March 2021.

Particulars	EWS	LIG	MIG I	MIG II
Household Income (Rs.)	upto 3 Lakh	3-6 Lakh	6-12 lakh	12-18 Lakh
Carpet Area in sqm	30	60	160	200
Interest Subsidy (% p.a.)	6.5%		4.0%	3.0%
Maximum Loan Tenure	20 Years			
Eligible Loan Amount (Rs)	6,00,000/-		9,00,000/-	12,00,000/-
Discounted NPV Rate	9%			
Upfront amount (Rs) for Subsidy for a 20 Year Loan	2,67,280/-		2,35,068/-	2,30,156/-

Approx. monthly savings @ Loan Interest of 10%	2,500/-	2,250/-	2,200/-
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** for EWS/ LIG category only*

iii. **Affordable Housing in Partnership (AHP):**

Under AHP, a Central Assistance of **Rs. 1.5 Lakh per EWS house** is provided by the Government. An affordable housing project can be a mix of houses for different categories but it will be eligible for central assistance, if at least 35% of the houses in the project are for EWS category. The States/UTs decide on an upper ceiling on the sale price of EWS houses in rupees per square meter of carpet area in such projects with an objective to make them affordable and accessible to the intended beneficiaries. State and cities also extend other concessions such as their State subsidy, land at affordable cost, stamp duty exemption etc.

iv. **Beneficiary-led Construction/ Enhancement (BLC/ BLE):**

Central Assistance upto **Rs. 1.5 lakh per EWS house** is provided to eligible families belonging to EWS categories for individual house construction/ enhancement. The Urban Local Bodies validate the information and building plan submitted by the beneficiary so that ownership of land and other details like economic status and eligibility can be ascertained. Central assistance, along with State/UT/ ULB contribution, if any, is released to the bank accounts of beneficiaries through Direct Benefit Transfer (DBT) by States/UTs.

B. Affordable Rental Housing Complexes (ARHCs) for Migrants Workers/ Urban Poor

COVID-19 pandemic has resulted in reverse migration of urban migrants/ poor in the country. Urban migrants stay in slums/ informal settlements/ unauthorised colonies/ peri-urban areas to save cost on housing. They need decent rental housing at affordable rate at their work sites. In order to address this need, Ministry of Housing & Urban Affairs has initiated Affordable Rental Housing Complexes (ARHCs), a sub-scheme under Pradhan Mantri Awas Yojana- Urban (PMAY-U). This will provide ease of living to urban migrants/ poor in Industrial Sector as well as in non-formal urban economy to get access to dignified affordable rental housing close to their workplace. The ARHC scheme will be implemented through two models:

- i. Utilizing existing Government funded vacant houses to convert into ARHCs through Public Private Partnership or by Public Agencies
- ii. Construction, Operation and Maintenance of ARHCs by Public/ Private Entities on their own vacant land

Incentives will be provided to public/ private entities by Central/ State Government for developing & operating ARHCs which will include additional FAR/FSI, Income tax and GST exemption, Single window approval within 30 days, Project finance at lower interest rate, Trunk infrastructure till project site, Municipal services at residential rates and Use permission changes for houses for the vacant land.

Beneficiaries for ARHCs are urban migrants/ poor from EWS/LIG categories comprising of street vendors, rickshaw pullers and other service providers, industrial workers along with migrants working with market/ trade associations, educational/ health institutions, hospitality sector, long term tourists/ visitors, students or any other category. ARHCs will be a mix of single/ double bedroom Dwelling Units and Dormitory of 4/6 beds including all common facilities and will be exclusively used for rental housing for a minimum period of 25 years.

MoHUA has provisioned for an additional grant in the form of Technology Innovation Grant (TIG) under TSM for the project using innovative & alternate technology for speedier, sustainable, resource efficient and disaster resilient construction. TIG of Rs. 1,00,000/- per dwelling unit in case of double bedroom (upto 60 sqm carpet area), Rs. 60,000/- per Dwelling Unit (upto 30 sqm carpet area) in case of single bedroom and Rs. 20,000 per Dormitory Bed (upto 10 sqm carpet area) shall be released by MoHUA to entities through BMTPC.

TIG will be applicable only for projects using innovative and alternate technologies and sanctioned during the PMAY(U) Mission period (March 2022) and completed within 18 months after getting all statutory approvals.

The ARHCs will ensure a dignified living environment for urban migrants/poor close to their workplaces at affordable rates. This will unlock existing vacant housing stock and make them available in urban space. It will propel new investment opportunities and promote entrepreneurship in rental housing sector by encouraging Private/Public Entities to efficiently utilize their vacant land available for developing ARHCs.

C. **Robust MIS System**

A comprehensive and robust MIS system is in place that helps all stakeholders to seamlessly manage information pertaining to physical and financial progress. The MIS allows submitting on-line demand survey with tracking facility and helps in housekeeping of various records through digitisation such as Survey, Project information, Beneficiary details, fund utilisation etc. The MIS is equipped with Geo-tagging features and integrated with BHUVAN Portal of National Remote Sensing Centre (NRSC) and BHARAT MAP of National Informatics Centre (NIC) for monitoring the progress of construction of houses under the BLC and projects under ISSR and AHP verticals. The MIS has also been integrated with UMANG Mobile App, NITI Aayog Dashboard and DBT Bharat Portal for dissemination of information.

Direct Benefit Transfer (DBT): The transfer of the Central and State/ULB share to the beneficiaries of BLC vertical of the Mission is being done by States/ULB through DBT mode where the instalments are credited directly into the beneficiary's bank account as per construction stage completed and geo-tagged.

CLSS Awas Portal (CLAP)

A web based monitoring system, CLSS Awas Portal (CLAP) is a common platform where all stakeholders i.e. MoHUA, Central Nodal Agencies, Primary Lending Institutions, Beneficiaries and Citizens are integrated in real time environment. The portal facilitates processing of applications along with tracking of subsidy status by beneficiaries. CLSS tracker has also been incorporated in PMAY(U) mobile App and UMANG platform.

D. **Capacity Building under PMAY(U)**

A total of 5% of allocation under the scheme is earmarked for capacity building, Information Education & Communication (IEC) and Administrative & Other Expenses (A&OE). Allocation available under the Capacity Building head is being utilised for carrying out various activities required for effective implementation of Mission. Illustrative activities under the Capacity Building head include the following ten components:

1. Housing for All Plan of Action (HFAPoA)
2. Establishment of State Level Technical Cells (SLTCs) & City Level Technical Cells (CLTCs)

3. Trainings and Workshops
4. Documentation and Research
5. Exposure and Handholding Visits
6. Information Education & Communication (IEC)
7. Social Audit
8. Third Party Quality Monitoring (TPQM)
9. Geo-tagging
10. Administrative and other Expenses (A&OE)

E. - Angikaar- a campaign for change management

Aligning to the Hon'ble Prime Minister's vision to address issues that arise from life transformation after moving into pucca houses, ANGIKAAR- campaign for change management was launched on 29th August 2019. The campaign focuses on adopting best practices such as water & energy conservation, waste management, health, sanitation and hygiene for PMAY(U) beneficiaries through community mobilization and IEC activities. PMAY(U) had converged with various Urban Missions and other Central Ministries like Health & Family Welfare, Jal Shakti, Environment Forest & Climate Change, New & Renewable Energy, Petroleum & Natural Gas, Power, Youth Affairs & Sports and Women & Child Development.

The campaign was formally launched on 2nd October 2019, commemorating 150th Gandhi Jayanti in more than 4,000 cities wherein need assessment is conducted along with door to door awareness for change management. Subsequently, this is followed by continuous and consistent ward level IEC activities in States/ UTs which includes key messages of FIT India (Ministry of Youth Affairs & Sports) and Poshan Abhiyan (Ministry of Women & Child Development) with active participation of sportspersons/ personalities, youth clubs, educational institutions, FIT India Plogging events and orientation/ awareness drives/ health camps respectively.

F. Technology Sub-Mission (TSM)

In order to have an integrated approach for comprehensive technical & financial evaluation of emerging and proven building materials & technologies, their

standardisation, developing specifications and code of practices, evolving necessary tendering process, capacity building and creating appropriate delivery mechanism, MoHUA has set up a Technology Sub-Mission under PMAY(U) with the Mission statement as 'Sustainable Technological Solutions for Faster and Cost Effective Construction of Houses suiting to Geo-Climatic and Hazard Conditions of the Country'.

TSM facilitates adoption of modern, innovative and green technologies and building materials for faster and quality construction of houses. TSM also facilitates preparation and adoption of layout designs and building plans suitable for various geo-climatic zones. It also assists States/Cities in deploying disaster resistant and environment-friendly technologies. A total of 33 Alternate Technologies have been identified out of which CPWD has issued SoR for 29 technologies. Around 15 Lakh houses are been constructed using alternate technologies pan India.

G. Global Housing Technology Challenge - India

MoHUA has initiated the Global Housing Technology Challenge - India (GHTC India) which aims to identify and mainstream a basket of innovative construction technologies from across the globe for housing construction sector that are sustainable, eco-friendly and disaster-resilient. They are to be cost effective and speedier while enabling the quality construction of houses, meeting diverse geo-climatic conditions and desired functional needs. Future technologies will also be supported to foster an environment of research and development in the country. GHTC- India aspires to develop an eco-system to deliver on the technological challenges of the housing construction sector in a holistic manner.

Hon'ble Prime Minister of India inaugurated the Construction Technology India-2019, a global Expo-cum-Conference, which was organized on 2-3 March 2019 in New Delhi. 60 Exhibitors with **54 proven technologies** from 25 countries showcased their technologies in the Expo. Prime Minister declared the year 2019-20 as the 'Construction Technology Year'.

Under **Affordable Sustainable Housing Accelerators- India** (ASHA-India) initiative, incubation and acceleration support is provided to potential future technologies that are not yet market ready (pre-prototype applicants) or to the technologies that are market ready (post prototype applicants). The ASHA-India Centres will also help in developing design guidelines, construction manuals and other necessary guidelines,

relevant for effective use of such technologies in the region. ASHA-India Centres are to be set up at five host institutions: IIT Bombay, IIT Kharagpur, IIT Madras, IIT Roorkee and CSIR-NEIST, Jorhat.

72 potential future technologies (domestic) have been identified through the challenge which will be shortlisted for providing support under ASHA-India.

H. Light House Projects (LHPs) under GHTC-India

The Lighthouse projects, to be developed under GHTC India, will serve as live laboratories for different aspects of transfer of technology to the field. This includes planning, design, production of components, construction practices and testing for both faculty and students of IITs/ NITs/ Engineering colleges/ Planning and Architecture colleges, builders, professionals of private and public sectors and other relevant stakeholders. GHTC India ushered a paradigm shift in the construction technology to transform the eco-system of housing construction.

For use of innovative technology in construction, the Ministry has introduced a Technology Innovation Grant as an additional grant of Rs. 4.0 Lakh per house over and above the existing share of Rs 1.5 lakh per house under PMAY(U) for LHPs.

The LHPs are being implemented in Gujarat, Jharkhand, Madhya Pradesh, Tamil Nadu, Tripura and Uttar Pradesh to demonstrate the innovative construction technology which are cost-effective, green and sustainable.

I. Demonstration Housing Projects (DHPs):

In order to showcase the field application of new emerging technologies, MoHUA has taken an initiative to construct Demonstration Housing through Building Materials and Technology Promotion Council (BMTPC). A DHP provides on-site orientation to practitioners in the housing sector with knowledge on the application and use of alternate technology. Each DHP contains up to **40 Houses** with sustainable, cost and time effective emerging alternate housing construction technologies suitable to the geo-climatic and hazardous conditions of the region. Such DHPS have been completed in Bhubaneshwar, Bihar Sharif, Hyderabad, Lucknow and Nellore and are under pipeline in Agartala, Panchkula, Goa and Hyderabad.

APPENDIX- II

National Urban Housing and Habitat Policy 2007

The Need for Policy

Urbanization and Development

1 Urban" in India is defined as a human settlement with a minimum population of 5000 persons, with 75% of the male working population engaged in non-agricultural activities and a population density of at least 400 persons per sq. km. Further, all statutory towns having a Municipal Corporation, Municipal Council or Nagar Panchayat as well as a Cantonment Board are classified as "urban."

1.2 India's urban population in 2001 was 286.1 million, which was 27.8% of the total population. Over the previous five decades, annual rates of growth of urban population ranged between 2.7 to 3.8%. During the last decade of 1991-2001, urban population of India increased at an annual growth rate of 2.7%, which was 0.4% lower than that registered during the preceding decade.

1.3 The process of urbanization in India is marked by increasing concentration in comparatively larger cities. In 2001, 68.7% of the total urban population was living in Class I cities (defined as cities having a population of over 100,000). The shares of medium and small towns in the total population stood at 21.9% and 9.4% respectively.

1.4 The spotlight is focused on the mismatch between demand and supply of housing units. 99% of the housing shortage of 24.7 million at the end of the 10th Plan pertains to the Economically Weaker Sections (EWS) and Low Income Groups (LIG) sectors. Given the fact that 26.7% of the total poor in the country live in urban areas, the issue of affordability assumes critical significance. In terms of numbers, 26.7% of the total poor implies 80.7 million persons or about one-fourth of the country's total urban population.

1.5 Further, the National Sample Survey Organisation (NSSO) 61st Round reports that the number of urban poor has risen by 4.4 million persons, between 1993-94 to

2004-05. It is, therefore, of vital importance that a new National Urban Housing and Habitat Policy carefully analyses ways and means of providing the 'Affordable Housing to All' with special emphasis on the EWS and LIG sectors.

1.6 The number and proportion of cities with a population of one million or more has grown significantly in recent decades. From 12 in 1981 with 26.8% share of the total urban population, the number of million plus cities has increased to 35 in 2001 with 37% share of the total urban population.

1.7 The general trend towards urbanization shows considerable disparity amongst various States/Union Territories (UTs) of India. Whereas States such as Goa, Gujarat, Maharashtra, Punjab and Tamil Nadu have attained over 35% urbanization (Census:2001) and are continuing to register growth rates higher than the annual national average; States like Himachal Pradesh (9.80%), Bihar (10.46%), Orissa (14.99%) and Uttar Pradesh (20.78%) have displayed low rates of urbanization.

Rural To Urban Shift of Labour

1.8 The growth of the Indian workforce is also characterized by an increasing level of urbanization. At the onset of the 21st century (2001), 32% of the total workforce resided in urban areas. According to the 2001 Census, 29% of the urban workforce falls in the category of "main workers" and the balance in the category of "marginal workers." The male-female composition of the urban workforce is structured in favour of male workers (the male-female ratio being 84:16 in 2001) although there has been some improvement in the volume of female employment. Further, it is of critical significance that 79% of the new jobs totaling 19.3 million between 1991-2001 were generated in urban areas and only 5 million jobs were generated in rural areas.

1.9 It is important to highlight the fact that the informal sector in urban areas is growing exponentially. In the decade 1991-2001, workers classified as "marginal workers" registered an increase of 360% as compared to an increase of only 23% for workers classified as "main workers." As a consequence, the ratio of marginal workers to total workers increased from 2.2% in 1991 to 7.9% in 2001. Further, the proportion of female workers to total workers rose from 14.3% in 1991 to 16% in 2001. In a nutshell, the 1991-2001 decade has witnessed strong trends towards casualization and feminization of the urban workforce. Further, wage employment is being progressively replaced by sub-contracting.

Balanced Regional Development

1.10 As India's labour force witnesses a rural to urban shift, it is of critical importance that the rural and urban areas develop in a symbiotic manner. The way to bring about such a symbiotic development between rural and urban areas is by adopting "a Regional Planning approach." The objective of such an approach is to develop a symbiotic rural-urban continuum, which is ecologically sustainable. The Town & Country Planning Acts of some States provide an ideal basis for Regional Planning.

1.11 There is also a need to develop a special focus on the eight States of the North-Eastern Regional Council due to a lesser level of socio-economic development and on account of the highly sensitive ecology of the region.

New Integrated Townships and Green-Field Development

1.12 In view of the fact that 50% of India's population is forecasted to be living in urban areas by 2041, it is necessary to develop new integrated townships. These green-field townships should generally be located on comparatively degraded land excluding prime agricultural areas growing more than one crop with the help of assured irrigation. These green-field townships should be located at a reasonable distance from medium or large existing towns.

1.13 Further, it is also important to develop mass rapid transport corridors between existing medium and large towns and new green-field towns so that the relationship between industry and commerce is developed to an optimum level.

Role of Housing

1.14 As per a Central Statistical Organisation (CSO) estimate, the Housing Sector contributed 4.5% to India's Gross Domestic Product (GDP) in 2003-04 at current prices. The contribution of housing in urban areas to the GDP in 2003-04 was 3.13%. Further, the spotlight is focused on the fact that 16% of the Indian work force is engaged in Construction and Transport Sectors. It is estimated that overall employment generation in the economy on account of additional investment in the Construction/Housing Sectors is eight times the direct employment (IIM Ahmedabad : 2005). In view of the substantial use of cement, steel, marble/ceramic

tiles, electrical wiring, PVC pipes and various types of fittings; construction activity has a multiplier effect on industrial demand for these items.

1.15 At the advent of the 21st Century (2001), the housing stock in India stood at 50.95 million for 55.8 million urban households. Significant segments of this housing stock was characterized by congestion and obsolescence. Congestion is particularly acute in inner city slums and peripheral slums. According to the Census 2001, 61.82 million persons or 23.1% of the urban population resides in slums. The quality of housing stock in slums is extremely poor. An important reason for this is insecurity of tenure. Slums are also severely deficient in basic services such as potable water, sanitation, sewerage, storm water drainage and solid waste disposal.

1.16 Given the degraded habitat in which slum dwellers live and the frequent episodes of illness characterizing slum families, it is of vital importance that special attention is paid to urban health and hygiene on the one hand and social and preventive medicine on the other hand. In order to improve the quality of life in urban areas, it is of critical significance that the housing stock is improved through urban renewal, in situ slum improvement and development of new housing stock in existing cities as well as new townships. Further, the enhancement of housing stock must be accompanied with high quality provision of basic services. It is a well-established fact that safe, hygienic and spacious provisioning of housing duly buttressed with adequate basic services and a congenial habitat promotes significant improvement in productivity of workers.

Housing Needs

1.17 The magnitude of housing shortage was estimated by a Technical Group in the context of formulation of the 11th Five Year Plan. The Technical Group estimated the housing shortage at the end of the 10th Plan to be around 24.7 million for 67.4 million households. The Group further estimated that 99% of this shortage pertains to EWS & LIG sectors. During the 11th Plan, the Group estimated that the total housing requirement (including backlog) will be to the tune of 26.53 million units for 75.01 million households.

1.18 Whereas more than 23% of the urban population resides in slum (Census:2001), a much higher proportion of the urban population of metropolitan cities lives in slums; it is estimated that 55% of the population of Mumbai lives in slums. It is of critical importance that the strategy of in-situ slum upgradation is adopted for preponderant proportion of the slum dwellers, since they provide valuable services to residents living close to their own dwelling places.

1.19 The Working Group on Urban Housing pertaining to the 11th Plan made different assumptions on unit cost of construction of houses in million plus cities and other urban areas for estimating the investment required for overcoming the housing shortage. The total estimated investment for meeting the housing requirement upto 2012 was estimated to be of the order of Rs.3,61,318.10 crores consisting of Rs.1,47,195 crores for mitigating housing shortage at the beginning of 11th Plan and Rs.2,14,123.10 crores for new additions to be made during the 11th Plan period (this includes construction of pucca houses & upgradation of semi-pucca and kutcha housing units).

Magnitude of Poverty

1.20 Non-affordability of housing by economically weaker sections of society and low income families in urban areas is directly linked with the magnitude of urban poverty. Poverty in India has declined from 320.3 million in 1993-94 to 301.7 million in 2004-05. While there has been a decline of 18 million persons in the total numbers of the poor in India, the NSSO reports that the number of the urban poor has risen by 4.4 million persons during the same period. One fourth of the country's total urban population, numbering 80.7 million persons is below the poverty line. The urban poor constitute 26.7% of the total poor in the country. The fact that the number of urban poor has risen is in stark contrast with rural poverty, where both the total number of rural poor and its incidence vis-à-vis the rural population has fallen.

1.21 The urban poor have limited access to basic services. According to the 2001 census, there is a 9% deficiency in drinking water, 26% in toilets and 23% in drainage. It is quite understandable that most of this shortage pertains to Slums.

Development of Sustainable Habitat

1.22 Development of sustainable habitat is closely related to the adoption of 'the Regional Planning approach' while preparing Master Plans of towns/ cities, District Plans and Regional/Sub-Regional Plans. It involves maintenance of the ecological balance in terms of a symbiotic perspective on rural and urban development while developing urban extensions of existing towns as well as new integrated townships. Promotion of sustainable habitat is closely linked with reserving a significant proportion of the total Master Plan area as 'green lungs of the city' (e.g. Master Plan for Delhi 2021 provides 20% of green areas), protecting water bodies with special emphasis on the flood plains of our rivers and developing green belts around our cities. It will be desirable to pursue a goal of 20-25% recreational land use area (excluding water bodies) which has been prescribed for Metro-cities by the Urban Development Plan Formulation and Implementation Guidelines (UDPFI) in order to enhance the sustainability of human settlements. Recreational land use refers to parks, playfields and other open space such as specified park, amusement park, maidan, a multipurpose open space, botanical garden, zoological parks, traffic parks, etc. It is also necessary to estimate the Gross Geographic Product (GGP) of a given sub-region and endeavor to enhance it while developing new urban settlements. The new Habitat Policy recognizes the sustainability limits of existing urban settlements. It also seeks to emphasize the mutual inter-dependence between towns and villages.

1.23 The new Habitat Policy reaffirms the importance of small and medium urban agglomerates/towns which have potential for future urban growth. The new Policy seeks to accelerate the development of such small and medium towns which can serve as generators of economic momentum while at the same time striving to reduce the rate of migration to existing large cities.

Policies & Programmes

1.24 In 1991, India adopted a more 'inclusive' view of economic development by emphasizing that it must integrate with the global economy. In pursuance of this, it reduced custom duties and welcomed Foreign Direct Investment (FDI) in several sectors of the economy. The National Housing Policy, 1994 was a product of this economic point of view. The 1994 Policy in its section on "Goals" sought to increase supply of land serviced by basic minimum services with a view to promoting a

healthy environment. The National Housing & Habitat Policy, 1998 laid greater emphasis on the aspect of “Habitat” as a supplementary focus to housing. The emphasis on “providing” housing continued in this Policy with emphasis on both quality and cost-effectiveness especially to vulnerable sections of society. The New Urban Housing and Habitat Policy seeks to enhance the spotlight on ‘habitat’ with a ‘Regional Planning approach’ as well as further deepen the role of Government as a ‘facilitator’ and ‘regulator.’ Moreover, the new Policy lays emphasis on earmarking of land for the EWS/LIG groups in new housing projects. The new Urban Housing & Habitat Policy lays emphasis on Government retaining its role in social housing so that affordable housing is made available to EWS and LIG of the population as they lack affordability and are hopelessly out priced in urban land markets.

1.25 (a) The various policies adopted by the Central Government, from time to time, were accompanied by initiation of various programmes and schemes. The National Slum Development Programme (NSDP) had provision for adequate and satisfactory water supply, sanitation, housing, solid waste management, primary and non-formal education. The scheme provided additional central assistance to States to supplement the resources of the State Government for provision of basic infrastructure and services in slum areas. The Swarna Jayanti Shahari Rozgar Yojana (SJSRY) was designed to provide gainful employment to the urban poor by encouraging setting up of self-employment ventures and provision of wage employment opportunities for families below poverty line in urban areas. The Two Million Housing Programme (TMHP) was launched with the objective of ‘housing for all’ with particular emphasis on the needs of economically weaker sections and low income group categories. The Valmiki Ambedkar Awas Yojana (VAMBAY) aimed at providing subsidies for construction of housing and sanitation for urban slum dwellers living below poverty line in different towns/cities all over the country.

1.25(b) The above mentioned policies and programmes have yielded fairly positive results in the area of housing and habitat. Some increase has been noticed in the supply of serviced land, shelter and related infrastructure. For example, in the first four years of the 10th Plan period, financial assistance was provided for construction of 4,42,369 dwelling units under VAMBAY scheme. Similarly, total number of beneficiaries under NSDP and SJSRY were 45.87 million and 31.77 million respectively during the same period. The period 1991 to 2001 witnessed a net

addition of 19.52 million dwelling units in the urban housing stock (Census: 2001) involving average annual construction of 1.95 million houses. The share of ownership housing in urban areas has increased from 63% in 1991 to 67% in 2001 (Census: 2001). It is important to note that households having one room accommodation declined significantly in urban areas from 39.55 per cent to 35.1 per cent during the period 1991 to 2001. This is a result of upward mobility in accommodation indicating a robust economy and accelerated supply of improved housing stock.

Jawaharlal Nehru National Urban Renewal Mission

1.26 The recently launched Jawaharlal Nehru National Urban Renewal Mission (JNNURM) supports 63 cities (7 mega cities, 28 metro cities and 28 capital cities and towns of historical/religious importance) across the country in terms of perspective plans called City Development Plans (CDPs) for specifying infrastructure gaps relating to water, sanitation, sewerage, drainage and roads on the one hand and deficiencies in housing and basic services on the other hand. On the basis of City Development Plans, the JNNURM seeks to fill up the gaps in infrastructure and deficiencies in housing and basic services through appropriate investments. The Mission approach is reform based with releases being made subject to specified reform agenda being implemented. The Mission is reforms driven, fast track planned development of identified cities with focus on efficiency in urban infrastructure, services delivery mechanism, community participation and accountability of urban local bodies (ULBs) to citizens. JNNURM seeks to encourage private sector participation with the Government providing viability gap funding through the Mission for large projects where the open tendering process shows specific shortage in economic viability. In addition to these 63 cities, urban infrastructure and slums are also being addressed in the remaining Non-Mission cities through the Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) and Integrated Housing and Slum Development Programme (IHSDP).

1.27 The Basic Services for the Urban Poor (BSUP) seeks to provide a garland of 7 entitlements/services – security of tenure, affordable housing, water, sanitation, health, education and social security – in low income settlements in the 63 Mission

Cities. The Integrated Housing and Slum Development Programme (IHSDP) seeks to provide the aforementioned garland of 7 entitlements/services in towns/cities other than Mission cities.

1.28 The National Urban Housing and Habitat Policy, 2007 seeks to use the perspective of Regional Planning as brought out in the 74th Amendment Act in terms of preparation of District Plans by District Planning Committees (DPCs) and Metropolitan Plans by Metropolitan Planning Committees (MPCs) as a vital determinant of systematic urban planning. The policy seeks to promote a symbiotic development of rural and urban areas. In this regard, the policy seeks to ensure refinement of Town and Country Planning Acts (wherever required) and their effective implementation.

1.29 The core focus of this Policy is provision of Affordable Housing for All" with special emphasis on vulnerable sections of society such as Scheduled Castes/Scheduled Tribes, Backward Classes, Minorities and the urban poor.

1.30 This Policy takes note of the substantive gap between demand and supply both for housing and basic services. This Policy seeks to assist the poorest of poor who cannot afford to pay the entire price of a house by providing them access to reasonably good housing on rental and ownership basis with suitable subsidization. The Policy seeks to enhance the supply of houses especially for the disadvantaged, duly supplemented by basic services.

1.31 This Policy seeks to develop innovative financial instruments like development of Mortgage Backed Securitization Market (RMBS) and Secondary Mortgage Market. It also seeks to attract Foreign Direct Investment (FDI) in areas like integrated development of housing and new township development.

1.32 This Policy draws from innovations in the area of housing and infrastructure in India and elsewhere. It also gives a menu of actionable points which inter-alia includes Public-Private-Partnerships, conservation of natural resources and formulation of regulations & bye-laws that are environment friendly, investment-friendly and revenue-generating.

1.33 This Policy seeks to emphasize appropriate fiscal concessions for housing and infrastructure.

1.34 This Policy seeks to accelerate construction activities for giving a boost to employment for vulnerable sections of society.

1.35 This Policy aims to promote development of cost-effective, quality approved building materials and technologies with a view to bringing down the cost of EWS/LIG houses. 1.36 This Policy aims to complement poverty alleviation and employment generation programmes for achieving the overall objective of "Affordable Housing for All" with sustainable development.

1.37 This Policy dwells upon the roles of various stakeholders and specific action required pertaining to Land, Finance, Legal and Regulatory Reforms as well as Technology Support and Transfer.

1.38 This Policy seeks to accelerate the development of small and medium towns which can serve as a generators of economic momentum with the objective of reducing the rate of migration to large cities.

1.39 The Policy lays special emphasis on the development of North-Eastern States on account of the fragile ecology of the North-Eastern Region as well as the need to accelerate the pace of its socio-economic progress. In this manner, the Policy seeks to improve accessibility to the North-Eastern Region.

Aims

The National Urban Housing and Habitat Policy aims at:

Urban Planning

- Encouraging State Governments, Urban Local Bodies, Development Authorities to periodically update their Master Plans and Zoning Plans which should, inter-alia adequately provide for housing and basic services for the urban poor.

- Promoting balanced urban-rural planning by following the Regional Planning Approach, take the whole State/UT as a region, under the Town & Country Planning Acts in the States.
- Planning of Mass Rapid Transit Systems (MRTS) at the city Metropolitan Planning Area and Sub-region levels.

Affordable Housing

- Accelerating the pace of development of housing and related infrastructure.
- Creating adequate housing stock both on rental and ownership basis with special emphasis on improving the affordability of the vulnerable and economically weaker sections of society through appropriate capital or interest subsidies.
- Using technology for modernizing the housing sector for enhancing energy and cost efficiency, productivity and quality. Technology would be harnessed to meet the housing needs of the poor. The concept of 'green' and 'intelligent' buildings would be put in place on the ground. Technological advances would be disseminated for preventing and mitigating the effects of natural disasters on buildings, e.g., in case of earthquakes, floods, cyclones, etc.
- Increase flow of Funds
- Promoting larger flow of funds from governmental and private sources for fulfilling housing and infrastructure needs by designing innovative financial instruments. viii) Designing suitable fiscal concessions in congruence with the Housing and Habitat Policy with appropriate monitoring mechanism to ensure that the concessions are correctly targeted and utilized.
- Removing legal, financial and administrative barriers for facilitating access to tenure, land, finance and technology.
- Shifting to a demand driven approach and from subsidy based housing schemes to cost recovery-cum-subsidy schemes for housing through a proactive financial policy including micro-finance and related self-help group programmes.

Spatial Incentive

- Innovative spatial incentives like relaxation of Floor Area Ratio (FAR) for ensuring that 20-25 % of the FAR are reserved for EWS / LIG and issuance of Transferable Development Rights(TDR) for clearance of transport bottlenecks in the inner-city areas and availability of additional FAR in Outer Zones will be promoted with a view to meeting the housing shortage amongst EWS/ LIG.
- Careful review of authorized Floor Area Ratio (FAR) in line with international practices for allowing more efficient use of scarce urban land by construction of high rise buildings.
- Increase Supply of Land
- Facilitating accessibility to serviced land and housing with focus on economically weaker sections and low income group categories. xiv) Suitable restructuring for enabling both institutions at the State and Centre levels as well as the private sector for increasing supply of land.

Special Provision for SC/ST/OBC/Minorities/Disabled

- Special efforts for catering to the needs of Scheduled Castes, Scheduled Tribes, Other Backward Classes, Minorities, Disabled persons, slum dwellers, street vendors other informal sector workers and other vulnerable sections of the society in relation to housing and access to basic services. Special Provision for Women
- Involving women at all levels of decision making for ensuring their participation in formulation and implementation of housing policies and programmes.
- Addressing the special needs of women headed households, single women, working women and women in difficult circumstances in relation to housing serviced by basic amenities.

Employment Generation

- Upgradation of construction skills and accelerated development of housing and infrastructure sectors for giving an impetus to employment generation.

Public-Private Partnerships

- Forging strong partnerships between public, private and cooperative sectors for accelerated growth in the Housing Sector and sustainable development of habitat.

Management Information System

- Establishing a Management Information System (MIS) in the Housing Sector for strengthening monitoring of building activities in the country.

Healthy Environment

- Developing cities/towns in a manner which promotes a healthy environment, encouraging use of renewable energy resources and ensuring effective solid waste management in collaboration with persons involved in recycling activities.
- Protecting our cultural heritage and architecture as well as promoting traditional skills with suitable adaptation to modern technologies.

Role of Government, Urban Local Bodies and Other Agencies

It will be the endeavor of the Central Government in collaboration with governments in States/UTs, Urban Local Bodies and other agencies to implement the aims of the National Urban Housing and Habitat Policy, 2007 through action-oriented initiatives at all levels of Government. Towards this end, Annual Action Plans will also be prepared at various levels.

3.1 The Central Government would (in consultation with State Governments):

Create a Supportive Environment

- Act as a 'facilitator' and 'enabler' with significant actionable steps being taken by State Governments, Urban Local Bodies, Parastatals and Private & Co-operative Sector and Non-Government Organisations.
- Advise and guide respective State Governments to adopt and implement the National Urban Housing & Habitat Policy, 2007 in a time bound manner

- Promote balanced regional development in the country by suitably decentralizing functions relating to development of the Housing Sector and promotion of an ecologically sound habitat.
- Act as an enabler and facilitator by developing suitable financial instruments for promotion of housing for the EWS and LIG groups serviced by basic amenities.
- Promote Action Plans for creation of adequate infrastructure facilities relating to water, drainage, sanitation, sewerage, power supply and transport connectivity.
- Develop economically viable housing promotion models and standards for provision of physical, social and economic services.
- Legal & Regulatory Framework
- Promote systematic planning at the City, Metropolitan Area, District and Regional levels.
- Encourage adoption of critical urban reforms relating to municipal laws, building bye-laws, simplification of legal and procedural frameworks, property title verification system and allied areas.
- Promote an innovative policy for safeguarding the rights of street vendors with appropriate restrictions in the public interest.
- Promote improvements for elimination of ambiguities in transaction of conveyance deeds, lease deeds, mortgages, gifts, partition deeds and allied property-related documents.
- Promote the observance of the National Building Code (NBC), 2005.

Housing Finance

- Devise macro-economic policies for enabling accelerated flow of resources to the housing and infrastructure sector.
- Develop suitable fiscal concessions in collaboration with the Ministry of Finance for promotion of housing and urban infrastructure with special focus on EWS/LIG beneficiaries combined with a monitoring mechanism for effective targeting. Further, facilitate viability gap funding of integrated slum development programmes with the consent of Planning Commission and Ministry of Finance.

- Encourage Foreign Direct Investment in the urban housing and infrastructure sectors.
- Develop convergence between urban sector initiatives and financial sector reforms.
- Supply & Management of Land
- Develop a National Land Policy for optimal use of available resources including enhanced supply of serviced land for sustainable development.

Environment and Ecology

- Promote appropriate ecological standards for protecting a healthy environment and providing a better quality of life in human settlements. Special attention will be paid to housing in coastal areas in order to promote fragile ecology. Further, adequate mangrove and allied plantations will be promoted in coastal areas especially those which are in high disaster-prone zones to avoid loss to life from natural disaster.

Management Information System

Develop a nation-wide Management Information System (MIS) relating to housing and allied infrastructure for well informed decision making.

Research & Development

Promote Research & Development (R&D) relating to alternate building materials and technologies as well as energy conservation practices in the housing sector. xx) Take appropriate steps for standardization and quality marking of building materials.

3.2 The State Government would (in consultation with Urban Local Bodies):

Create a Supportive Environment

Prepare the State Urban Housing & Habitat Policy (SUHHP).

- Act as a facilitator and enabler in collaboration with ULBs/parastatals/Private Sector/Co-operative Sector/NGOs with regard to Integrated Slum Development Projects as well as Integrated Township Development Projects. Further, the State Government will ensure suitable flow of

financial resources to potential EWS/LIG beneficiaries as well as undertake viability gap funding of large housing and habitat development projects.

- Prepare medium term and long term strategies for tackling problems relating to provision of adequate water supply, drainage, sewerage, sanitation, solid waste management, power supply and transport connectivity.
- Promote and incentivise decentralized production and availability of local building materials. v) Prepare and update Master Plans along with Zonal Plans, Metropolitan Plans, District Plans and the State level Regional Plan by respective agencies with provision of adequate land for urban poor.
- Promote balanced regional development by observing appropriate prudential norms. Legal & Regulatory Framework
- Review the legal and regulatory regime for introducing simplification and rationalisation with a view to giving a boost to housing and supporting infrastructure.
- Enable urban local bodies to take up regulatory and development functions. ix) Take all necessary steps for implementation of the State Urban Housing & Habitat Policy.

Public-Private Partnerships

- Promote well designed Public-Private Partnerships for undertaking housing and infrastructure projects.
- Encourage Cooperative Group Housing Societies, Employees Organizations, labour housing promotion organization, Non-Government Organizations (NGO) and Community Based Organizations (CBO) to have Partnerships with Urban Local Bodies/Parastatals in relation to housing related microfinance and housing development.
- Promote in-situ slum upgradation with partnership between the Central Government, State Government , Urban Local Bodies, Banks/MFIs and potential beneficiaries.

Skill Upgradation

- Facilitate training and skill upgradation of construction workers.

Management Information System

- Develop appropriate Management Information System for different level of governance.
- Research & Development (R&D)
- Promote R&D activities in the field of building materials and technologies and promote their use in housing and infrastructure projects.

Optimum Utilization of Land

- Promote optimal utilization of land by innovative special incentives like relaxation of FAR for ensuring that 20-25% of the FAR are reserved for EWS/ LIG units or issuance of Transferable Development Rights for clearance of transport corridors and availability of FAR in outer zones.
- Consider for upward review the presently authorized Floor Area Ratio (FAR) in line with international practice of making more efficient use of scarce urban land through construction of high rise buildings in consonance with densities specified in statutory Master Plans.
- Integrated Townships, Urban Extensions & SEZs
 - xviii) Develop Greenfield towns & integrated urban housing extensions of existing towns with complementary infrastructure or Special Economic Zones (SEZs) with both FDI and national investments in housing and infrastructure.
 - xix) Ensure that such fully integrated housing projects are well connected by MRTS corridors.

3. Create a Supportive Environment

- Develop capacity building at the local level to design and take up inner-city development scheme, in-situ slum upgradation projects and slum relocation projects through suitable training programme.
- Implement Central and State sector schemes pertaining to housing and infrastructure sector at the city level with appropriate provision for EWS and LIG beneficiaries in the Master Plan as well as Zonal Plans. iii) Enforce regulatory measures for planned development in an effective manner. iv) Check the growth of unauthorized colonies, new slums, unauthorized

constructions, extensions of existing properties and commercialization of residential areas.

Urban Planning

- Ensure that Development Plans/Master Plans as well as Zonal Plans and Local Area Plans are made and updated regularly so that adequate provision is made for the homeless as well as slum dwellers.
- Prepare Master Plan and Metropolitan Plans in consonance with the concerned District Plan and the State Regional Plan.
- Identify city specific housing shortages and prepare city level Urban Housing & Habitat Action Plans for time bound implementation. Wherever necessary and feasible, ULBs as well as other parastatal would provide viability gap funding especially for EWS/LIG housing and supporting infrastructure so as to ensure better affordability by the poor and financial viability of slum.
- Promote planning and development of industrial estates along with appropriate labour housing colonies serviced by necessary basic services.
- Incorporate provisions of model building bye-laws prepared by Town & Country Planning Organization (TCPO) and National Building Code in their respective building bye-laws. Make suitable provisions in the Building Bye-laws for innovative energy conservation practices and mandatory rain water harvesting for specified owners of buildings.
- Devise capacity building programmes at the local level.
- Public-Private Partnerships
- Promote participatory planning and funding based on potential of local level stakeholders.
- Develop suitable models for private sector's assembly of land and its development for housing in accordance with the Master Plan.
- Promote Residents' Welfare Associations (RWAs) for specified operation and maintenance of services within the boundaries of given colonies as well as utilize their assistance in developing an early warning system relating to encroachments.
- Involve RWAs/CBOs in collaboration with conservancy organizations at the local level for effective cleaning of streets/lanes and solid waste disposal at the colony level.

- Special Programme for Disadvantaged Sections
- Devise innovative housing programmes for meeting the housing shortage with special focus on vulnerable groups.
- Environment and Ecology
- Security & Safety
- xvii) Ensure Safety & Security in residential and institutional areas which may include construction of boundary walls around housing colonies as well as installation of security stems.
- Banks and Housing Finance Institutions (HFIs) would:

Outreach

- Reassess their strategies to be more inclusive in terms of both low-income beneficiaries belonging to EWS and LIG as well as extend/intensify their coverage in low income neighbourhoods.

Housing Finance

- Promote innovative financial instruments like development of Mortgage Backed Securitization Market (MBSM), and Secondary Mortgage Market.
- iii) Enhance / strengthen the income spread of their housing loans portfolio to increasingly cover BPL and EWS beneficiaries.
- Adopt a more flexible and innovative approach in relation to credit appraisal norms. v) Develop financial products which encourage EWS and LIG housing beneficiaries to take insurance cover.
- HFIs could also look at ploughing part of their resources towards financing slum improvement and upgradation programmes.

Special Programmes for Vulnerable Sections

- Provide loans at concessional rate of interest to specified persons for purchasing a house site or house.
- Devise innovative housing finance schemes for targeting the EWS and LIG segments of the housing market with suitable subsidy support from the Central and State Governments.
- Promote MFIs and Self Help Groups for mobilizing savings and playing a significant role in the housing finance sector. Provide housing loans to EWS and LIG segments as a priority sector of banking as in the case of rural development programmes.

- Devising adequate safeguards for promoting a healthy environment with special emphasis on 'green lungs' of the city in terms of parks, botanical gardens and social forestry as well as green belts around cities/towns.
- Encourage potential EWS and LIG beneficiaries to form Cooperative Group Housing Societies.

Public agencies/parastatals would:

- Revisit their strategy of operations and chart out a role relating to land assembly and development of fully serviced land with essential services.
- Design multiple products to suit clients requirements.
- Forge partnerships with the private sector and cooperatives for housing and infrastructure development especially with reference to Below Poverty Line (BPL)/EWS and LIG segments of the market.
- Use land as a resource for housing with special focus on the urban poor. v) Reduce their dependence on budgetary support in a phased manner and access loans through better product development and implementation on the one hand and better bankability in terms of escrow account and land mortgage on the other hand.

Cooperative and Private Sectors would:

- Undertake land assembly and development with special focus on housing with complementary basic services.
- Design public-private partnerships for slum reconstruction on a cross subsidization basis.
- Augment housing stock at an accelerated rate both on ownership and rental basis with a view to overcoming shortage of EWS/LIG housing units.

Role of Research & Development, Standardisation and Technology Transfer Organisations

Research and Development, Standardization and Technology Transfer Organisations would:

- Undertake research to respond to different climatic conditions with a focus on transition from conventional to innovative, cost effective and environment friendly technologies.
- Develop and promote standards in building components, materials and construction methods including disaster mitigation techniques.
- Intensify efforts for transfer of innovative technologies and materials from lab to field.
- Accelerate watershed development to conserve water, stop soil erosion and re-generate tree cover in order to improve habitat

Specific Areas of Action

5.1 Land

- a. Land assembly, development and disposal will be encouraged both in the public and private sectors.
- b. Assembly of land for specified use as per Master Plan will be done by observing the best norms of Regional Planning. District Plans and Metropolitan Plans will be prepared in compliance with the stipulations of the 74th Constitutional Amendment Act. District Plans and Metropolitan Plans will function as sub set of the Regional Plan.
- c. Private Sector will be allowed to assemble a reasonable size of land in consonance with the Master Plan/Development Plan of each city/town.
- d. 10 to 15 percent of land in every new public/private housing project or 20 to 25 percent of FAR / Floor Space Index (FSI) which is greater will be reserved for EWS/LIG housing through appropriate legal stipulations and spatial incentives.
- e. A Special Action Plan will be prepared for urban slum dwellers with special emphasis on persons belonging to SC/ST/OBCs/Minorities/Economically weaker Sections /physically handicapped and Minorities. Due consideration would be given so that Safai Karamcharies and Scavengers are not geographically and socially segregated.
- f. Beneficiary-led housing development will be encouraged. Suitable percentage of land developed by the Public Sector will be provided at institutional rates to organizations like Cooperative Group Housing Societies, which provide housing to their members on a no-profit no-

loss basis. Employee Welfare Organizations will also be promoted since they operate on a no-profit no-loss basis. A special package will also be worked out for Labour Housing.

Finance

- a) In order to ensure that 10 to 15 percent of land or 20 to 25 percent of FAR / FSI whichever is greater is earmarked in every new public/private housing project, appropriate spatial incentives will be developed by Urban Local Bodies (ULBs) and Development Authorities.
- b) A Secondary Mortgage Market may be promoted by the Reserve Bank of India(RBI)/National Housing Bank (NHB). This will enhance transparency and flexibility in the housing market.
- c) Residential Mortgage Based Securitization (RMBS) need to be nurtured through NHB, Scheduled Banks and Housing Finance Corporation (HFCs).
- d) A Model Rent Act will be prepared by the Government of India to promote rental housing on the principle that rent of a housing unit should be fixed by mutual agreement between the landlord and the tenant for a stipulated lease period prior to which, the tenant will not be allowed to be evicted and after the expiry of the said lease period, the tenant will not be permitted to continue in the said housing unit.
- e) The feasibility of a National Shelter Fund to be set up under the control of the National Housing Bank for providing subsidy support to EWS/LIG housing would be examined in consultation with Ministry of Finance. The NHB will act as a refinance institution for the housing sector.
- f) Housing and Urban Development Corporation Ltd. (HUDCO) will be directed to observe the aims and objectives listed in its Memorandum of Association and Articles of Association with a view to encouraging EWS/LIG housing.
- g) Efforts should be made to encourage Foreign Direct Investment (FDI) from Non Resident Indians (NRIs) and Persons of Indian Origin (PIOs) in the housing and infrastructure sector in consultation with the Ministry of Finance and RBI.
- h) Suitable fiscal concessions for promoting the housing sector may be developed by the Ministry of Housing & Urban Poverty Alleviation in collaboration with the NHB and the Ministry of Finance.

- i) Central Government and Governments of States/UTs will promote innovative forms of public-private partnerships.
- j) States/UTs will be advised to develop 10 years perspective Housing Plans with emphasis on EWS and LIG sectors.
- k) Special financial and spatial incentives would be developed for inner-city slum redevelopment schemes.
- l) The Central and State/UT Governments would develop a special package of incentives for in-situ slum upgradation.
- m) In order to facilitate RMBS transactions, stamp duty on the instruments of RMBS across all states would be rationalized.
- n) Rental housing provides a viable alternative option to the home seekers and the house providers alike. Incentives are to be provided for encouraging lending by financial institutions, HFIs and Banks for rental housing. Also, Companies and Employers will be encouraged to invest in the construction of rental housing for their employees.
- o) Plan Funds and other assistance for housing and infrastructure would be dovetailed according to the Action Plan prepared and adopted by the States under their State Urban Housing and Habitat Policy (SUHHP). This would bring about synergies in the operation of various schemes and funding sources.
- p) Micro-Finance Institutions (MFIs) would be promoted at State level to expedite the flow of finance to urban poor. In this regard, suitable mechanisms would be evolved to develop simplified norms for prudential rating and providing finance to MFIs. Adequate regulation of MFIs would be undertaken to ensure that MFIs do not burden the poor by charging usurious interest rates and their operations are kept transparent.

Legal and Regulatory Reforms

- a) Model Guidelines will be developed by the Central Government for use by States/UTs for regulation of land supply with a view to reducing speculation in land and haphazard development in urban areas and along inter-city transport corridors.

- b) In line with Central Government's decision to repeal the Urban Land Ceilings Act, the States (who have not already repealed the Act) will be encouraged to repeal the said Act.
- c) A single window approach would be developed by the Urban Local Bodies/parastatals for approval of Building Plans and securing Certificates in collaboration with the Council of Architects or their State/UT chapters.
- d) Adoption of the Model Municipal Law prepared by the Central Government with suitable modifications, if required, at the State/UT level needs to be encouraged.
- e) Revision of Master Plans would be done periodically with wide public participation and should take care of the expansions of the city due to urbanization.
- f) Awareness generation and advocacy for increased use of the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act,2002 and the Recovery of Debts due to Banks and Financial Institutions Act,1993 (DRT Act) to ensure expeditious recovery of housing debts. vii) Stamp Duty reforms should be initiated to bring incidence of duty in all States/UTs at par.
- g) Property Tax reform based on unit area method needs to be encouraged in all States/UTs and ULBs.
- h) States will be encouraged to adopt the Model Cooperative Housing Act. x) All States would be encouraged to refine/enact a Town and Country Planning Act in order to promote Regional Planning at the State/UT level.
- i) States/UTs would be encouraged to use Information Technology for maintaining urban land records and providing non-encumbrance certificates on the basis of e-enabled data and digitized certification.
- j) States/UTs will be encouraged to enact Apartment Ownership Acts.
- k) States/UTs will be encouraged to undertake urban reforms listed under the JNNURM.
- l) A Citizen's Charter should be developed to safeguard the interests of customers vis-à-vis housing schemes offered by both the public and private sectors.

- m) The land revenue records of the States/UTs would be computerized and put on Geographic Information System (GIS) mode within a time frame.
- n) Environmental safeguards in respect of housing and construction projects will be considered in consultation with Ministry of Environment and Forests and modalities for compliance of their guidelines will be worked out.

Technology support and its transfer

- a) States would be encouraged to prepare detailed city maps on the basis of the GIS mapping through satellite data, aerial survey and ground verification.
- b) Low energy consuming and using renewal form of energy for construction techniques and rain-water harvesting technologies will be encouraged.
- c) Use of prefabricated factory made building components will be encouraged for mass housing, so as to achieve speedy, cost effective and better quality construction.
- d) Central and State/UT Governments should promote low cost, local building materials based on agricultural and industrial wastes, particularly those based on fly ash, red mud and allied local materials.
- e) Enforcement of the Building Code/Building Guidelines relating to disaster resistant planning and technologies will be taken up and specific elements in different disaster prone zones will be made compulsory.
- f) Transfer of proven, cost-effective building materials and technologies would be encouraged by transfer from lab to land.
- g) States/UTs will be encouraged to include new building materials in their schedule of rates.
- h) Demonstration houses using cost effective materials and alternate technologies will be got constructed by the Building Materials and Technology Promotion Council (BMTPC) set-up by the Central Govt. and by other appropriate Public/Private Sector agencies.
- i) Use of wood has already been banned by the Central Public Works Department (CPWD). State PWD Departments need to take similar steps in this direction. Use of bamboo as a wood substitute and as a general building component would be encouraged.

Infrastructure

- a) Efforts will be made to encourage ULBs/Development Authorities and other concerned agencies to follow the Urban Development Plans Formulation and Implementation (UDPFI) Guidelines issued by the Ministry of Urban Affairs and Employment in 1996 in order to improve the quality of Master Plans/Development Plans, Zonal Plans and Local Area Plans of all cities/towns. The States will be advised to prepare a dynamic plan with provision for review every five years.
- b) Development of a Mass Rapid Transit System (MRTS) at the sub-regional level around metropolitan cities will be encouraged. iii) All States would be encouraged to develop a 'Habitat Infrastructure Action Plan' for all cities with a population of over 1,00,000.

Sustainability Concerns

- a) Green belts will be developed around cities with a view to maintaining the ecological balance.
- b) Suitable green recreational areas like zoo, lakes and gardens will be earmarked /developed for public visits in the Master Plan of each city/town.
- c) Water bodies will be protected with special emphasis on keeping the flood plains of tropical rivers free from construction or encroachments.
- d) Efforts will be made to ensure that Master Plans protect large depressions from being filled up since they are natural drainage points for conservation of water and can be developed as suitable water bodies.
- e) Efforts will be made to encourage cities/towns to keep a significant proportion of the total Master Plan area as 'green lungs of the city.'
- f) Efforts will be made to encourage States/UTs to develop Sub-regional / Special Area Development Plans for areas with fragile ecological characteristics on the basis of Environment Impact Assessment (EIA) so as to take care of all environmental concerns at the planning stage itself in consultation with the Ministry of Environment & Forests.

- g) Growth of a city beyond reasonable limits imposes unbearable strain on its services. City planners would be encouraged to lay down norms for development of urban sprawls and satellite townships.
- h) Reduction in the rate of in-migration into mega and metro cities is urgently needed through preparation of State/UT level regional Plans based on fast transport corridors for balanced growth.
- i) Model bye-laws will be developed to promote the use of renewable energy sources particularly solar water heating systems in residential and commercial buildings.
- j) Poverty and unemployment are detrimental to the well balanced growth of urban settlements. States/UTs Governments and local authorities will be encouraged to formulate and implement poverty alleviation and employment generation programmes based on skills' training especially in the services sector.

Employment issues relating to the Housing Sector

- a) Efforts will be made to provide good quality training to construction workers with a view to improving their skills in tandem with technological advancements in the construction sector.
- b) The Construction Industry is one of the biggest employers of women workers and is perhaps their biggest exploiter in terms of disparity in wages. Concerted efforts will be made to upgrade the skills of women construction workers, induct them at supervisory levels and also develop them as contractors. Both public and private agencies would be encouraged to take a lead in this. Training institutions will be requested to enroll women trainees on a preferential basis.
- c) Efforts will be made to get States/UTs to enact legislation on the pattern of the Building & Other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 of the Central Government with a view to ensuring that adequate measures are undertaken by employers for the occupational health and safety of all workers especially women engaged in construction activities. Efforts will also be made to ensure use of modern techniques and modern safety equipment at construction sites with strict penalties for non-compliance.

- d) Construction companies/public authorities will be directed to provide adequate support services like crèches and temporary rest accommodation with appropriate toilet facilities at construction sites.
- e) Effort will be made to get States/UTs to enact legislation on the pattern of the Building & Other Construction Workers Welfare Cess Act, 1996 of the Central Government and ensure adequate provision for skills upgradation of construction workers.
- f) States/UTs will be encouraged to adopt a decentralized pattern of training for ensuring better coverage.

Slum improvement and upgradation

- a) The Jawaharlal Nehru Urban Renewal Mission has started to play a vital role both in slum improvement as well as in-situ slum rehabilitation along with provision of security of tenure, affordable housing and basic services to the urban poor.
- b) Specially designed slum improvement programmes will also be encouraged which focus on upgrading of basic services and environment improvement of urban slums with a participative, in-situ slum rehabilitation approach.
- c) Inner-city slum redevelopment programmes for creating a better environment would be encouraged with cross subsidization and special incentives.
- d) Land pooling and sharing arrangements would be encouraged in order to facilitate land development and improvement of basic amenities in slums.
- e) Release of Transferable Development Rights and additional FAR would be carefully considered for accelerating private investment in provision of shelter to the poor. Community Based Organizations (CBOs), Non-Governmental Organizations (NGOs) and Self-Help Groups (SHGs) would be involved in partnership with the Private Sector.
- f) The Policy gives primacy to provision of shelter to the urban poor at their present location or near their work place and efforts will be made to ensure that rights provided are non-transferable for a period of 10-15 years.
- g) Only in cases, where relocation is necessary on account of severe water pollution, safety problems on account of proximity to rail track or other critical concerns relocation of slum dwellers will be undertaken. In such cases, special efforts will be made to ensure fast and reliable transportation to work sites.

- h) Income generating activities in slums, which are non-polluting, will be encouraged on a mixed land use basis. Efforts will be made to structure such activities as an integral part of housing and habitat projects.
- i) The process for integrating the Valmiki Ambedkar Awas Yojana (VAMBAY) and the environment improvement scheme titled National Slum Development Programme (NSDP) has been undertaken through the Basic Services to the Urban Poor (BSUP) in Mission Cities and Integrated Housing & Slum Development Programme (IHSDP) in Non-Mission cities. Efforts will be made to remove hurdles faced by the States/UTs in implementing these integrated schemes. Further, efforts will also be made to enhance funds under IHSDP as well as develop a new scheme for meeting water, drainage, sanitation and sewerage concerns in slums located in smaller towns with a population below 5 lakhs.
- j) Formation of Group Cooperative Housing Societies of urban poor and slum dwellers will be encouraged across the country for providing better housing serviced by basic amenities through thrift and credit based CBOs.

Action Plan

- a) The Central Government will encourage and support the States to prepare a State Urban Housing and Habitat Policy and also a State Urban Housing & Habitat Action Plan. This may include passing of specific Acts by the States/UTs (with legislature) for achieving the housing policy objectives through legal & regulatory reforms, fiscal concessions, financial sector reforms and innovations in the area of resource mobilization for housing and related infrastructure development at the State/UT level.
- b) In order to augment sustainable and affordable housing stock along with related infrastructure like water, drainage, sanitation, sewerage, solid waste management, electricity and transportation, the Action Plans of States/UTs should focus on accelerated flow of funds for housing (including various cost-effective slum-related options) and infrastructure. The State/UT Action Plan should also encourage promotion of planned and balanced regional growth, creation of sustainable employment opportunities, protection of weaker sections/ vulnerable groups preferably in their present residential location,

- conservation of urban environment and promotion of public private partnerships.
- c) The State/UT level Policy and Plan should also provide a road map pertaining to institutional, legal, regulatory and financial initiatives in relation to
- supply of land
 - modification of Acts/Bye-laws
 - promotion of cost effective building materials and technologies
 - infrastructure development and in situ slum development. Further, the Action Plan should make specific provision for use of information technology for planning, MIS and online e-connectivity in a time bound manner.
 - The State/UT level Policy and Plan should also indicate concrete steps for motivating, guiding and encouraging a participatory approach involving all stakeholders like CBOs, NGOs, State parastatals, ULBs, Cooperative Sector and Private Sector in order to synergise community, cooperative and private resources along with Government resources.
 - A Monitoring framework at the State/UT level should be set up to periodically review the implementation of the Policy and concomitant Action Plan.
 - At the local level, cities should prepare 15-20 years perspective plans in the form of City Development Plans which take into account the deficiencies in housing and urban infrastructure with special emphasis on the urban poor and indicate a vision based on various levels of spatial plans – Master Plan and Zonal Plans, Metropolitan Plan, District Plan and State/UT based Regional Plan – along with an investment plan for their implementation.
 - A High Level Monitoring Committee at the Central Government level would be set up to periodically review the implementation of the National Urban Housing & Habitat Policy 2007 and make amendments/ modifications considered necessary.
- *Pradhan Mantri Awas Yojana – Urban (PMAY-U), a flagship Mission of Government of India being implemented by Ministry of Housing and Urban Affairs (was launched on 25th June 2015. The Mission addresses urban housing shortage among the EWS/LIG and MIG categories including the slum dwellers by ensuring a pucca house to all eligible urban households by the year 2022, when Nation completes 75 years of its Independence. PMAY(U) adopts a demand driven approach wherein*

the Housing shortage is decided based on demand assessment by States/Union Territories. State Level Nodal Agencies (SLNAs), Urban Local Bodies (ULBs)/ Implementing Agencies (IAs), Central Nodal Agencies (CNAs) and Primary Lending Institutions (PLIs) are main stakeholders who play an important role in implementation and success of PMAY(U). The Mission covers the entire urban area consisting of Statutory Towns, Notified Planning Areas, Development Authorities, Special Area Development Authorities, Industrial Development Authorities or any such authority under State legislation which is entrusted with the functions of urban planning & regulations. All houses under PMAY(U) have basic amenities like toilet, water supply, electricity and kitchen. The Mission promotes women empowerment by providing the ownership of houses in name of female member or in joint name. Preference is also given to differently abled persons, senior citizens, SCs, STs, OBCs, Minority, single women, transgender and other weaker & vulnerable sections of the society. A PMAY(U) house ensures dignified living along with sense of security and pride of ownership to the beneficiaries.- MoHUA

- *COVID-19 pandemic has resulted in reverse migration of urban migrants/ poor in the country. Urban migrants stay in slums/ informal settlements/ unauthorised colonies/ peri-urban areas to save cost on housing. They need decent rental housing at affordable rate at their work sites. In order to address this need, Ministry of Housing & Urban Affairs has initiated **Affordable Rental Housing Complexes (ARHCs)**, a sub-scheme under Pradhan Mantri Awas Yojana - Urban (PMAY-U). This will provide ease of living to urban migrants/ poor in Industrial Sector as well as in non-formal urban economy to get access to dignified affordable rental housing close to their workplace. The ARHC scheme will be implemented through two models: Utilizing existing Government funded vacant houses to convert into ARHCs through Public Private Partnership or by Public Agencies ii. Construction, Operation and Maintenance of ARHCs by Public/ Private Entities on their own vacant land-
MoHUA*

APPENDIX- III
THE MODEL TENANCY ACT, 2021

An
Act

to establish Rent Authority to regulate renting of premises and to protect the interests of landlords and tenants and to provide speedy adjudication mechanism for resolution of disputes and matters connected therewith or incidental thereto.

BE it enacted by the (State/Union territory Legislature) in the Seventy-first Year of the Republic of India as follows:—

CHAPTER I
PRELIMINARY

1. (1) This Act may be called the (Name of State/Union territory) Tenancy Act, 2020. Short title, extent and commencement.

(2) It extends to the whole of the State/Union territory of (Name of State/Union territory):

(3) It shall come into force on such date as the State Government/Union territory Administration may, by notification in the Official Gazette, appoint and different dates may be appointed for different provisions of this Act.

2. In this Act, unless the context otherwise requires,— Definitions.

(a) “landlord”, whether called landowner or lessor or by any other name, means a person who receives or is entitled to receive, the rent of any premises, on his own account, if the premises were let to a tenant, and shall include —

(i) his successor-in-interest; and

(ii) a trustee or guardian or receiver receiving rent for any premises or is entitled to so receive, on account of or on behalf of or for the benefit of, any other person such as minor or person of unsound mind who cannot enter into a contract;

(b) “local authority” means a Village Panchayat or Panchayat Samiti or Zila Parishad or a Municipal Corporation or a Municipal Council or a Nagar Panchayat or a Planning or Development Authority, by whatever name called, or the Cantonment Board, or as the case may be, a civil area committee appointed under section 47 of the Cantonment Act, 2006 or such other body entitled to function as a local authority in any city or town, constituted under any law for the time being in force;

(c) “notification” means a notification published in the Official Gazette of the State or the Official Gazette of the Union territory and the expression “notify” with its grammatical variations and cognate

expressions shall be construed accordingly;

(d) "premises" means any building or part of a building which is, or is intended to be, let on rent for the purpose of residential or commercial use except for hotel, lodging house, dharamshala, inn and for industrial use but includes—

(i) garden, garage or closed parking area, vacant land, grounds and out-houses, if any, appertaining to such building or part of the building; and

(ii) any fitting to such building or part of the building for the more beneficial enjoyment thereof;

(e) "prescribed" means prescribed by rules made by the State Government / Union territory Administration under this Act;

(f) "property manager" means a person or any legal entity including rental agent who is authorised by the landlord to manage the premises and who represents the landlord in his dealings with the tenant;

(g) "rental agent" means any person, who negotiates or acts on behalf of landlord or tenant or both in a transaction of renting of any premises and receives remuneration or fees or any other charges for his services whether as a commission or otherwise and includes a person who introduces, through any medium, prospective landlord and tenant to each other for negotiation for renting of premises and includes property dealers, brokers or middlemen, by whatever name called;

(h) "Rent Authority" means an officer appointed under section 30;

(i) "Rent Court" means a Rent Court constituted under section 33;

(j) "Rent payable" in relation to any premises means the rent as specified in section 8;

(k) "Rent Tribunal" means a Rent Tribunal constituted under section 34;

(l) "Schedule" means a schedule annexed to this Act;

(m) "Sub-tenant" means a person to whom the tenant sublets whole or part of the premises held by him or transfers or assigns his rights accrued under the tenancy agreement or any part thereof upon entering into a supplementary agreement to the existing tenancy agreement;

(n) "Tenant", whether called lessee or by any other name, means a person by whom or on whose account or on behalf of whom, the rent of any premises is payable to the landlord under a tenancy agreement and includes any person occupying the premises as a sub-tenant and also, any person continuing in possession after the termination of his tenancy whether before or after the commencement of this Act; but shall not include any person against whom any order or decree for eviction has been made.

3. (1) Nothing in this Act shall apply to any—

Act not to apply to certain premises.

(a) premises owned or promoted by the Central Government or State Government or Union territory Administration or local authority or a Government undertaking or enterprise or a statutory body or Cantonment Board;

(b) premises owned by a company, University or organisation given on rent to its employees as part of service contract;

(c) premises owned by religious or charitable institutions as may be specified, by notification by the State Government/Union territory Administration;

43 of 1995 (d) premises owned by auqaf registered under the Waqf Act, 1995 or by any trust registered under the public trust law of the State/Union territory for the time being in force;

(e) other building or category of buildings specifically exempted in public interest by notification by the State Government/Union territory Administration.

(2) Notwithstanding anything contained in sub-section (1), if the owner and tenant of the premises referred to in clause (a) to clause (e) of the said sub-section agrees that the tenancy agreement entered into between such landlord and tenant be regulated under the provisions of this Act, such landlord may inform the Rent Authority of the agreement to do so at the time of information of the tenancy agreement under section 4.

CHAPTER II TENANCY

4. (1) Notwithstanding anything contained in this Act or any other law for the time being in force, no person shall, after the commencement of this Act, let or take on rent any premises except by an agreement in writing, which shall be informed to the Rent Authority by the landlord and tenant jointly, in the form specified in the First Schedule within a period of two months from the date of tenancy agreement.

Tenancy agreement.

(2) Where the landlord and the tenant fail to jointly inform the execution of the tenancy agreement referred to in sub-section (1), the landlord and tenant shall separately inform the execution of tenancy agreement to the Rent Authority within a period of one month from the date of expiry of the period specified in sub-section (1).

(3) The Rent Authority shall, within three months from the date of its appointment, put in place a digital platform in the local vernacular language or the language of the State/Union territory for enabling submissions of document in such form and manner as may be prescribed.

(4) The Rent Authority shall, after receiving information about the execution of tenancy agreement along with the documents specified in the First Schedule,—

- (a) provide a unique identification number to the parties; and
- (b) upload details of the tenancy agreement on its website in local vernacular language or the language of the State/Union territory,

within seven working days from the date of receipt of such information, in such manner along with such documents as it may deem fit.

(5) The terms of authorisation of the property manager, if any, by the landlord to deal with the tenant shall be such as agreed to by the landlord and tenant in that behalf in the tenancy agreement.

(6) The information provided under sub-section (1) and sub-section (2) shall be conclusive proof of the facts relating to tenancy and matters connected therewith, and in the absence of any statement of information, the landlord and the tenant shall not be entitled to any relief under the provisions of this Act.

5. (1) Every tenancy entered into after the commencement of this Act shall be valid for a period as agreed upon between the landlord and the tenant and as specified in the tenancy agreement.

Period of tenancy.

(2) The tenant may request the landlord for renewal or extension of the tenancy, within the period agreed to in the tenancy agreement, and if agreeable to the landlord, may enter into a new tenancy agreement with the landlord on mutually agreed terms and conditions.

(3) Where a tenancy for a fixed term ends and has not been renewed or the tenant fails to vacate the premises at the end of such tenancy, then such tenant shall be liable to pay an enhanced rent to the landlord as provided in section 23.

Provided that notwithstanding anything contained in this section, if the term of tenancy expires at a time when the locality where the premises let out on rent is situated is affected by any disastrous event of force majeure, then, subject to requisition by the tenant, the landlord shall allow the tenant to continue in possession of the said premises till a period of one month from the date of cessation of such disastrous event on the same terms and conditions of the tenancy agreement already entered into.

Explanation.— For the purposes of this section, “force majeure” means a situation of war, flood, drought, fire, cyclone, earthquake or any other calamity caused by nature affecting the habitation of the tenant in the premises let out on rent.

6. The terms of agreement executed between landlord and tenant, shall be binding upon their successors in the event of the death of the landlord or tenant, as the case may be, and in such case, the successors of the deceased landlord or tenant shall have the same

Rights and obligations of successor in case of death.

rights and obligations as agreed to in the tenancy agreement for the remaining period of such tenancy.

7. (1) After the commencement of this Act, no tenant shall, except by entering into a supplementary agreement to the existing tenancy agreement, Restriction on sub-letting.

- (a) sub-let whole or part of the premises held by him as a tenant;
- (b) transfer or assign his rights in the tenancy agreement or any part thereof.

(2) Where the premises is sub-let upon entering into a supplementary agreement to the existing tenancy agreement as referred to in sub-section (1), the landlord and tenant shall jointly inform the Rent Authority about the sub-tenancy within a period of two months from the date of execution of such agreement in the Form specified in the First Schedule.

CHAPTER III RENT

8. The rent payable in respect of a premises shall be the rent agreed to between the landlord and the tenant in accordance with the terms of the tenancy agreement. Rent payable.

9. (1) The revision of rent between the landlord and the tenant shall be in accordance with the terms of the tenancy agreement. Revision of rent.

(2) Where, after the commencement of tenancy, the landlord has entered into an agreement in writing with the tenant prior to the commencement of the work and has incurred expenditure for carrying out improvement, addition or structural alteration in the premises occupied by the tenant, which does not include repairs necessary to be carried out under section 15, the landlord may increase the rent of the premises by an amount as agreed to between the landlord and the tenant, and such increase in rent shall become effective from one month after the completion of such work.

10. In case of any dispute between landlord and tenant regarding revision of rent, the Rent Authority may, on an application made by the landlord or tenant, determine the revised rent and other charges payable by the tenant and also fix the date from which such revised rent becomes payable. Rent Authority to determine the revised rent in case of dispute.

11. (1) The security deposit to be paid by the tenant in advance shall be such as may be agreed upon between the landlord and the tenant in the tenancy agreement, which shall — Security deposit.

(a) not exceed two months rent, in case of residential premises;
and

(b) not exceed six months rent, in case of non-residential premises.

(2) The security deposit shall be refunded to the tenant on the date of taking over vacant possession of the premises from the tenant, after making due deduction of any liability of the tenant.

CHAPTER IV

RIGHTS AND OBLIGATIONS OF LANDLORD AND TENANT

12. The tenancy agreement shall be signed in duplicate by both the landlord and tenant, and one each of such original signed tenancy agreement shall be retained by the landlord and tenant.

Original tenancy agreement to be retained by landlord and tenant.

13. (1) Every tenant shall pay rent and other charges payable within such period as agreed to in the tenancy agreement.

Rent and other charges payable and receipt for payment thereof.

(2) Every landlord or his property manager shall, on receipt of payment towards rent and other charges payable within the stipulated period as in the tenancy agreement from the tenant, provide forthwith against acknowledgement, a duly signed receipt for the amount received by him:

Provided that where the payment of rent or other charges is made by the tenant to the landlord through the electronic mode, the bank acknowledgment thereof shall be conclusive proof of such payment.

14. (1) Where the landlord refuses to accept any rent and other charges payable or refuses to give a receipt, the rent and other charges shall be paid to the landlord by postal money order or any other method, in such manner as may be prescribed, consecutively for two months, and if the landlord refuses to accept the rent and other charges within such period, then the tenant may deposit the same with the Rent Authority in such manner as may be prescribed.

Deposit of rent with Rent Authority.

(2) Where the tenant is unable to decide to whom the rent is payable during the period of tenancy agreement, the tenant may, in such case, deposit the rent with the Rent Authority in such manner as may be prescribed.

(3) Where the rent is deposited under sub-section (1) or sub-section (2), the Rent Authority shall enquire the case as to whom the rent is payable and pass orders as may deem fit on the basis of the facts of the case.

(4) The withdrawal of rent and other charges payable, deposited

under sub-section (1) or sub-section (2), shall not by itself operate as an admission against the landlord or any other claim made by the tenant, if the landlord withdraws it to the extent of rent agreed upon under the tenancy agreement.

Repair and maintenance of property.

15. (1) Notwithstanding any agreement in writing to the contrary, the landlord and the tenant shall keep the premises in as good a condition as at the commencement of the tenancy, except for normal wear and tear, and shall respectively be responsible to repair and maintain the said premises as specified in the Second Schedule or as agreed to in the tenancy agreement.

(2) In case of common facilities shared among the tenants or with the landlord, the respective responsibilities of the tenant and landlord to repair and maintain those facilities shall be such as may be specified in the tenancy agreement.

(3) If the tenant fails or refuses to carry out the repairs referred to in sub-section (1) or sub-section (2), the landlord may carry out the repairs or remove the additional structure erected by tenant without consent of landlord and deduct the amount incurred for such repairs or removal as the case may be, from the security deposit and the amount so deducted shall be paid by the tenant within a period of one month of issue of notice by the landlord in that regard:

Provided that if the cost for such repairs exceed the security deposit, the tenant shall be liable to pay the excess cost including the security deposit so deducted to the landlord within a period of one month of the issue of notice by the landlord in that regard.

(4) In case the landlord refuses to carry out the repairs referred to in sub-section (1) or sub-section (2), the tenant may carry out such repairs and deduct the expenditure incurred towards the same from the rent to be paid for the succeeding months:

Provided that in no case the deduction from rent in any one month shall exceed fifty per cent of the agreed rent for a month.

(5) Where the premises is uninhabitable without the repairs and the landlord refuses to carry out the required repairs, after being called upon by the tenant in writing to do so, the tenant may abandon the premises after giving the landlord fifteen days notice in writing.

(6) Where the premises let out on rent becomes uninhabitable for the tenant due to an event of force majeure or the tenant is unable to reside due to occurrence of such event, the landlord shall not charge rent from the tenant until the said premises is restored by the landlord, subject to the provisions of this section, to be inhabitable:

Provided that where the rented premises becomes uninhabitable as specified in sub-section (5) or this sub-section and the landlord

fails to carry out the required repairs to make it inhabitable or the said premises could not be made inhabitable, then, the security deposit and advance rent shall be refunded by the landlord to the tenant within a period of fifteen days of the expiry of the notice period, after making due deduction of liability of the tenant, if any.

Explanation.— For the purposes of this section, “force majeure” means a situation of war, flood, drought, fire, cyclone, earthquake or any other calamity caused by nature affecting the habitation of the tenant in the premises let out on rent.

16. During the subsistence of tenancy, the tenant shall —

Tenant to look after premises.

- (a) not intentionally or negligently damage the premises or permit such damage;
- (b) inform in writing the landlord of any damage;
- (c) take reasonable care of the premises and its contents including fitting and fixtures and keep it reasonably habitable having regard to its condition at the commencement of tenancy and the normal incidence of living.

17. (1) Every landlord or the property manager may enter the premises let out on rent after serving a notice, in writing or through electronic mode, to the tenant at least twenty four hours before the time of entry under the following circumstances, namely:—

Entry into premises.

- (a) to carry out repairs or replacement or to do or to get work done in the premises; or
- (b) to carry out an inspection of the premises for the purpose of determining whether the premises are in a habitable state; or
- (c) for any other reasonable cause for entry specified in the tenancy agreement.

(2) The notice referred to in sub-section (1) shall specify the day, time and reason for entry:

Provided that no person shall enter the premises before sun rise and after sun set.

Provided further that nothing contained in this section shall prevent the landlord from entering into the premises let out on rent without prior notice to the tenant in case of emergent situations like war, flood, fire, cyclone, earthquake or any other natural calamity, which may affect that premises.

18. In case the landlord has engaged a property manager, the landlord shall provide the following information to the tenant, namely:—

Information as to property manager.

- (a) name of the property manager;
- (b) proof that such property manager is authorised by the landlord;
- (c) specific purposes for which the property manager has been authorised by the landlord and the period of such authorisation; and
- (d) if the property manager is a legal entity, the name of the entity and the person authorised in this behalf by that legal entity who may be contacted in relation to the tenancy agreement.

19. (1) The duties of the property manager shall include the following, namely:—

Duties of property manager and consequences of violation of duties.

- (a) to collect rent against receipt;
- (b) to do essential repairs on behalf of the landlord;
- (c) to inspect the premises from time to time;
- (d) to give notices to tenant for—
 - (i) proper maintenance of the premises;
 - (ii) delay in payment of rent;
 - (iii) revision of rent;
 - (iv) vacation of premises;
 - (v) renewal of tenancy;
- (e) help in resolution of disputes among tenants and between landlord and tenant;
- (f) any other matters relating to tenancy to be acted upon only on the instructions of the landlord.

(2) Where the property manager acts, in contravention of the provisions of sub-section (1) or against the instructions of the landlord, the Rent Authority may, on an application made to it by the landlord or tenant in that behalf, remove the property manager or impose such costs on the property manager so as to compensate any loss incurred by the landlord or tenant due to such contravention.

20. (1) No landlord or property manager shall, either by himself or through any other person, withhold any essential supply or service in the premises occupied by the tenant.

Withholding essential supply or service.

(2) In case of contravention of provisions of sub-section (1) and on application made by the tenant in this behalf, the Rent Authority after examining the matter, may pass an interim order directing the

restoration of supply of essential services immediately on service of such order upon the landlord or property manager, as the case may be, pending the inquiry referred to in sub-section (3).

(3) The Rent Authority shall conduct an enquiry in respect of the application made by the tenant under sub-section (2), and complete the inquiry within one month of filing such application.

(4) The Rent Authority may, after giving a reasonable opportunity of being heard, award a compensation not exceeding two months rent to be paid by the person responsible for withholding the essential supply, so as to compensate the loss incurred.

(5) The Rent Authority may levy a penalty of a sum not exceeding twice the monthly rent to the tenant, if it finds that the application was frivolous or vexatious.

Explanation.— For the purposes of this section, essential services includes supply of water, electricity, piped cooking gas supply, lights in passages, lifts and on staircase, conservancy, parking, communication links, sanitary services and security fixtures and features.

CHAPTER V

EVICTION AND RECOVERY OF POSSESSION OF PREMISES BY LANDLORD

21. (1) A tenant shall not be evicted during the continuance of tenancy agreement unless otherwise agreed to in writing by the landlord and tenant, except in accordance with the provisions of sub-section (2) or in accordance with the provisions of section 22.

Eviction and recovery of possession of premises by landlord.

(2) The Rent Court may, on an application made to it by the landlord in such manner as may be prescribed, make an order for eviction and recovery of possession of the premises on one or more of the following grounds, namely: -

(a) that the tenant does not agree to pay the rent payable under section 8;

(b) that the tenant has not paid the arrears of rent and other charges payable in full as specified in sub-section (1) of section 13 for two consecutive months, including interest for delayed payment as may be specified in the tenancy agreement within a period of one month from the date of service of notice of demand for payment of such arrears of rent and other charges payable to the landlord in the manner provided in sub-section (4) of section 106 of the Transfer of Property Act, 1882;

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(c) that the tenant has, after the commencement of this Act, parted with the possession of whole or any part of the premises

without obtaining the written consent of the landlord;

(d) that the tenant has continued to misuse the premises even after receipt of notice from the landlord to desist from such misuse.

Explanation.— For the purposes of this clause, “misuse of premises” means encroachment of additional space by the tenant or use of premises which causes public nuisance or causes damage to the property or is detrimental to the interest of the landlord or for immoral or illegal purposes;

(e) where it is necessary for the landlord to carry out any repair or construction or rebuilding or addition or alteration or demolition in respect of the premises or any part thereof, which is not possible to be carried out without the premises being vacated:

Provided that after such repair, construction, rebuilding, addition or alteration, the tenant may be allowed to reoccupy the premises only when it has been mutually agreed to between the landlord and the tenant and a new tenancy agreement has been submitted with the Rent Authority:

Provided further that the tenant shall not be allowed to reoccupy the premises—

(i) in the absence of submission of such mutual tenancy agreement with the Rent Authority; and

(ii) in cases where the tenant has been evicted under the orders of a Rent Court;

(f) that the premises or any part thereof is required by the landlord for carrying out any repairs, construction, rebuilding, additions, alterations or demolition, for change of its use as a consequence of change of land use by the competent authority.

Explanation.— For the purposes of this clause, the expression “competent authority” means the Municipal Corporation or the Municipality or the Development Authority or any other authority, as the case may be, which provides permission on matters relating to repair or redevelopment or demolition of building or permission for change in land use:

(g) that the tenant has given written notice to vacate the premises let out on rent and in consequence of that notice the landlord has contracted to sell the said premises or has taken any other step, as a result of which his interests would seriously suffer if he is not put in possession of that premises;

(h) that the tenant has carried out any structural change or erected any permanent structure in the premises let out on rent without the written consent of the landlord.

(3) No order for eviction of the tenant on account of failure to pay the rent specified in clause (b) of sub-section (2) shall be made, if the tenant makes payment to the landlord or deposits with the Rent Court the arrears of rent and other charges payable, if any, including interest within one month from the date of service of the said demand notice upon him.

(4) Where the tenant fails to pay rent consecutively for two months subsequent to the grant of the relief specified in sub-section (3) in any one year, then the tenant shall not be entitled to such relief again.

(5) In any proceedings for eviction under clause (e) of sub-section (2), the Rent Court may allow eviction from only a part of the premises, if the landlord agrees for the same.

22. (1) Notwithstanding anything contained in this Act or any other law for the time being in force, in case of death of the landlord, where there is a bonafide requirement of the premises let out on rent by the legal heirs of the landlord during the period of tenancy, such legal heirs may file an application in this behalf for eviction and recovery of possession of the said premises before the Rent Court in such form and manner, as may be prescribed.

Eviction and recovery of possession of premises in case of death of landlord.

(2) The Rent Court may, on an application made to it under sub-section (1), if it is satisfied that the legal heirs of the deceased landlord are in bonafide requirement of the premises let out on rent, pass necessary orders against the tenant for handing over vacant possession of the said premises to the legal heirs of the deceased landlord.

23. Where the tenant fails to vacate the premises let out on rent in accordance with the tenancy agreement on the expiration of the period of tenancy or termination of tenancy by an order or notice under the provisions of this Act, such tenant shall be liable to pay the landlord —

Enhancement of rent in case of refusal by tenant to vacate.

(a) twice the monthly rent for the first two months; and

(b) four times the monthly rent thereafter till the tenant continues to occupy the said premises.

24. (1) Where a landlord exercises the right of recovery of possession under sub-section (2) of section 21 or under section 22, and he had received any rent or any other payment in advance from the tenant, he shall before recovery of possession, refund to the tenant such amount after deducting the rent and other charges due to him.

Refund of advance rent by landlord.

(2) If the landlord fails to make any refund, he shall be liable to pay

simple interest to the tenant at such rate as may be prescribed from time to time on the amount which he has omitted or failed to refund.

25. In any proceedings for recovery of possession on any ground other than that referred to in clause (a) or clause (b) of sub-section (2) of section 21, where the tenant contests the claim for eviction, the landlord may at any stage of the proceedings apply to the Rent Court to direct the tenant to pay him the rent payable, as under section 8, and the Rent Court may order the tenant to make such payment and all other charges due from the tenant along with penal charges, if any, due to delay in payment, in accordance with the provisions of sub-section (1) of section 14.

Payment of rent during eviction proceedings.

26. (1) Tenant shall not carry out any structural change or erect any permanent structure in the premises let out on rent without the written consent of the landlord.

Permission to build additional structures.

(2) Where the landlord proposes to make any improvement in or construct any additional structure on any premises which has been let out to a tenant and the tenant refuses to allow the landlord to make such improvement or construct such additional structure, the landlord may make an application in this behalf to the Rent Court.

(3) On an application made by the landlord under sub-section (2), if the Rent Court is satisfied that the landlord is ready and willing to commence the work which is necessary, the Rent Court may permit the landlord to do such work and may make such other order as it may deem fit:

Provided that such improvement or additional structure shall not decrease or diminish or deteriorate the accommodation or housing services in the premises which may cause undue hardship to the tenant.

Provided further that it shall be the responsibility of the tenant to remove any such additional structure built by tenant without consent of landlord.

27. (1) Notwithstanding anything contained in section 21 or section 22, where any premises let out for rent comprises vacant land, upon which it is permissible under the municipal bye-laws for the time being in force to erect any building whether for residence or for any other purpose, and the landlord who intends to erect such building is unable to obtain possession of the same from the tenant on the basis of the tenancy agreement, the landlord or, in case of death of the landlord, his legal heirs, may file an application in this behalf, in such form and manner as may be prescribed, before the Rent Court.

Special provision regarding vacant land.

(2) The Rent Court may, on receipt of the application referred to in sub-section (1), if it is satisfied that the landlord is or, as the case may be, his legal heirs are ready and willing to commence the work and that the severance of the vacant land from the rest of the premises shall not cause undue hardship to the tenant,—

- (a) direct such severance after such enquiry as it may deem fit;
- (b) place the landlord in possession of the vacant land;
- (c) determine the rent payable by the tenant in respect of the rest of the premises; and
- (d) make such other orders as it may deem fit in the circumstances of the case.

28. Notwithstanding anything contained in any other law for the time being in force, where the interest, of a landlord or in case of death of the landlord, of his legal heirs in any premises is determined for any reason whatsoever and any order is made by the Rent Court under this Act for the recovery of possession of such premises, such order shall, subject to the provisions of sub-section (3) of section 21, be binding on all occupants who may be in occupation of the premises and vacant possession thereof shall be given by all such occupants to the landlord or to the legal heirs of the landlord.

Vacant possession to landlord.

29. Notwithstanding anything contained in this Act or any other law for the time being in force, a tenant may give up possession of the premises on giving such written notice as is required under the tenancy agreement and in the absence of any stipulation relating to such notice, the tenant shall give notice to the landlord of at least one month before giving up possession of the premises.

Provisions regarding notice of giving up possession by tenant.

CHAPTER VI

RENT AUTHORITIES, THEIR POWERS AND APPEALS

30. The District Collector or District Magistrate shall, with the previous approval of the State Government/Union territory Administration, appoint an officer, not below the rank of Deputy Collector, to be the Rent Authority within his jurisdiction.

Rent Authority.

31. The Rent Authority shall have all the powers as are vested in a

Power and

Rent Court under this Act in respect of any proceedings initiated under sections 4, 9, 10, 14, 15, 19 or section 20 and the procedure as laid down in sections 35 and 36 shall apply in such proceedings. procedure of Rent Authority.

32. (1) Any person aggrieved by the order of the Rent Authority may prefer an appeal to the Rent Court having territorial jurisdiction. Appeals.

(2) The appeal under sub-section (1) shall be preferred within a period of thirty days from the date of the order of the Rent Authority.

CHAPTER VII

RENT COURTS AND RENT TRIBUNALS

33. The District Collector or District Magistrate shall, with the previous approval of the State Government/ Union territory Administration, appoint Additional Collector or Additional District Magistrate or an officer of equivalent rank, to be the Rent Court for the purposes of this Act, within his jurisdiction. Rent Court

34. The State Government/ Union territory Administration may, in consultation with the jurisdictional High Court, may by notification, appoint District Judge or Additional District Judge as Rent Tribunal in each district. Rent Tribunal

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35. (1) Save as provided in this section, nothing contained in the Code of Civil Procedure, 1908 shall apply to the Rent Courts and Rent Tribunals, which shall be guided by the principles of natural justice and shall have power to regulate their own procedure in the following manner, namely:— Procedure to be followed in Rent Court and Rent Tribunal.

(a) the landlord or the tenant may file an application or appeal before the Rent Court or, as the case may be, the Rent Tribunal accompanied by affidavit and documents, if any;

(b) the Rent Court or, as the case may be, the Rent Tribunal shall then issue notice to the opposite party, accompanied by copies of application or appeal, affidavit and documents;

(c) the opposite party shall file a reply accompanied by affidavit and documents, if any, after serving a copy of the same to the applicant;

(d) the applicant may file a rejoinder, if any, after serving the copy to the opposite party;

(e) the Rent Court or, as the case may be, the Rent Tribunal shall fix a date of hearing and may hold such summary inquiry as it deems necessary.

(2) The Rent Court or, as the case may be, the Rent Tribunal shall endeavor to dispose the case as expeditiously as possible, not exceeding a period of sixty days from the date of receipt of the application or appeal:

Provided that where any such application or, as the case may be, appeal could not be disposed of within the said period of sixty days, the Rent Court or the Rent Tribunal shall record its reasons in writing for not disposing of the application or appeal within that period.

(3) In every application or appeal, before the Rent Court or the Rent Tribunal, the evidence of a witness shall be given by affidavit:

Provided that the Rent Court or, as the case may be, the Rent Tribunal may, where it appears to it that it is necessary in the interest of justice to call a witness for examination or cross-examination, order attendance of such witness to be present for examination or cross-examination.

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(4) The provisions of the Code of Civil Procedure, 1908 regarding service of summons shall be applicable *mutatis mutandis* for service of notice by the Rent Court or Rent Tribunal.

(5) Every application or appeal shall be in such form as may be prescribed.

(6) The Rent Authority or Rent Court or the Rent Tribunal as the case may be, shall not allow more than three adjournments at the request of a party throughout the proceedings and in case of reasonable and sufficient cause to do so, it shall record the reasons for the same in writing and order the party requesting adjournment to pay a reasonable cost.

(7) Every application under clauses (a), (b), (e), (f) and (g) of sub-section (2) of section 21 or under section 22 shall be decided within ninety days from the date of filing of such application in the Rent Court.

(8) The Rent Court shall decide every application filed under clause (c) and (d) of sub-section (2) of section 21 within thirty days from the date of filing of such application.

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36. (1) The Rent Court and the Rent Tribunal shall, for discharging their functions under this Act, have the same powers as are vested in a civil court under the Code of Civil Procedure, 1908 for the purposes of, –

- (a) summoning and enforcing the attendance of any person and examining him on oath;
- (b) requiring the discovery and production of documents;
- (c) issuing commissions for examination of the witnesses or

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documents;

- (d) issuing commission for local investigation;
- (e) receiving evidence on affidavits;
- (f) dismissing an application or appeal for default or deciding it *ex-parte*;
- (g) setting aside any order of dismissal of any application or appeal for default or any other order passed by it *ex-parte*;
- (h) execution of its orders and decisions under this Act without reference to any civil court;
- (i) reviewing its orders and decisions;
- (j) revision of orders and decisions of Rent Authority and Rent Court and;
- (k) any other matter, which may be prescribed.

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(2) Any proceedings before the Rent Court or Rent Tribunal shall be deemed to be a judicial proceeding within the meaning of section 193 and 228, and for the purpose of section 196, of the Indian Penal Code; and the Rent Court and the Rent Tribunal shall be deemed to be a civil court for the purposes of section 195 and Chapter XXVI of the Code of Criminal Procedure, 1973.

(3) For the purposes of holding any inquiry or discharging any duty under this Act, the Rent Court may,—

(a) after giving not less than twenty-four hours notice in writing, enter and inspect or authorise any officer, subordinate to it, to enter and inspect, any premises at any time between sunrise and sunset;

(b) by written order, require any person to produce for its inspection such books or documents relevant to the inquiry, at such time and at such place as may be specified in the order.

(4) The Rent Court may, if it thinks fit, appoint one or more persons having special knowledge of the matter under consideration as an assessor or valuer to advise it in the proceeding before it.

(5) Any clerical or arithmetical mistake in any order passed by the Rent Court or any other error arising out of any accidental omission may, at any time, be corrected by the Rent Court on an application received by it in this behalf from any of the parties or otherwise.

(6) The Rent Court may exercise the powers of a Judicial Magistrate of the first class for the recovery of the fine under the provisions of the Code of Criminal Procedure, 1973 and the Rent Court shall be deemed to be a Magistrate under the said Code for the purposes of such recovery.

(7) An order made by a Rent Court or an order passed in appeal or revision, or review under this Chapter shall be executable by the

Rent Court as a decree of a civil court and for this purpose, the Rent Court shall have the powers of a civil court.

(8) The Rent Court may set aside any order passed *ex-parte* if the aggrieved party files an application and satisfies it that notice was not duly served or that he was prevented by any sufficient cause from appearing when the case was taken up for hearing.

(9) Save as otherwise expressly provided in this Act, every order made by the Rent Court shall, subject to decision in appeal, be final and shall not be called in question in any original suit, application or execution proceedings.

37. (1) Any person aggrieved by an order passed by the Rent Court, may prefer an appeal along with a certified copy of such order to the jurisdictional Rent Tribunal within the local limits of which the premises is situated, within a period of thirty days from the date of that order.

Appeal to Rent Tribunal.

(2) The Rent Tribunal, upon filing an appeal under sub-section (1) shall serve notice, along with a copy of appeal to the respondent and fix a hearing not later than thirty days from the date of service of notice of appeal on the respondent and the appeal shall be disposed of within a period of sixty days from such date of service.

(3) Where the Rent Tribunal considers it necessary in the interest of arriving at a just and proper decision, it may allow documents at any stage of the proceedings in appeal:

Provided that no such document shall be allowed more than once during the hearing.

(4) The Rent Tribunal may, in its discretion, pass such interlocutory order during the pendency of the appeal, as it may deem fit.

(5) While deciding the appeal, the Rent Tribunal may, after recording reasons therefor, confirm, set aside or modify the order passed by a Rent Court.

38. (1) The Rent Court shall, on an application filed by any party, execute an order of a Rent Court or a Rent Tribunal or any other order made under this Act, in such manner as may be prescribed, by—

Execution of order

- (a) delivering possession of the premises to the person in whose favour the decision has been made; or
- (b) attaching one or more bank accounts of the opposite party for the purpose of recovering the amount specified in such order; or
- (c) appointing any advocate or any other competent person including officers of the Rent Court or local administration or local body for the execution of such order.

(2) The Rent Court may take the help from the Local Government or local body or the local police for the execution of the final orders:

Provided that no applicant shall obtain police help unless he pays such costs as may be decided by the Rent Court.

(3) The Rent Court shall conduct the execution proceedings, in relation to its order or an order of a Rent Tribunal or any other order passed under this Act, in a summary manner and dispose of the application for execution made under this section within a period of thirty days from the date of service of notice on opposite party.

CHAPTER VIII MISCELLANEOUS

39. The State Government/Union territory Administration may, in consultation with the Rent Authority or Rent Court or Rent Tribunal, determine the nature and categories of officers and other employees as it considers necessary and appoint such officers and other employees for the efficient discharge of their functions under this Act.

Officers and other employees of Rent Authority, Rent Court and Rent Tribunal.

40. (1) Save as otherwise provided in this Act, no civil court shall entertain any suit or proceeding in so far as it relates to the provisions of this Act.

Jurisdiction of civil courts barred in respect of certain matters.

(2) The jurisdiction of the Rent Court shall be limited to tenancy agreement submitted to it as specified in the First Schedule and shall not extend to the question of title or ownership of premises.

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41. (1) The provisions of the Court Fees Act, 1870 shall apply in respect of applications or appeals to be presented before the Rent Authority or Rent Court or Rent Tribunal, as the case may be.

Court fees.

(2) For the purposes of computation of court fees, the application for recovery of possession made to the Rent Court and the memorandum of appeals presented before the Rent Tribunal, shall be deemed to be a suit between the landlord and the tenant.

(3) The court fees for the application filed before the Rent Authority shall be same as that of an interlocutory application presented in a civil court.

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42. Every member of Rent Authority, Rent Court and Rent Tribunal appointed under this Act shall be deemed to be a public servant within the meaning of section 21 of the Indian Penal Code.

Members, etc., to be public servants.

43. No suit, prosecution or other legal proceeding shall lie against any person, Rent Authority, Rent Court or Rent Tribunal in respect of anything which is in good faith done or intended to be done in pursuance of this Act.

Protection of action taken in good faith.

44. (1) The State Government/Union territory Administration may, subject to the condition of previous publication, make rules for carrying out the provisions of this Act.

Power to make rules.

(2) In particular and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely:—

- (a) the form and manner of digital platform to be put in place by the Rent Authority in the local vernacular language or the language of the State/Union territory for enabling submissions of documents under sub-section (3) of section 4;
- (b) the manner of payment of rent and other charges to the landlord by the tenant by postal money order or any other method and the manner of deposit of rent and other charges with the Rent Authority on refusal by landlord to accept the same under sub-section (1) and the manner of deposit of rent with the Rent Authority under sub-section (2), of section 14;
- (c) manner of making an application for the recovery of possession of the premises under sub-section (2) of section 21;

- (d) form and manner of making an application for the recovery of possession of the premises under sub-section (1) of section 22;
- (e) rate of interest payable to the tenant where the landlord fails to make refund under sub-section (2) of section 24;
- (f) the form and manner of filing application by the landlord before the Rent Court for obtaining possession of the premises let out on rent for erecting building under sub-section (1) of section 27;
- (g) the form of filing application before Rent Court and appeal before the Rent Tribunal under sub-section (5) of section 35;
- (h) any other matter to be provided under clause (k) of sub-section (1) of section 36;
- (i) the manner of execution of an order of a Rent Court or a Rent Tribunal or any other order made under this Act under sub-section (1) of section 38;
- (j) any other matter which is required to be, or may be, prescribed under the provisions of this Act.

45. Every rule made by the State Government/Union territory Administration under this Act shall be laid as soon as may be, after it is made, before the State Legislature/Union territory Legislature where it consists of two Houses, or where such Legislature consists of one House, before that House.

Laying of rules.

46. (1) If any difficulty arises in giving effect to the provisions of this Act, the State Government/Union territory Administration may, by order published in the Official Gazette, not inconsistent with the provisions of this Act, remove the difficulty:

Power to remove difficulties.

Provided that no such order shall be made after the expiry of a period of two years from the commencement of this Act.

(2) Every order made under this section shall, as soon as may be after it is made be laid before each House of State Legislature/Union territory Legislature.

47. (1) The State/Union territory Rent Control Act, which is in force immediately before the commencement of this Act, is hereby repealed.

Repeal and savings.

(2) Notwithstanding such repeal, all cases and other proceedings under the said State/Union territory Rent Control Act pending, at the commencement of this Act, shall be continued and disposed of in accordance with the provisions of the said State/Union territory Rent Control Act, as if that Act had continued to be in force and this Act had not been enacted.

APPENDIX- IV

Scheme guidelines for

PM Street Vendor's AtmaNirbhar Nidhi(PM SVANidhi)

**A Special Micro-Credit Facility for Street Vendors
Making street vendors self-reliant**

AtmaNirbhar Bharat

1. Background

Street vendors represent a very important constituent of the urban informal economy and play a significant role in ensuring availability of the goods and services at affordable rates at the door-step of the city dwellers. They are known as vendors, hawkers, thelewala, rehriwala, theliphadwala etc. in different areas/ contexts. The goods supplied by them include vegetables, fruits, ready-to-eat street food, tea, pakodas, breads, eggs, textile, apparel, footwear, artisan products, books/ stationary etc. The services include barber shops, cobblers, pan shops, laundry services etc. The COVID-19 pandemic and consequent lockdowns have adversely impacted the livelihoods of street vendors. They usually work with a small capital base and might have consumed the same during the lockdown. Therefore, there is an urgent need to provide credit for working capital to street vendors to resume their business.

2. Objectives

The scheme is a Central Sector Scheme i.e. fully funded by Ministry of Housing and Urban Affairs with the following objectives:

- (i) To facilitate working capital loan up to ₹10,000;
- (ii) To incentivize regular repayment; and
- (iii) To reward digital transactions

The scheme will help formalize the street vendors with above objectives and will open up new opportunities to this sector to move up the economic ladder.

3. Eligibility of States/UTs

The Scheme is available for beneficiaries belonging to only those States/UTs which have notified Rules and Scheme under Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014. Beneficiaries from Meghalaya, which has its own State Street Vendors Act may, however, participate.

4. Eligibility Criteria of Beneficiaries

The Scheme is available to all street vendors engaged in vending in urban areas as on or before March 24, 2020. The eligible vendors will be identified as per following criteria:

- (i) Street vendors in possession of Certificate of Vending / Identity Card issued by Urban Local Bodies (ULBs);
- (ii) The vendors, who have been identified in the survey but have not been issued Certificate of Vending / Identity Card;

Provisional Certificate of Vending would be generated for such vendors through an IT based Platform. ULBs are encouraged to issue



such vendors the permanent Certificate of Vending and Identification Card immediately and positively within a period of one month.

- (iii) Street Vendors, left out of the ULB-led identification survey or who have started vending after completion of the survey and have been issued Letter of Recommendation (LoR) to that effect by the ULB / Town Vending Committee (TVC); and
- (iv) The vendors of surrounding development/ peri-urban / rural areas vending in the geographical limits of the ULBs and have been issued Letter of Recommendation (LoR) to that effect by the ULB / TVC.

5. Identification of Beneficiaries left out of the Survey or belonging to the surrounding Rural Areas

While identifying the vendors belonging to category 4 (iii) and (iv), the ULB/ TVC may consider any of the following documents to issue letters of recommendation:

- (i) The list of vendors, prepared by certain States/ UTs, for providing one-time assistance during the period of lockdown;
OR
- (ii) A system generated request sent to ULBs/ TVCs for issue of LoR based on the recommendation of the Lender after verifying the credentials of the applicant;
OR
- (iii) The membership details with the vendors associations;
OR
- (iv) The documents in possession of the vendor buttressing his claim of vending;
OR
- (v) Report of local enquiry conducted by ULB/ TVC involving Self-Help Groups (SHGs), Community Based Organizations (CBOs) etc.

ULB shall complete the verification and issuance of LoR within 15 days of the submission of application.

Further, ULBs may adopt any other alternate way for identifying such vendors with a view to ensure that all the eligible vendors are positively covered.

6. Vendors who have gone back to their native places due to COVID-19

Some of the identified / surveyed or other vendors who have been vending / hawking in urban areas, have left for their native places prior to or during the lockdown period because of COVID-19 pandemic. Such vendors are likely to come back after the situation normalizes and resume their business. These vendors, whether from rural / peri-urban areas or city dwellers will be eligible for the loan on their return as per eligibility criteria for identification of beneficiaries mentioned above in para 4 & 5.

7. Data in Public Domain

The State / UT / ULB-wise list of identified street vendors will be made available on the website of the Ministry/ State Government/ ULBs and Web Portal developed for the purpose.

8. Brief Details of the Product

Urban street vendors will be eligible to avail a Working Capital (WC) loan of up to ₹10,000 with tenure of 1 year and repaid in monthly instalments. For this loan, no collateral will be taken by the lending institutions.

On timely or early repayment, the vendors will be eligible for the next cycle of working capital loan with an enhanced limit. No prepayment penalty will be charged from the vendors for repayment before the scheduled date.

8.1 Rate of Interest

In case of Scheduled Commercial Banks,

Regional Rural Banks (RRBs), Small Finance Banks (SFBs), Cooperative Banks & SHG Banks, the rates will be as per their prevailing rates of interest.

In case of NBFC, NBFC-MFIs etc., interest rates will be as per RBI guidelines for respective lender category.

In respect of MFIs (non NBFC) & other lender categories not covered under the RBI guidelines, interest rates under the scheme would be applicable as per the extant RBI guidelines for NBFC-MFIs.

8.2 Interest Subsidy

The vendors, availing loan under the scheme, are eligible to get an interest subsidy @ 7%. The interest subsidy amount will be credited into the borrower's account quarterly. Lenders will submit quarterly claims for interest subsidy for quarters ending as on June 30, September 30, December 31 and March 31 during each financial year. Subsidy will only be considered in respect of accounts of borrowers, which are Standard (non-NPA as per extant RBI guidelines) on respective claim dates and only for those months during which the account has remained Standard in the concerned quarter. The interest subsidy is available up to March 31, 2022. The subsidy will be available on first and subsequent enhanced loans up to that date.

In case of early payment, the admissible amount of subsidy will be credited in one go.

8.3 Promotion of Digital Transactions by Vendors

The scheme will incentivize digital transactions by vendors through cash back facility. The transaction trail so created will build the credit score of vendors for enhancing their future credit needs. The network of lending institutions and digital payment aggregators like NPCI (for BHIM), PayTM, GooglePay,

BharatPay, AmazonPay, PhonePe etc. will be used to on-board the street vendors for digital transactions. The onboarded vendors would be incentivised with a monthly cashback in the range of ₹50 - ₹100 as per the following criteria:

- (i) On executing 50 eligible transactions in a month: ₹50;
- (ii) On executing the next 50 additional eligible transactions in a month: ₹25 (i.e. on reaching 100 eligible transactions, the vendor to receive ₹75); and
- (iii) On executing the next additional 100 or more eligible transactions: ₹25 (i.e. on reaching 200 eligible transactions, the vendor to receive ₹100).

Here eligible transactions mean a digital payout or receipt with minimum value of ₹25. An illustration of the EMI on a loan of ₹10,000 @ 24% rate of interest, the interest subsidy @7% and the maximum cashback amount received as incentive is given at Annexure – B.

9. Who can lend

Scheduled Commercial Banks, Regional Rural Banks (RRBs), Small Finance Banks (SFBs), Cooperative Banks, Non-Banking Finance Companies (NBFCs), Micro Finance Institutions (MFIs) & SHG Banks established in some States/UTs e.g. Stree Nidhi etc. The lending institutions will be encouraged to use their network of field functionaries i.e. Business Correspondents (BCs) / Constituents/ Agents extensively to ensure maximum coverage of the scheme.

States of Andhra Pradesh and Telangana do not have presence of MFIs. However, they have a robust network of SHGs and their Federations which may be utilised to complement the efforts of SCBs/ RRBs/ SFBs/ NBFCs and Cooperative Banks in mobilizing and generating loan applications for Street Vendors. For this, these States may devise a suitable incentive mechanism for the SHGs.

10. Credit Guarantee

The Scheme has a provision of Graded Guarantee Cover for the loans sanctioned, as indicated below, to be administered by Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE), which will be operated on portfolio basis:

- a) First Loss Default (Up to 5%): 100%
- b) Second Loss (beyond 5% up to 15%): 75% of default portfolio
- c) Maximum guarantee coverage will be 15% of the year portfolio.

All loans given by each lending institution under the scheme will be considered for coverage under the guarantee. The periodicity of filing of claims by lending institutions will be quarterly.

All the participating lending institutions shall be eligible to avail this guarantee cover without any charges.

Further, a representative of MoHUA shall be a special invitee at the meetings of the Board of trustees of CGTMSE whenever the Scheme is taken up for consideration.

11. Town Vending Committee

The Town Vending Committee (TVC) plays a very important role in identification of beneficiaries. As provided in the Street Vendors Act, 2014, TVC consists of maximum 18 members with following composition:

- (i) Municipal Commissioner or Chief Executive Officer of ULB as Chairperson;
- (ii) 50% of members (including chairperson) representing various local authority departments, police, and street vendors' and traders' associations etc;
- (iii) 40% of members representing street vendors; and
- (iv) 10% of members nominated from NGOs/ CBOs.



12. Formation of Collectives of the Vendors

As per prevailing practice, the individual lending institution may form Joint Liability Groups (JLGs) of eligible vendors. The Common Interest Groups (CIGs) of street vendors, already formed by States, can be converted into JLGs by lending institutions. The ULBs should extensively encourage formation of CIGs of the street vendors to ensure maximum coverage of the scheme.

List of CIGs of street vendors formed by ULBs will be shared with the lending institutions. Similarly, the lending institutions will share the list of JLGs of eligible street vendors formed with respective ULBs.

Formation of such collectives is preferred and encouraged. However, it does not preclude individual vendors from availing the loan.

13. E-commerce & Quality Improvement

The States/ UTs should prepare a roadmap for building up the capacities of street vendors to conduct e-Commerce and obtain necessary quality certifications from the concerned agencies like FSSAI etc.



14. Capacity Building & Financial Literacy

A comprehensive capacity building plan will be developed to build the capabilities of different stakeholders like BCs/ Agents of lending institutions like banks/ NBFCs/ MFIs, SHGs/ federations, implementing bodies like ULBs/ TVCs and digital payment aggregators to ensure effective delivery of Scheme.

Capacities of digital payment aggregators like NPCI and payment aggregators will be leveraged to impart financial literacy to the street vendors for encouraging on-boarding on digital platforms.

15. Branding and Communication

Branding is an important aspect of communicating the scheme accurately to different stakeholders, especially to the target beneficiaries. A standard Branding and Communications Guidelines of the Scheme shall be issued separately.

Innovative use of various platforms including the local and social media will be encouraged to reach the targeted beneficiaries in an effective and engaging manner. Necessary Information, Education and Communication (IEC) and capacity building modules will be provided by MoHUA.

16. Integrated IT application for Scheme Administration

An Integrated IT Platform along with Mobile App will be developed by the Ministry for administration of the scheme. This Portal will provide one stop solution for administration of the scheme. The IT Platform will integrate with the vendors data bases across the States/ UTs, BCs/ constituents/ agents of lending institutions, digital payment aggregators and PAiSA portal of MoHUA and Udyami Mitra portal managed by Small Industries Development Bank of India (SIDBI).

17. Implementation Mechanism

A kick-start meeting to explain the scheme objectives and implementation mechanisms will be organised by the ULB involving the TVC members, BCs/ constituents/ agents of lending institutions, vendors associations, SHG Federations etc. During the meeting, the information relating to street vendors and field level functionaries of lending institutions will be shared.

Applicants (street vendors), in possession of Certificate of Vending / ID Card issued by ULB and those covered in the ULB led identification survey may approach or be approached by the representatives of the Banks, NBFCs and MFIs. The lender representatives, including BCs and Agents will key in the relevant details in the search engine of the IT platform/ mobile App. For the successful cases, beneficiary verification will happen through an OTP sent to the beneficiary's mobile.

A provision will be made available in the IT application to generate a provisional CoV/ ID for the Street Vendors covered in the identification survey and not issued CoV / ID. After verification, BC / Agent will fill-in the application form and upload the necessary documents. The filled-up application information will then move electronically to

ULB / TVC. The ULB / TVC will have to verify the details within a fortnight; after which the application will move to the concerned lending institution for sanction.

The Street Vendors not covered in the identification survey may approach the BC / Agent with the documents mentioned in para 5 above. The Agent will ensure that the identification documents are uploaded first for these types of beneficiaries and later a similar process as mentioned above will follow. ULB will verify the details and attach a letter of recommendation before forwarding it to the lender. A copy of the letter of recommendation will be given to the applicant also.

Preparatory activities, as indicated in the Annexure-A will be carried out during June 2020 and loans will commence from July, 2020.

18. Implementation Partner (s)

Small Industries Development Bank of India (SIDBI) will be the implementation partner of the Ministry of Housing and Urban Affairs for scheme administration. SIDBI will leverage the network of lending Institutions including the SCBs, RRBs, SFBs, Cooperative Banks, NBFCs & MFIs for scheme implementation.

19. Committees for Steering & Monitoring of the Scheme

The Scheme will have the following management structure at the Central, State/ UT and ULB level for effective implementation and monitoring of the scheme:

a) At Central level - a Steering Committee under the chairmanship of Secretary, HUA (composition of the committee is at Annexure-C).

b) At State/ UT level - a Monitoring Committee under the chairmanship of Principal Secretary/ Secretary of Urban Development/ Municipal Administration (composition of the committee is at Annexure-D), which shall meet at least every three months.

c) At ULB level, there will be a Committee headed by the Municipal Commissioner/ Executive Officer (EO) and supported by the Town Vending Committee to sponsor loan applications and monitor implementation of the scheme (composition of the committee is at Annexure-E). This committee will meet every month.

