LOCALISING SDG 11 IN INDIA:
A Special Series

SPECIAL FOCUS ON SDG 11.1
To ensure access for all to adequate, safe, and affordable housing with basic services, and upgradation of slums
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India En-Route to Achieve SDG 11.1

India, home to the world’s second largest population, is observing a noticeable rise in people’s migration to cities. This results in increasing the pressure on urban resources, civic services, and facilities. The city governments are taking steps to build capacity to cater to the rising demands and develop sustainable, liveable, safe and resilient cities. To achieve this, various technology-based solutions are being adopted as well.

In September 2015, the United Nations General Assembly gave out a set of 17 Sustainable Development Goals (SDGs) to be fulfilled by 2030. These goals aim to enhance sustainability in urban development, livability in cities, safety of citizens and data as digitisation is on the rise, and resilience for cities to stay afloat in times of pandemics like COVID or natural calamities or other crises. The SDG 11.1 is to ensure access to adequate, safe and affordable housing and basic services, including the upgradation of slums for all by 2030. This forms the core of egov Magazine's Special April issue.

This magazine features viewpoints and enriching insights from senior policymakers, industry leaders, domain experts, and intelligentsia on SDG 11.1 and India’s efforts towards achieving it. It brings in light the implementation of ambitious programmes like the Pradhan Mantri Awas Yojana (PMAY). The egov Magazine's Special April issue on SDG 11.1 is a collaborative effort of Elets Technomedia Pvt Ltd and the National Institute of Urban Affairs (NIUA).
Urban development plays a critical role towards India becoming a self-reliant nation. As per our last census, our cities accommodate approximately 31 per cent of the country’s population. They contribute to an estimated 60 per cent to the GDP. India is witnessing a rapid increase of urban population, due mainly to the economic opportunities, higher education, and better quality of life that cities are able to offer. However, this ever-growing demand has put housing under great deal of stress among basic urban services such as public transport, water supply, sanitation services, and waste disposal - the gap between the supply and demand has widened over past several decades, leading to economic inequalities and social exclusion.

Housing, including affordable housing, is one of the priority sectors for the Government due to not only its significance but also economic. In addition to providing shelter, housing provides millions of Indians with jobs and generates large economic output each year. Most studies indicate that households spend significant amount of their disposable income on housing-related expenses such as furniture and appliances. Those expenditures help to support other sectors of the economy. Houses often form a sizeable part of most people's wealth and life's savings.

With the intent of housing for all we want to remove the barriers faced by people from middle income group, economically weaker sections, and women, in renting and owning houses with respectable standard of living.

In order to fulfil the vision of Hon'ble Prime Minister of ‘Housing for All’ when we celebrate 75th Anniversary of India’s Independence, Ministry of Housing and Urban Affairs rolled out Pradhan Mantri Awas Yojana (PMAY) to provide safe, adequate and affordable houses with quality basic services to all by 2022. Despite being a seemingly unachievable task wherein the assessed demand by States/UTs came to 1.12 crore housing units, over 1.12 crore houses have already been sanctioned. 80.5 lakh houses of these sanctioned have been grounded for construction and 48 lakhs have been completed and delivered to the beneficiaries. By achieving this, India is setting a benchmark in its commitment towards fulfilling United Nations’ Sustainable Development Goals (SDGs), especially SDG 11.1. Our Ministry’s order Missions such as Smart Cities Mission, and AMRUT help improve the ease of living in cities across the country.

I am delighted to learn that Elets Technomedia Pvt. Ltd. in association with National Institute of Urban Affairs (NIUA) is publishing a special issue of eGov Magazine on SDG 11.1 - Ensuring Access for All to Safe, Adequate and Affordable Housing. This will bring out learnings for all stakeholders across the government, industry, academia and civil society. I extend my best wishes to the magazine that is expected to project light on the world’s most ambitious program of constricting affordable housing for all in India.

(Durga Shanker Mishra)
Housing and Urban Affairs (MoHUA) and Mission (SCM)

What is the role of Housing for All?

By the time the Nation completes 75 years of independence, all families including the poor and weaker sections of the society should not be any family without a house. The Prime Minister Shri Narendra Modi had set the target of “Housing for All by 2022”.

Mission Director, Housing for All, Ministry of Housing and Urban Affairs (MoHUA), Government of India, in this interview with Anthony de Sa, Senior Director – Sustainable Habitat, Professor of Finance, Investment and Real Estate Development, New York University, Dr Renu Khosla, Director Centre for Urban and Regional Excellence, GAUTAM CHATTERJEE, Secretary, Government of Rajasthan, Works Department (PWD), SPOTLIGHT: HOUSING FOR ALL

SDG 11.1 IN INDIA

A city cannot be treated as smart, unless its citizens are happy, healthy and have access to basic amenities like education, drinking water, healthcare, etc. Housing is the first need of a human being. It is a basic necessity for human beings.

A city has to be not only smart, but it has to be a Smart City with the community living in a happy manner. It is a Green City and a Clean City, and it is a Liveable City.

The Ministry of Housing and Urban Affairs (MoHUA) and the Ministry of Urban Affairs (MoUA), Government of India, has come up with a programme called PMAY (U) (Pradhan Mantri Awas Yojana (Urban)).

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What is the role of Public-Private Partnership (PPP) in the housing sector?

A technology Sub-Mission under PMAY (U) has been set up to facilitate adoption of modern, innovative and green technologies and building materials for faster and quality construction of houses. Building Material and Technology Promotion Council (BMTPC), an agency and SoR has been released by BMTPC, which has been responsible for certifying and promotion of best alternate construction technologies from across the globe for a paradigm shift in construction sector. A Global Housing Technology Challenge- India (GHTC-India) was launched to identify and mainstream the best alternate construction technologies. As of now, 16 new construction technologies have been certified by the country. The technologies have been released by the National Institute of Urban Affairs (NIUA) for ready deployment. The potential of land available with the Ministry of Housing and Urban Affairs (MoHUA) has been set up to facilitate adoption of modern, innovative and green technologies and building materials for faster and quality construction of houses.

Presently, a total of 257 projects have been approved under PPP model with eight PPP models under which, the private developer is allowed to provide the city a clean image. PMAY (U), while contributing towards the GDP of the country, has been guiding and supporting us in its launch on June 25, 2015. A total of 1.8 lakh houses has been approved where 38,346 houses are already completed. A total of 16 new construction technologies have been certified by the country. As of now, 16 new construction technologies have been certified by the country. The technologies have been released by the National Institute of Urban Affairs (NIUA) for ready deployment. The potential of land available with the Ministry of Housing and Urban Affairs (MoHUA) has been set up to facilitate adoption of modern, innovative and green technologies and building materials for faster and quality construction of houses.

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India is transforming into an ever more urbanised country. Most estimates indicate that India's urbanisation is poised to accelerate in the coming decades. The scale of the projected urban population offers both an opportunity, as well as a challenge of mobilizing resources and capacity to manage this transition.

Recent global policy discourses orchestrated under the aegis of the United Nations, such as the Agenda for Sustainable Development (2030), the Paris Agreement, the Kyoto Protocol and the New Urban Agenda - all stress upon the need for concerted focus at the city and the community scale, and contribute direct tangible benefits to the quality of lives of the people. India affirms its commitment to the larger goals of urban equity and eradication of poverty, productivity, competitiveness, innovation, and urban resilience, all while respecting the carrying capacity of the planet.

A much needed urban transformation is the core focus of Sustainable Development Goal (SDG) 11. SDG 11 consisting of 10 sub-goals and 15 indicators, is most relevant for shaping and function of future cities. It seeks to make cities and human settlements inclusive, safe, resilient and sustainable through eliminating slum-like conditions, providing fossil-fuel free transportation, renewable energy and improved urban planning, reducing urban sprawl, increasing participation of people in urban governance, enhancing cultural and heritage preservation, addressing urban resilience and climate change challenges, better management of urban environments (pollution and waste management), providing access to safe and secure public spaces for all, and improving urban management through better policies and regulations. India through its flagship missions, is already striving towards inclusive, safe, sustainable and adequate housing for individuals and families while promoting livelihoods, innovation, urban renewal and the preservation of India's built heritage.

The National Institute of Urban Affairs (NIUA) and eGov magazine have collaborated to raise awareness, inform, recognize, celebrate, and share successes through bringing out a special series focusing on SDG 11. The first issue of the series focuses on SDG 11.1—by 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums. Housing plays a pivotal role in every citizen’s life—at social and personal levels, and is the epicentre of development in any country. It also provides significant stimulus to a number of other sectors as well.

This issue is a collection of 13 articles and an interview related to housing situation in Indian cities. They highlight the need for a holistic understanding and assessment of the housing sector across social, environmental, and economical aspects. The broad themes covered in the articles include: housing sustainability and affordability, land tenure in affordable housing, impact of COVID on housing, heritage and housing, housing policies, and an international approach to affordable housing in India.

NIUA is committed to help Indian cities perform better. To achieve this objective, along with our own resources, we partner with media, industry, academia and other government and non-government organisations for effective research, capacity-building and advocacy outcomes. This collaboration is demonstration of the same. Teams at NIUA and eGov magazine have enthusiastically worked to collate a diverse range of knowledge-base on the cross-cutting issues on housing sector in India for this special issue. My sincere thanks to all the authors who have contributed to this special issue and shared their knowledge to make this issue possible.
SUSTAINABLE CITIES AND COMMUNITIES

Make cities and human settlements inclusive, safe, resilient and sustainable

SDG 11.1—By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums
E- Governance Events Calendar 2021

**JUN**
17-18th
Governance Leadership Summit 2021

**JUL**
23rd
6th National PSU Summit

**AUG**
Future Cities Conclave

**SEP**
National Mobility & EV Summit
India is a rapidly urbanising nation that is expected to have around 814 million urban dwellers in its cities by 2050. This will increase the demand for affordable housing, civic amenities and services. To address this and imbibe sustainability and liveability in urban development, the Government of India has rolled out various schemes and programmes, writes Adarsh Som of Elets News Network (ENN). Here’s how India is heading towards achieving SDG 11.1: Access to adequate, safe and affordable housing for all.
transport, creating green public spaces, and improving urban planning and management in a comprehensive way.

Roadblocks in Achieving SDG 11.1 in India

SDG 11 consists of 10 sub-goals. This special issue of the magazine focuses on SDG 11.1: to ensure access to adequate, safe and affordable housing and basic services, including the upgradation of slums for all by 2030. In the first five years of the launch of SDGs, India faced various difficulties such as effective implementation of the goals. The largest roadblock is the COVID-19 pandemic. Owing to the pandemic, the focus has been completely shifted to enhance medical facilities and upscale the healthcare sector as saving lives is of primary importance.

However, considering the fact that preventive measures like social distancing, cleanliness, and safe and adequate water and sanitation facilities are needed to stay safe amidst the pandemic, these are not possible in many urban areas. According to the previous census of 2011, as many as 66 million Indians were found to be residing in slums i.e. over 17 per cent of the country's urban population. The National Family Health Survey 2015-16 (NFHS-4) stated that 42 per cent households in Indian cities have no room for social distancing as three or more people share a room in these households. These numbers have only grown with time. Congestion makes the rate of spread of the infection faster and in such slums social distancing or home isolation or quarantine are mere terms and unachievable in reality.

Looking at the SDG 11.1: to ensure access to adequate, safe and affordable housing and basic services, including the upgradation of slums, it is seen that in slums and other informal settlements the access to clean water is sub-optimal. Many households in India, especially in the remote areas and in slums on the periphery of cities have to fetch water from a common source located somewhere out. Therefore, such households have no access to safe, clean and adequate drinking water within the house premises. Moreover, the responsibility of fetching water for daily chores is majorly on the shoulders of the women. The exposure, especially in the time of the pandemic, makes them susceptible to infection and make their children and other family members vulnerable as well.

As per the NFHS-4 data, every second and fourth household belonging to the lowest and second-lowest wealth quintile did not have access to soap and water, while every fifth urban household in India lacked proper hand-hygiene practice. The message of regular hand washing, keeping hygiene and
Cleanliness is being propagated by the government but the ones have no access to in-house water taps, how would they manage to keep clean and maintain social distancing. The report also mentions that nearly 15 per cent of the urban households use shared toilets and this enhances the risk of infection.

The situation is grave as besides these challenges. The loss of jobs and lack of income owing to the lockdowns, make it difficult for the poor to survive. The situation is evident enough to realise the significance of resilient cities, and the SDG 11.1 to at least ensure that people have access to safe and adequate basic services like water and sanitation and a shelter to stay safe indoors.

**India’s Take on SDGs & SDG11.1**

The country that houses the world’s 17 per cent population plays a crucial role in achieving the targets globally. Since the launch of SDGs, India has been proactively working to achieve the goals. Considering the sheer population size and diversity in geography, demography and inequalities in the society, the roadblocks are huge. Despite this, India became the first country in the world to roll out SDG India Index 2018. In 2019 the Index was revised and made more refined and comprehensive as compared to the previous one. The Index played an instrumental role in mobilising the states and union territories to actively work towards achieving SDGs. It helped in spreading awareness on SDGs within the government, media, researchers, and civil societies. Some of the states have initiated district-level ranking to show effective implementation of the SDGs.

The PM Narendra Modi-led Government of India has figured out that by inducing a competitive spirit among the states and UTs best results can be achieved. From Swachh Bharat Abhiyan to Make in India, from Smart Cities Mission to SDGs, from Affordable Housing to Green Energy and more, creating competition among the stakeholders have fetched fast-paced and qualitative development.

For achieving SDG 11.1, the governments have identified three major areas -

- **Reforms in the real estate sector** - Steps have been taken to establish a Real Estate Regulator in each of the states that attempts to better serve the home buyers’ interests.
- **Urban Transformation and Housing for All** - Under this, a massive program named Pradhan Mantri Awas Yojana

**India became the first country in the world to roll out SDG India Index 2018 for ranking state governments on the basis of work done to achieve the SDG targets.**
(PMAY) was launched by the Centre to provide houses to all homeless persons by the year 2022 covering 4318 cities and towns. In 500 cities, basic civic amenities like clean water and sanitation are being provided under another central program named Atal Mission for Rejuvenation and Urban Transformation (AMRUT).

- **Sustainable urbanisation** – In this regard, the Centre had launched Smart Cities Mission in 2015 that aims at building sustainable and inclusive cities. The mission focuses on improving cities through retrofitting, redevelopment, greenfield development, and implementing various smart facilities like smart water, smart energy, and more. The Centre has shortlisted 100 cities to turn into smart cities.

Looking at how India aims to achieve the SDG 11, there are a few national level indicators that have been identified in this regard. The Centre has launched schemes to provide affordable housing to all. According to the data on the official website of the Ministry of Housing and Urban Affairs (MoHUA), as of April 28, 2021, 112.52 lakh houses have been sanctioned. Moreover, 80.2 lakh houses have been grounded and 48.02 lakh houses have been completed. The Ministry has rolled out four initiatives - Pradhan Mantri Awas Yojana (PMAY) to provide housing for all, Affordable Rental Housing Complexes (ARHCs), Global Housing Technology Challenge (GHTC), and CLSS Awas Portal.

Concrete steps have also been undertaken to provide safe sanitation facilities and door to door waste collection under the Swachh Bharat Mission (SBM). As per the MoHUA data on the official website of SBM, nearly 62.5 lakh individual toilets have been constructed while just above 6 lakh community toilets have been constructed. This has already surpassed the mission target. Another interesting thing to note is that there are 83,528 wards that have achieved 100 per cent door to door collection under the SBM. The Ministry has also undertaken steps to improve the capacity in the sewage treatment plants and improve waste water treatment.

**The Wrap Up**

As the urban vulnerabilities are getting amplified during the COVID era, the government and the civic authorities need to revisit the idea of making cities sustainable as envisaged in SDG 11 and take effective steps towards the implementation. COVID is a major challenge but it is not the only one, such pandemics can occur in future again, hence, our preparedness needs enhancement.
People migrate to cities in search of employment. Due to their low paying jobs, they find it difficult to spend money on housing. As a result, slums, squalor, and informal settlements result with poor conditions that lack basic services. Hence, affordable housing with a respectable standard of living becomes imperative to improve the liveability, workability and sustainability in a city, says Kunal Kumar, Joint Secretary, Ministry of Housing and Urban Affairs (MoHUA) and Mission Director, Smart Cities Mission (SCM).

India has witnessed an unprecedented increase in the scale and pace of urbanisation. As per the last census, the country has 31 per cent urban population residing in more than 4,000 cities and towns. The High Power Expert Committee Report (2011) has estimated that by the year 2031 the country will have more than 87 metropolitan areas and 600 million people will be living in urban areas, and that migration to urban areas accounts for 20-25 per cent increase in urban population. This will also result in rising demands for affordable housing.

Affordable Housing has been one of the focus areas for the government over the past several years. Some of the challenges and critical issues being faced in India with respect to development of affordable housing include: lack of availability or improper selection of land parcels, lengthy statutory clearance and approval processes, restrictive development norms, planning and project design, insufficient action in providing social and external connectivity infrastructure and mechanism for maintenance, high cost of construction finance, etc. We also have capacity constraints such as inadequate technical capacity of implementing agencies, lack of private participation, and lack of mainstreaming of low cost technologies to reduce cost.

Some of the policies, programmes, and initiatives undertaken by the Government of India in Affordable Housing sector during the last decade include:

- Pradhan Mantri Awas Yojana (PMAY) which is promoted to provide housing for all in the country at an unprecedented scale and speed, by 2022.
- External Commercial Borrowing (ECB) allowed for affordable housing projects.
- Opening up of Foreign Direct Investment (FDI) for development of townships, housing, built-up infrastructure and construction-development.
- Construction of low-cost houses (that meet certain conditions) exempted from service tax from March 1, 2016.
- The Credit Risk Guarantee Fund with a corpus of Rs 1200 crore in collaboration with National Housing Board (NHB) was set up to facilitate credit availability to low income customers without any collateral.
- Urban Housing Fund Refinancing Scheme with a corpus of Rs 2000 crore has been created.
- Tax free bonds are issued by HUDCO and NHB to ensure lower cost of borrowing.
- Recent amendments to the Finance Act (2016) have introduced a 100 per cent tax holiday to affordable

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2. Conditions to be met for exemption from service tax
   - Low cost houses up to a carpet area of 60 square meters in a housing project under ‘Affordable Housing in Partnership’ component of Housing for All (Urban) Mission / Pradhan Mantri Awas Yojana
   - Low cost houses up to a carpet area of 60 square meters in a housing project under any housing scheme of the State Government
3. Conditions to be met to avail tax holiday
   - Project is completed within 3 years from date of approval and certificate of completion of project as a whole to be obtained from competent authority
   - Build up area of commercial establishments not to exceed 3% of the aggregate built-up area
   - Plot of land measuring not less than 1,000 sq. mts. in case of metro cities / within 25 kms from metro cities and not less than 2,000 sq. mts. in case of other cities
   - Size of the residential unit is not more than 30 sq. mts. in case of metro cities / within 25 kms from metro cities and 60 sq. mts for other cities
housing subject to certain conditions\textsuperscript{5}.

The Smart Cities Mission (SCM), launched in June 2015 to create 100 Smart Cities in five years, is one of the biggest urban missions in India with its overarching goal of accelerating economic growth and improving the quality of life in Indian cities.

The Mission has a unique two-pronged strategy consisting of Pan-City and Area-Based Development (ABD) projects. In ABD, cities in consultation with the people select an area for implementation of infrastructure projects, depending on the model of development. In pan-city development, city wide solutions are being implemented across the whole city. These technology solutions, such as Integrated Command and Control Centers (ICCC), Intelligent Transport Management System (ITMS), Smart lights, Disaster Management, etc. benefit 100 million people across all smart cities.

Under the ABD projects, core infrastructures elements in Smart Cities also include affordable housing especially for poor, and safety and security of citizens, particularly women, children and elderly with provision of accessibility infrastructure. The Smart City proposals for housing consider planned interventions related to housing on issues such as slum upgrading, redevelopment, and rehabilitation, providing affordable and inclusive housing, ensuring at least 15 per cent reservation for EWS in the ‘affordable housing’ segment, and constructing hostels for working women. It is important to understand that the mission is woven around six principles: citizens at the core, more from less, cooperative and competitive federalism, inclusiveness, technology, and significantly enough, the convergence of financial resources and various government missions and programmes. It is the principle of convergence that has brought in an unprecedented efficiency in the implementation of affordable housing projects, particularly those proposed under PMAY. The previous schemes were designed towards making ‘slum-free cities’ and with greater involvement of the central, state and local governments. However, this ‘top-down’ design reflected lack of efficiency from the central to the local governments for effective implementation of housing projects. At present, SCM and PMAY, both designed ‘bottom-up’, have set up a new template of supply of affordable houses in not only in the Smart Cities but in the entire country. PMAY includes a large subsidy to EWS/LIG and MIG, it promotes mandatory homeownership for women, in-situ rehabilitation of slums, and facilitates use of eco-friendly construction of houses. The scheme promises equal housing opportunities for all.

Out of a total investment of Rs 2 lakh crore on all Smart Cities Mission projects, 143 affordable housing projects have been proposed amounting to nearly Rs 18,000 crore. 54 projects out of these, worth Rs 2634 crore have been completed, work is underway on 53 projects worth Rs 12,723 crore. 36 projects worth Rs 2,223.02 crore of these are under convergence with PMAY.

These projects have a diverse range such as Rebuilding Livelihoods and Upgrading Slums in Agra, Development of Affordable Housing for EWS in Aizwal, Construction of 3200 Pucca Households for weaker section in Kakinada, Area Redevelopment strategy-In situ slum Upgradation-Slum Rehabilitation and Rejuvenation of Old Houses in Kohima, and Development of Nine Slums Areas in Aligarh.

While the world over the smart city discourse is dominated by technology, SCM has built inclusiveness into its structure to ensure that each and every citizen benefits from the urban transformation that is taking place in the smart cities. As a result, the Mission has created a template to address the pressing issue of affordable housing in cities through convergence with other schemes, and providing supporting infrastructure so the quality of life is not compromised on. This is a template that can be followed in other cities as well. This approach creates the kind of bond between a city and its citizens which leads to inclusive, and sustainable communities.
Andhra Aims to Achieve Housing for All in 3 years: Ajay Jain

The Government of India launched the Pradhan Mantri Awas Yojana (PMAY) to cater to the housing requirements of all. The Affordable Housing Scheme, under the PMAY, aimed to provide houses to all including the Economically Weaker Section (EWS) of the society. However, the COVID pandemic affected the housing sector adversely, especially affordable housing causing a liquidity crunch making demands fall. Highlighting such issues, Ajay Jain, Principal Secretary, Housing Department, Andhra Pradesh addressed the ‘National Housing Summit’ organised by Elets Technomedia.
Jain commenced his address supporting the deliberations by the previous speakers. He said, “Housing is one of the basic needs. In these difficult times, the housing sector serves two purposes - providing shelter to each and every household and providing employment opportunities.” He added that the construction sector is the one that generates the most employment. This was the reason why the Centre came out with the PMAY programme with an aim to provide houses to each individual by 2022.

Adding on the housing sector scenario in Andhra Pradesh, Jain mentioned that after Chief Minister YS Jaganmohan Reddy took the charge, the aim was shifted from providing houses to only the EWS category to everyone who does not own a house in the state. “One of the challenges that we faced while providing housing to all was that many people do not own land, especially in urban areas,” he pointed out. Therefore, to resolve this, the state government planned to provide the land first. So, the government is providing around 700 sqft of land to each and every family in the state, he added.

Further, Jain highlighted, “A survey of those people who do not own land in the state was taken up and it was found that there is a requirement of three million houses.” In the first phase of the project, the government identified lands and acquired them wherever it was needed. When the land was made available it was demarcated and the construction works began. So, now we have to construct and deliver three million houses in the next three years.

“To achieve this, we tied up with PMAY urban and the Government of India has been kind enough to sanction 1.5 million houses. Also, Andhra Pradesh got the most funds sanctioned. Therefore, as per our target, we will be grounding one million houses per year,” he said.

Concluding his address he said, "If we are able to fulfil our target in a timely manner, Andhra Pradesh would become the first state to achieve the Prime Minister’s dream of Housing for All.”
It was a nightmare for the daily-waged workers when the Government of India announced the nationwide lockdown. Having no revenue source in the sight, these workers fled back to their villages and with them slumped the demand for affordable housing. This adversely impacted the sector. Throwing light on the impact of the COVID crisis on the housing sector and measures being taken to revive it, K Mahesh, Secretary, Housing & Town, Planning Department, Government of Puducherry, addressed the National Housing Summit.
Mahesh started by saying, “Puducherry has been a lot ahead than other Union Territories in providing affordable housing to the poor. From 2003 onwards we started this and we saw a growth of 44 per cent in requirement of such houses between 2001 to 2011.”

Speaking on innovative steps taken by Puducherry, he said, “Under the PMAY, we give only Rs 2 Lakh which is actually less in terms of building a house. So, to provide bridge finance to these people, we came out with a scheme called PMAY plus. Under this, those who already got Rs 2 lakh as a share from the Centre and the state are provided a loan of Rs 2 lakh and asked to put in Rs 20,000 from their pocket.” With the provision of this bridge finance, the poor people are able to build their houses. It is a good practice and it should be adopted and replicated in other states and UTs as well, he added.

Adding on he said, “This innovation of ours wherein we were providing bridge finance was well appreciated and we were awarded the Prime Minister’s Excellence Award in 2018.” However, we also have to ensure that the people pay back the loan. For this, we did another project wherein we provided the loan up to 32 per cent to a group of four or five people so that each kept a check on the other. With this it was seen that the recovery was improved, he added. So with PMAY plus that provides money to the people for housing, another initiative to balance the interest of the banks, PMAY Joint Liability Group was started wherein the money was given to the groups.

To further aid the poor, Mahesh said, “We’re starting a scheme called PMAY Footsoldier. Under this, a final year engineering student will be hired as an intern that will do the handholding of these poor people for building their houses.” Owing to the COVID pandemic, the scheme could not be started as the students are studying from home through online classes, he added.

Recently, the Government of India came out with the rental housing concept. “We in Puducherry started this concept in 2000. We developed around 3700 houses for rentals back in 2000.” Speaking of challenges in this sector, he added, rental housing needs a lot of input of funds and therefore, it is essential to have a commerce element attached to it for its maintenance.

Concluding his address, Mahesh said, “We have to work in collaboration - government, private sector and the civil society - for proper governance be it housing or other sectors.”

With PMAY plus we provide money to the people for housing and to balance it, PMAY Joint Liability Group was started to ensure recovery of loans.
The Indian cities are witnessing a population boom due to migration that pressurises the civic resources and facilities. Especially, fulfilling the growing housing demands is a humongous task. In Rajasthan, managing the demand and supply of affordable housing for all and heading towards achieving UN’s SDG 11.1 is the Rajasthan Housing Board. Throwing light on this, Pawan Arora, Commissioner, Rajasthan Housing Board, in an interview with Kartik Sharma of Elets News Network (ENN).

What measures the Rajasthan Housing Board (RHB) is taking to ensure access to affordable, adequate, and safe housing for all?

With the vision to ensure affordable housing with inclusive facilities especially for the economically weaker section, low and middle-income groups, Rajasthan Housing Board (RHB) aims to develop state-of-the-art townships to offer an abode at an affordable price fulfilling the dreams of millions. Nearly 60 per cent of the total number of houses constructed by RHB have been allocated for the economically weaker sect and the low-income group.
Aligning our work with our mission statement, the townships that RHB will be developing will host various facilities including modern amenities like community services, hospitals, educational institutes, parking spaces, neighbourhood parks and playgrounds for children. Furthermore, the Board is planning to adopt new technologies in construction works to ensure the product is high on quality and low on cost. Also, to cater to the growing needs in an effective manner, RHB is working on a public-private partnership (PPP) model. Grounding houses and delivering them to the people for possession is not the only goal that RHB is heading to but also it is working to maintain and sustain a user-friendly dedicated website with online facilities for the intended services. In addition, an effective public grievance redressal mechanism is also established for providing people with a hassle-free life.

Apart from building apartments for EWS and low-income group, the RHB is also taking up projects like New Independent Housing Schemes wherein there are 18 schemes which consist of independent houses and have been taken overwhelmingly by the public. After successful launch of Mukhyamantri Teachers/Prahri Awasiya Yojna RHB has taken up prestigious "AIS Residency" Residential Scheme, a group housing scheme in Jaipur that includes the construction of 180 flats for All India Services Officers And, Housing for MLAs including demolishing existing 54 old MLA flats and construction of 160 multi-storied (G+8) flats with all amenities and facilities.

Therefore, with these initiatives in place, the RHB is contributing its share towards achieving the United Nations Sustainable Development Goal 11.1 and ensuring affordable, adequate and safe housing for all.

Some of the noteworthy initiatives by the RHB includes:

- **Jaipur Choupatty** – With an idea of developing Choupatty on lines of Masala Chowk of Ramniwas Bagh Jaipur, locations in Mansarovar and Pratap Nagar were identified and the work is near completion in such a short span. In Dastkar Nagar also, such a project is being established. Apart from this, the Choupatty is also being developed in Jodhpur and Kota.

- **Development of Coaching Hub** - A large coaching hub has been planned to be developed on 65,000 sqm of land near Pratap Nagar, Jaipur. The project is expected to benefit about 70,000 students and will generate employment in ancillary areas. Apart from an Auditorium, centralised library, cyber lab, a recreation centre, gym, health club, food court and restaurants, separate hostels for students and teachers will also be developed under the project. This will also reduce the nuisance of coaching centres in residential areas of the city.

- **Establishment of Enforcement Wing** - For effective and time-bound action against encroachments, Enforcement
Wing is being set up similar to those in Development Authorities/Urban Local Bodies. An appropriate amendment in the RHB Act, first time in 50 years, in respect of removal of encroachment, attaching property and recovery of outstanding dues of allottees has been brought about with the government approval.

Establishment of Horticulture Wing
- A horticulture wing has been set up to facilitate the development of new parks and rejuvenate the older ones in the housing schemes.

Development of “City Park” in Mansarovar, Jaipur - An ambitious “City Park” project, bigger than the Central park in Jaipur, has been taken up by RHB in Mansarovar on almost 52 acres of land, this park includes a world class Fountain Square on 40000 Sq.Mt area. The Chief Minister of Rajasthan has laid the foundation stone for the same on August 22, 2020.

Development of “Sajag” mobile app for quality control - In order to improve quality control measures, a mobile app “Sajag” has been developed and made operational to ensure effective monitoring of the quality and progress of work of the houses being constructed.

Development of “RHB Green” mobile App and website - The app and website has been developed to ensure and promote public participation in plantation drives in City Park during Monsoons. Through the app people can register and participate in the drive.

Establishment of more than 50 Open Air Gyms in parks

It is known that RHB was in a dire state before you joined. How did you manage to get the Board back in action and made record sales?

The Rajasthan Housing Board (RHB) was in dire condition and talks were going around to get it either merged with some other government organisation or dissolve it. The situation was so that the RHB owned over 20,000 unsold housing units. Therefore, there was a need to rework the operations of the RHB.

To enhance the reach of RHB among people and increase sales, we took the digital route. The RHB adopted the e-auction and e-bid submission model and ran advertising campaigns, announced on television and radio shows, placed banners, and more. Further, a new marketing cell was created and equipped its employees with the task to market the RHB owned houses in talk shows, conferences, and other occasions of mass gatherings. Further, the Board stationed a couple of its employees at the sites of unsold houses to set up helpdesks. These were meant to help the interested buyers with the online bidding process. In the first phase of the auction, we sold a many as 1010 houses in just 35 days earning a revenue of Rs 162 crore. This was also recorded in the Book of World Records. And, the second phase of the auction broke our record wherein we sold 1213 houses in just 12 days through e-auctions.

The next big innovative initiative was ‘Budhwar Nilami Utsav’ which helped us in selling over 4500 houses. With this, we targeted the Indian sentiments as Wednesday or ‘Budhwar’ is considered a providential day in most parts of north India. So, people in Rajasthan were made well aware that from Monday to Wednesday they can bid on properties available and after four in the evening on Wednesday the bids were enlisted for the auction.

With the recurring hard work and innovative approaches, we were able to sell over 8164 residential and 1840 commercial properties in just 15 months and generated revenue worth Rs 2221 crore. Moreover, considering the commercial properties, lease, EMIs on the sold properties, and other miscellaneous areas of work, we were able to generate Rs 400 crore revenue additionally, therefore, Rs 2621 crore in slightly more than a years time. All of this, despite the COVID crisis and a few months of the complete lockdown.
अब तो अपना घर स्वीक लीजिए
हमने बनाया है आपके लिए इसे और आसान

मकान की कीमत का केवल 10 प्रतिशत दीजिए और गृह प्रवेश कीजिए
शेष राशि 13 वर्षों में 156 मासिक किस्तों में दीजिए

कोविड-19 वैश्विक महामारी लॉक डाउन ने बता दिया कि आपके लिए अपना घर कितना जरूरी है
हर कोई अपने परिवार को साथ अपने घर में रहना पसंद करेगा

अब आवासन मंडल के आवास सभी को लिए किस्तों पर

1 BHK
मात्र ₹5 लाख

2 BHK
मात्र ₹9 लाख

3 BHK
मात्र ₹22 लाख

ऑनलाइन बिड के माध्यम से पारदर्शी प्रणाली के तहत आवास स्वीक़
(13 माह की आसान 156 मासिक किस्तें)
39 शाही की 45 योजनाओं में 50 फीसदी तक की छूट पर आवास लेने का मौका

अगर आप किस्तों हैं.......
• आप निर्माता नक्सल मकान दिखाया देंगे, तो लगभग उसी
  ही राशि की किस्त देकर मकान मासिक बन सकते हैं।

अगर आप निवेशक हैं.......
• किया की आप से चुका मकान के मकान की आसान किस्तें
  और बन मकान मकान के मासिक बन लोकल रियल एजेंट
  नेटवर्क सबसे सुरक्षित दिखें है।

आवासन मंडल की योजनाओं में पारी, बिजली, सड़क, जीवन, पार्क, रोड, सार्वजनिक परिवहन
  एवं हैल्थ केयर व सुरक्षा की समुचित व्यवस्था हैं तथा संपत्तियां निवास रहते हैं।

बुधवार जीलीमी उत्सव के तहत हर अब आवासन मंडल के सभी कार्यालयों को हैल्प डेस्क, धर बैठे या इ-मित्र जब जाकर अपनी बिड जीलीमी
  प्रस्ताव प्रस्तुत करना चाहते हैं। 10 बजे से बुधवार साधा 4 बजे तक ऑनलाइन प्रस्तुत (Submit) करें, जिन्हे पूर्वक गृह बुधवार साधा 4.30 बजे
  ऑनलाइन है लोन (Open) देखें एवं सफल बिड जीलीमी की किस्तों पर आवास आवेदन किया जा सकता। लिंगम एवं हैल्थ, उपलब्ध आवास की
  सूची (योजनाओं/सहायता) आवश्यक दर, छूट का प्रतिशत एवं ऑनलाइन प्रस्ताव देने की प्रक्रिया के लिए आवासन मंडल की वेबसाइट
  www.urban.rajasthan.gov.in/RHB दें।

हमारा प्रभाव, लक्षकों आवास

3 राजस्थान आवासन मंडल

हैल्प लाइज. कार्यालय समार 0141-2744688 एवं 0141-2740009 कार्यालय समार 9461054291/92/319 एवं 9460254319
The adoption of the Sustainable Development Goals (SDGs) especially the goal of making cities safe, inclusive, resilient, and sustainable (SDG-11) firmly places urbanisation at the forefront of the national transformation agenda.

This recognition goes beyond viewing urbanisation only as a demographic phenomenon, but rather as a transformative process capable of galvanizing momentum for the holistic development of the country, writes Hitesh Vaidya, Director, National Institute of Urban Affairs (NIUA).
SDG 11 consists of 10 sub-goals and 15 indicators to achieve a sustainable future for cities. Among SDG 11’s ten targets, target 11.1 specifically aims to ‘ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums’, an objective closely aligned with the transformative paradigm of the Government of India. Housing, which is at the centre of the SDG 11, is one of the most important priorities in rapidly urbanizing countries. There is a growing urgency to provide safe and affordable housing with basic services, and to reduce poverty.

According to the UN-Habitat 2016 survey, it is estimated that 880 million people around the world are residing in slums and only 13 per cent of the cities around the world have affordable housing. Affordability is not just meeting the expenses for housing but also making infrastructure and services, transport, and proximity to school or workplace, available to the residents. Safe and affordable housing in a city is critical for sustainable development.

Sustainable development which is defined as meeting the needs of the present, without compromising the ability of future generations to meet their own needs, seeks to maintain a balance between economic growth, protection of the environment and social well-being.

Indian cities are facing a scarcity of safe and affordable housing due to rising urbanisation, rural-urban migration, archaic land regulations for the construction of new housing units, and expanding urban peripheries are leading to housing shortages. Safe and affordable housing contributes to the sustainable development of cities by providing an economically viable, socially cohesive, and environmentally feasible shelter for all. It should include proximity to transit corridors to allow the use of public transport, incorporation of local architecture and local culture into housing design, and eco-friendly construction of houses. This should be supported by a strong regulatory enabling environment that minimizes the urban sprawl and improves the living conditions in the informal settlements. There is a need to encourage innovative financing models to make affordable housing possible.

Improving the housing situation has always been a focus of the Government of India’s plans and policies. Investing in housing and construction makes clear economic sense. Increasing the final expenditure on the construction sector (which includes housing construction) by one unit, would generate additional income in the economy by almost five times as much. If we examine housing specifically, every additional rupee invested in the housing sector will add almost three rupees to the country’s GDP.

India has been actively engaged in addressing the twin challenges of housing and urban development. A number of initiatives have been taken in the last two decades by the Government of India to promote human settlements as inclusive entities to adequately address the requirements of all citizens. This includes initiatives for direct intervention for housing delivery to the most disadvantaged sections of the society in urban areas, facilitating improved credit availability for the weaker sections with appropriate in-built interest subsidy component, involvement of all the stakeholders in the housing delivery process, promoting skill upgradation for improving the income earning capability of the weaker section population, etc.

The first and seventh five-year plans focused on urban poverty alleviation programmes which explicitly recognized housing as a policy concern. The Jawaharlal Nehru National Urban Renewal Mission (JNNURM) from 2005-2014 was another intervention attempting to improve the housing situation in India by focusing on improved infrastructural facilities and housing conditions for the urban poor.
The national scheme Pradhan Mantri Awas Yojana (PMAY-Urban) launched in 2015 has been one of the most significant interventions towards improving the affordable housing situation in the country. The scheme has been formulated to overcome the housing shortages in Indian cities and towns. The PMAY has brought a paradigm shift in the housing policy and practice in India. It focuses on the Public-Private Partnership (PPP) approach in financing the construction and development of housing, envisages a better quality of life for the urban poor, with a strong focus on providing ownership of houses to the women, and providing adequate physical and social infrastructure.

Broadly, the PMAY scheme covers the three main aspects of sustainable development. The scheme is divided into four components: in-situ slum redevelopment; credit-linked subsidy scheme; affordable housing in partnership with the public or private sector; and beneficiary-led individual house construction. The four components of the scheme offer greater flexibility to the states in addressing the housing needs of the urban population. The scheme also focuses on housing construction and technologies, which aims to identify and mainstream the innovative construction technologies from across the globe for the housing construction sector that is sustainable, eco-friendly, and disaster-resilient. The provision of subsidies to the EWS/LIG/MIG beneficiaries for purchase, construction and enhancement of houses, an unprecedented initiative of the scheme, makes PMAY both economically viable and socially inclusive for the housing sector.

India’s approach to achieving SDG 11.1 is led by Pradhan Mantri Awas Yojana. Considerable progress has been made in providing the requisite resources for affordable housing, such as through the PMAY and recently launched Affordable Rental Housing Complexes (ARHCs). In addition, advancements in sustainable and integrated building construction are also evidenced in the development of the “Approaches to Sustainability” chapter in the National Building Code. Plus, the steady pace at which many states have adopted the Energy Conservation Building Code (ECBC) primarily for commercial building codes points to progress. However, there is limited evidence of systemic efforts to merge considerations of affordability and environmental sustainability in the housing sector. The NITI Aayog has identified two indicators to measure the outcome of SDG 11.1 in India. These are: houses completed under PMAY as a percentage of net demand assessment for houses; and percentage of urban households living in slums.

However, there are several challenges that come in the way of providing safe and affordable housing. The institutional and technical capacities of the urban local body officials are weak to absorb the innovative approaches in housing construction and technologies. The preparation and implementation of housing development plans face financial constraints due to weak financing instruments and a lack of revenue-raising capacities of the urban local bodies. The progress of PMAY cannot be achieved only by building houses but there is a need to envision innovative approaches and alternatives that can meet the demand for housing with a higher quality of life for all.

Policymakers have created robust mechanisms such as 3Cs (Convergence, Communication, and Community Engagement) to provide and accelerate backwards and forward linkages as growth in the housing sector would significantly stimulate other sectors as well.

NIUA is contributing to SDG 11.1 through its ongoing projects and partnerships. Seven projects contributing to the housing and slum sector: Heritage Conservation Plan for Ahmedabad (HCPA), Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR), City Investment To Innovate, Integrate and Sustain (CITIIS), Master Plan Delhi-2041 (MPD-2041), Sustainable, Healthy, Learning Cities and Neighborhoods (SHLC), Scale and Nature of Deprivation among Children in Urban India (SNDC), Climate Smart Cities Assessment Framework (CSCAF) and Child-Friendly Smart Cities (CFSC). The projects address complex affordability and informal housing issues in Indian cities. Additionally, they focus on climate-responsive, safe and affordable housing for the rapidly growing urban population, especially, the urban poor.

NIUA is committed to supporting states and cities through extensive research and policy advisories, data solutions, technology, and capacity building to align with the SDGs and initiate a renewed discourse for future directions on improving the housing sector in India.
Achieving Right to Adequate Housing in India

The Right to Adequate Housing has been emphasized at the 1966 International Covenant on Economic, Social and Cultural Rights and various human rights treaties. The interpretations underscore that housing is not merely provision of a physical structure of “four walls and a roof.” In fact, adequate housing contains a set of freedoms and entitlements, which encompass protection against forced evictions, right to choose one’s residence, equal and non-discriminatory access, housing, land, property restitution, among others. Addressing this, Parul Agarwala, Country Programme Manager, India, UN-Habitat, writes about Adequate Housing in India.

The Universal Declaration of Human Rights (UDHR) places the Right to Adequate Housing as a fundamental tenet since its inception in 1948 at the United Nations General Assembly. Article 25.1 of UDHR states that everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food, clothing, housing, medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.

UDHR laid the foundation for addressing adequate housing in Millennium Development Goals (MDGs) where it was embedded in Goal 7: Ensure Environmental Sustainability (Target 7.C and Target 7.D). The Right to Adequate Housing received an even stronger impetus in the Agenda 2030, under Goal 11: Sustainable Cities and Communities, Target 11.1: By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.

Under the Sustainable Development Goals, adequate housing is defined by a set of minimum criteria, which are:

- **Security of tenure**: housing is not adequate if its occupants do not have a degree of tenure security which guarantees legal protection against forced evictions, harassment and other threats.

- **Availability of services, materials, facilities and infrastructure**: housing is not adequate if its occupants do not have safe drinking water, adequate sanitation, energy for cooking, heating, lighting, food storage or refuse disposal.

- **Affordability**: housing is not adequate if its cost threatens or compromises the occupants’ enjoyment of other human rights.

- **Habitability**: housing is not adequate if it does not guarantee physical safety or provide adequate space, as well as protection against the cold, damp, heat, rain, wind, other threats to health and structural hazards.

- **Accessibility**: housing is not adequate if the specific needs of disadvantaged and marginalized groups are not taken into account.

- **Location**: housing is not adequate if it is cut off from employment opportunities, health-care services,
ACHIEVING SDG 11.1

Criteria used in defining slums, informal settlements and inadequate housing

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Cultural adequacy: housing is not adequate if it does not respect and take into account the expression of cultural identity.

Furthermore, compared to MDGs which focused on only slum dwellers and slum households under the Target 7D, SDGs’ Target 11.1 focuses on complimentary aspects to include slums, informal settlements and inadequate housing to provide a more universal coverage of the indicator.

(Figure 1) These criteria are applicable in the context of developing and developed countries, thereby expanding the universality of its coverage and in accordance with the principles of “leaving no one behind.”

India’s progress on housing & slums from 2000 to now

India made good progress in reducing the share of the urban population living in slums from 42 per cent in 2000 to 29 per cent in 2010. The government has established a target of zero households living in slums by 2030 as an indicator aligned with Target 11.1.

In 2012, India had 33,510 slums (notified and non-notified) and an estimated 8.8 million households live...
in these slums\(^8\). Slums are characterised by overcrowding (60 per cent of urban households live in one or two rooms), poor access to water (43.3 per cent slum households did not have water inside their homes), lack of sanitation facilities (44 per cent slum households did not have toilets inside houses)\(^9\).

"Housing for All Mission" and "Clean India Mission" have built strong foundations for addressing the adequate housing crisis. The two flagship missions set out ambitious goals to build 20 million affordable housing units and provide basic sanitation facilities to the poorest in the country. Of the 20 million housing units planned under Pradhan Mantri Awas Yojana (PMAY), 18 million are proposed for slum households recognizing the need to address the inequalities of a large segment of urban population. The mission outlines four verticals for slum rehabilitation and constructing affordable housing by utilizing subsidies and encouraging public-private partnerships. Additionally, a "Technology Sub-Mission" established under PMAY is mainstreaming and facilitating modern, innovative and green technologies and building material for faster and better-quality construction of houses.

**Path towards Adequate Housing in India**

Even as India has made significant progress in reducing slums and set an ambitious milestone towards the provision of housing for slum households through PMAY, it is pertinent to measure progress of achieving "adequate housing" through the lens of minimum criteria established under the UDHR.

The complex endeavour to compute and report the multi-faceted criteria that define adequate housing is made easier with technological advancements. The application of satellite imagery, spatial and machine learning when combined with conventional surveys, among several other methodological combinations are able to provide disaggregated information on physical, social and geo-spatial characteristics of neighborhoods and cities. A common nomenclature and methodology will also allow comparison across cities and countries.

UN-Habitat has established the Global Urban Observatory (GUO) programme, which is a network of urban observatories established at national and local levels to monitor SDGs and New Urban Agenda including impact assessment functionality to monitor inequalities. At present, more than 300 observatories are active worldwide. To make computing and reporting consistent, GUO has developed learning modules and tools on procedures for calculating SDG indicators including indicators under target 11.1, to guide member countries, academia and civil society.
India is facing the second wave of the COVID-19 outbreak. Since March 2021, the number of new COVID-19 cases has been rising rapidly with 2.75 lakh positive cases reported on April 18, 2021. As a measure of precaution, the Government of India has administered more than 120 million vaccines for COVID-19 as of April 19, 2021. The rapid spread is indicating that the Indian cities are still not fully prepared to manage such pandemics, write Debolina Kundu, Professor, National Institute of Urban Affairs (NIUA); Tania Debnath, Post-Doctoral Fellow, NIUA, Biswajit Kar, Research Associate, NIUA.

Access to Basic Services & Quality Housing: A Must to Fight COVID
In the last two decades, India has been able to improve the quality of housing and access to basic amenities in the urban areas with the launch of several flagship programs, mainly Jawaharlal Nehru National Urban Renewal Mission (JNNURM) in 2005, Swachh Bharat Mission (SBM) in 2014, Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and Smart City Mission (SCM) in 2015. However, in 2018, 77.6 per cent and 75 per cent of the urban households had exclusive access to latrine and bathroom facilities according to the 76th round of the National Sample Survey on ‘Condition of Drinking Water, Sanitation, Hygiene and Housing Condition’. Besides, only 57.5 per cent of households had exclusive access to drinking water. Therefore, a quarter of urban households are extremely vulnerable. Moreover, congestion and lack of adequate space affect the quality of indoor living of around 30 per cent of urban residents and pose a challenge to maintain physical distancing. Such inadequacy in access to basic services and quality housing in Indian cities poses challenges to maintain physical distancing and personal hygiene, which are the two important measures to contain the rapid spread of the infection.

In the present wave of the pandemic outbreak, large urban agglomerations like Greater Mumbai and Pune have been hard hit, followed by Delhi and Bengaluru. Apart from being international travel destinations, mega-urban agglomerations like Mumbai, Kolkata, and parts of Delhi are some of the densest cities in the world, with over 20,000 people cramping within a square kilometer of area. As per NSS estimation, in 2018, close to 30 per cent of households living in metropolitan cities had more than three members per living room. Moreover, 77 per cent of households living in cities of this size had exclusive access to latrine facilities and only 58.3 per cent of households had access to drinking water facilities available for exclusive use. Therefore, a large section of its residents is extremely vulnerable.

Slums and slum-like settlements in Indian cities need special attention in this regard, because of their poor build quality and high dependence on shared resources, which makes the practice of social distancing a distant dream in case of any disease outbreak. In 2018, 54.2 per cent of slum households had more than three members per living room, while 58.9 per cent and 47.6 per cent of households had no exclusive access to the source of drinking water and latrine facilities, respectively. In 2011, around 40 per cent of the 65.5 million slum dwellers were concentrated in the 52 million-plus urban agglomerations. Some of the slums in these big cities are the densest populated in the world. For example, Dharavi of Mumbai is one of the largest and densest slum clusters in Asia with a population density of 3.4 lakh per square kilometer. This explains why slums in these big cities became the hotbeds of the virus.

Various policy interventions ranging from the creation of micro-containment zones and community-level health surveillance to the allocation of additional funds have been initiated in the big cities as the COVID-19 outbreak remains concentrated here. However, stark socio-economic inequality manifested in a large section of the population living in poor-quality built-up and with a high dependency on shared resources fueled the rapid community spread of the virus in these cities. Besides, these cities receive a large number of seasonal migrants from the most vulnerable socio-economic strata. These poor migrants, who mostly remain invisible in policy formulation, were adversely affected by the pandemic and the associated lockdown in 2020. Implementing COVID-19 containment protocols without affecting the lives and livelihoods of migrants is still a major challenge to the city officials. Therefore, a more careful approach in providing safe accommodation to this section of the population is the need of the hour, considering the humanitarian crisis our cities experienced last year.

Provision of universal access to adequate, safe, and affordable housing and basic services and upgradation of slums (Target 11.1) under Goal 11 of Sustainable Development Goals (SDGs) has gained the center stage of policy discourse in the country. In addition, there is an urgent need to ensure institutional strengthening and adequate capacity building of urban local bodies across different size-class of cities, especially in the delivery of health services. In fact, the 74th Constitutional Amendment Act 1992 suggested the delegation of health functions to cities. However, even after several decades of the enactment of the amendment, health is still a state function.

An analysis of the Census data points out the fact that small and medium towns do not have adequate coverage of basic amenities. Also, the 2011 Census reported a phenomenal increase in the number of census towns. These census towns came up mostly in the city peripheries. A HSMI-NIU (2017) study shows higher urban growth in the peripheries as compared to the city core. Also, the peripheries, dominated by the growth of new census towns, report lower coverage of basic amenities as compared to the city cores. This calls for planning the city peripheries with adequate provision of housing and basic amenities. It may be noted that the national flagship programs like Swachh Bharat Mission–Urban and AMRUT have led to wider availability of WASH facilities across the country. However, the small and medium-sized cities and towns, especially the census towns, slums, and city peripheries demand more focused policy attention to ward off challenges thrown up by pandemics in the future.
Providing Affordable Houses to Slum Dwellers in Pune

With the onset of the COVID pandemic economic activities have been facing a rough patch and the Housing For All mission of the Government of India was no exception to it. To highlight how development authorities & corporations are making collective efforts and contributing to the mission of ‘Housing for All’, Rajendra Nimbalkar, CEO, Slum Rehabilitation Authority, Pune addressed National Housing Summit organised by Elets Technomedia Pvt Ltd.

RAJENDRA NIMBALKAR
CEO, Slum Rehabilitation Authority, Pune
Nimbalkar commenced his address with a brief on the Slum Rehabilitation Authority. Speaking on slums he said, "Slums are the result of urbanisation and urbanisation has posed various challenges before us such as providing houses for the slum dwellers. However, these slums also contribute to the city's improvement in terms of the labour market."

The basic objective of the Slum Rehabilitation Scheme is that land is taken as a major resource and developers are invited to develop affordable housing projects. These developers build houses under the public-private partnership (PPP) model and provide these for free to the people. In return, the authority provides the developers with higher FSI and on that basis, they can sell some portion to the open market and compensate their expenses. Further, he said, "Since 2005, we are providing free houses to the slum dwellers in Pune. The developer puts its resources in the form of money and material required. Along with the housing units, the developer also provides various amenities like balwadi, society office, welfare centre, etc."

Since 2005, in Pune, we are providing free houses to the slum dwellers. Along with houses, they're also provided various amenities like balwadi, society office, welfare centre, etc. With the housing units, the developer also provides various amenities like balwadi, society office, welfare centre, etc. The developer is compensated for its expenses in the form of a pre-sale component. The area allowed to be sold in the open market is almost two to three times the area he constructed. Also, the FSI provided is more than the usual, he added.

Addressing the benefits given to the people through housing, Nimbalkar said, "Those who were registered before 2001 have been provided free houses. However, those who registered between 2001 to 2011 have been provided with houses at construction cost which is fairly lower than market prices and those registered after 2011 get no significant benefit."

However, with the help of these houses, the slum dwellers were introduced to better health, a cleaner environment and self-respect for them. Also, the free houses were a form of social justice to them, he added.

Concluding his address, he said, "From 2005 to 2020 we have handed around 25,000 houses to the slum dwellers of Pune and Pimpri Chinchwad. Almost 25 per cent of the city population which is nearly two lakh families and around 15 lakh people are slum dwellers. So, presently we are developing a new policy for helping these people and providing them with benefits through housing schemes."
Enabling Planned & Serviced Land for Affordable Housing

Central and State Government agencies in India have for decades, attempted to ensure an adequate house to the nation’s poor. Schemes rolled out have included housing subsidisation programmes, provision of basic infrastructure, incentivising private sector participation, dedicated housing finance and rental housing. The gap between the supply and demand of adequate homes however has only widened over time, pushing the target ‘SDG 11.1: Safe and Affordable Housing (for all)’ further ahead, writes Rejeet Mathews, Director, Urban Development, World Resources Institute (WRI) India.
In 2012, the Ministry of Housing and Urban Affairs (MoHUA) estimated the national urban housing shortage to be 18.78 million units, of which obsolescent, kacha and congested housing was 97 per cent. This indicated that the larger problem was that of inadequate housing stock and not that of homelessness. It also reported that 96 per cent of this shortage of adequate homes was in the economically weaker sections (EWS) and lower-income groups (LIG).

Government sub-schemes such as Affordable Housing in Partnership – AHP, provide a new house in a new location, which is often not desirable due to increased distances from existing housing locations and jobs. Some schemes require the beneficiary to have ownership of the land such as Beneficiary Led Construction which indicates that the recipients are financially better off than the ‘most in need’. Public-Private Partnerships (PPP) in affordable housing have not picked up momentum due to the land being expensive thus yielding low-profit margins while slum redevelopment remains a complex process.

Even when hard-won milestones such as land procurement and housing construction have been overcome, centrally sponsored housing schemes have unanticipated levels of vacancy. In responses made to questions raised in Parliament on the matter, vacancy levels of 23 per cent (2,38,448 houses) in 2016 and 17 per cent (2,00,677 houses) in 2017 of total constructed houses were reported. Reasons for vacancy were stated as the reluctance of slum dwellers/beneficiaries to relocate, and lack of basic infrastructure and livelihood opportunities at these locations.

Gaining a ground-up perspective is critical to solving the affordable housing conundrum in India. A round of preliminary interviews conducted by WRI India with short and long-term migrants working in the informal sector in Delhi-NCR showed that workers opted to live in basic set-ups to save costs while being close to their community networks and workplaces. Cumulative expenses of comfort and living quality were kept to a minimum to maximise savings to send back to extended families and even children living in the village.

It is evident that making land available at the right location and at the right cost for affordable housing is at the heart of achieving SDG 11. The price of land in Indian metropolitan cities is high and any real estate built on it becomes highly inaccessible to most within city limits. The following are ways in which successes have been achieved in the Indian context itself, by utilising the land as a resource to realize affordable housing and related urban infrastructure targets that need to be scaled up for India:

Land & Housing Reservation: With the intent to provide an equitable supply of land, shelter and services at affordable prices to all sections of the society, the National Urban Housing and Habitat Policy 2007 recommends reserving 10 to 15 per cent of the land in every new public/private housing project or 20 to 25 per cent Floor Area Ratio (FAR) whichever is greater for EWS/LIG housing through appropriate legal stipulations and spatial incentives. These policies have been adopted by various state governments such as Maharashtra and Karnataka. Further, a suitable percentage of land developed by the public sector is to be provided at institutional rates to organisations like Cooperative Group Housing Societies, to provide housing to their members on a no-profit no-loss basis.

Intensive Utilisation of Land: The Pradhan Mantri Awas Yojana–Urban (PMAY-U) has encouraged States and
UTs to provide an additional built-up area (FAR/TDR) and related density norms for slum redevelopment and low-cost housing where required. Within the Affordable Housing in Partnership (AHP) sub-scheme, private entities are granted higher FAR on land parcels owned by them in exchange for making available a portion of that land or other land to the government for affordable housing. Private sector builders will also be allowed to create high-end housing for which there is a profitable market under the condition that they provide affordable housing.

Unlocking Underutilized Government-Owned Land: The Union Budget 2021-2022 gave a push to monetise underutilised assets. PMAY-U encourages land owned by various central and state government departments and agencies which are in excess of their requirements to be effectively pooled and brought under affordable housing. Redevelopment projects and increasing the supply of land through the process of change in land use is also encouraged.

Land Tenure Rights: NSSO estimates suggest that approximately half of the urban households in India are landless. Landlessness and insecure tenures in slums do not encourage residents to invest in home upgrading and connecting basic infrastructure and are a fundamental driver of poverty. To change the status quo, the Government of Odisha has passed legislation to assign land rights to eligible urban slum dwellers for redevelopment, rehabilitation and upgradation in Notified Area Council (NAC) areas and Municipalities across the state under the ambitious JAGA Mission.

Servicing existing low-income housing with trunk infrastructure: Providing new, tenure secure houses for all is financially unviable for government agencies but extending trunk infrastructure will greatly improve the physical quality of life in informal settlements. The Government of Delhi changed legislation to allow MLA LAD funds to be spent in slum settlements which resulted in water supply, sanitation and road improvement. The Delhi Urban Shelter Improvement Board has introduced 662 Jan Suvidha complexes in slums containing community toilets and baths which are free of user charges. Other basic amenities such as drinking water points, street lighting, ghats for clothes washing have also been provided.

Land for Sites and Services: Small sites are provided with basic services to low-income households, giving them the security of tenure for incremental self-construction of a house. While the sites and services schemes no longer form a part of central government outlays, research from the World Bank (2017) indicates that providing serviced plots (ranging in size from small to big) in expanding peripheries has created well planned mixed-income neighbourhoods with access to amenities and other good planning outcomes almost 2 decades later and must be viewed in this time horizon.

Alternative Mechanisms to Acquire, Plan and Service Land for Affordable Housing: The Town Planning Scheme (TPS) employs a land readjustment mechanism that brings together a group of landowners who pool their land parcels for development. After deducting the area for infrastructure and social amenities, including affordable housing, the government reconstitutes the remaining land into regularly shaped plots and distributes it back to the original owners. Infrastructure is provided by the local government agencies; landowners benefit from improved services and this increases the value of their land. Ahmedabad has used this technique to make lands available for affordable housing which resulted in over 80,000 dwelling units getting constructed under various affordable housing schemes as per a WRI study. These schemes are well distributed spatially across the city instead of being concentrated in the city’s periphery, as is common in many parts of the world.

India’s urbanisation trajectory remains strong and hence requires policies, plans, regulations and mechanisms that can prevent the occurrence of inadequately serviced and unplanned urban expansion as well as under-provisioned inner-city areas. Land needs to be acquired, planned, and serviced with adequate infrastructure, social amenities, and affordable housing for our cities to thrive.
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Affordable Housing: The Art of City Integration

Poor people who migrate to the cities to earn better, seek abode in slums. While these slums are illegal establishments, for the poor it is the location that matters - close to their workplace. The poor choose to save their income, sacrificing the quality of life, and a share of the same is remitted back home, writes Dr Renu Khosla, Director, Centre for Urban and Regional Excellence.

One in five persons lives in slums, in jhuggis (temporary housing), sharing taps and toilets. These areas have poor quality water supply, inadequate drainage, and poor waste management. As per Census 2011, India has 65.5 million slum dwellers in 2613 large and small cities. The informal settlement and organic nature of slums make delivering city services complicated. Also, as the land under slums is un-owned and deemed ‘illegal’, there is extreme local reluctance to invest for its improvement.

An effective solution to this is affordable housing with the provision of quality basic services to all. These houses may be kept open to own or to rent, as many seasonal migrants may not wish to own a house. People choose to buy, build or rent according to their family’s needs and resources. As urban land values have risen, land in the inner city areas for large scale social housing has become unavailable. The high land values have made land lucrative as an instrument of public finance rather than a basic need. Consequently, housing for the poor can only be delivered at the periphery of cities.

Locations & Localization of Housing

Considering sustainable urban development, cities must focus on providing safe infrastructure, adequate

DR RENU KHOSLA
Director, Centre for Urban and Regional Excellence.
living spaces, clean piped water in taps, toilets connected to trunk sanitation systems and access to government schools and health care systems. This principle has formed the basis of SDG 11 – Building Sustainable Cities and Communities.

The peri-urban housing is often far from the workplaces. Therefore, it makes commuting to work a costly affair. As a result, daily wage workers are unable to reach labour mandis in time to find work and end up earning less. For women, the job market shrinks as there are fewer jobs they can deliver in these far-off locations. So instead of a ‘good’ house with secure tenure that is supposed to create wealth for the family, far away housing imposes many new costs to the poor. Unsurprisingly, many poor people shift back to slums.

During the implementation of the beneficiary-led, in-situ housing project in Tajganj area of Agra city, the Centre for Urban and Regional Excellence (CURE), began to work with communities, the city and the contractors on localizing housing designs to family needs. Room walls were rearranged to allow more light or better space utilization, working corners were created near windows for women seamstress, rainwater harvesting systems were connected to toilets, etc. Retail customization is not always possible, practical or even permitted by local governments, who lack the capacity to work with communities.

In the resettlement colony of Savda Ghevra, New Delhi planned on a sites and services model, CURE curated the core house – a house with pillars, beams and shared outer walls to be infilled by the family as per need. Families were able to create space for businesses or toilets or add features to improve indoor air quality. However, all the secure tenure and pucca house, formalization and a registered address could not take away the fact that Savda Ghevra was 40 kilometres from the city’s core and that for nearly a decade it was without access to good public transport, labour markets, roads, piped water supply was delivered after 14 years, the sewer system is still being contracted. Poverty deepened among nearly 8500 households post-relocation and many children with basic education dropped out of school. Moreover, women lost work and found none in the nearby areas that matched their skills. It took nearly five years for the families to stabilize and begin to earn better, but they are still not eligible for formal housing finance.

Is affordable housing affordable for the city? Can ecosystem approach deliver improvements?

Clearly affordable housing that comes at the city’s fringes has costs for poor families. But how affordable is it for the cities? When cities move houses to the edge, cities must also move up to these edges – extending the connecting basic, social and transportation services, without which the benefits of good housing may not flow. Sprawl is expensive while compact is cost-effective. The cost to shift every slum household into social housing at the city’s edge is ginormous, nearly Rs 6,73,565 crore is a one-time investment. No city or State will ever have much money to invest all at once or even in parts over time. On the other hand, if each city prepares sites with integrated infrastructure and leave the house building to the poor, all this money will be recovered in just over seven years through Rs 94,046 crore annual additional tax collections and income increases.

Poor to build their own abodes & cities be ecosystem curators

While social housing is a desirable goal in achieving SDG 11, location and good quality infrastructure is the key to sustainable and inclusive cities. It is best to follow the wisdom of the people who have always built their own housing, incrementally, as per need and when they have the money, and to widen these options by:

- Curating spaces with good quality infrastructure that enable poor people to build their own houses. These sites could be developed with private sector initiatives, involving small private entrepreneurs. Backyard housing is picking up in many African and South American cities as a viable option to create distributed housing in very small units for rental purposes, that are close to job markets. However, they need regulation, formalization without adding to the cost and access to quality services.

- Majority of people belonging to this poor sect of society are masons, plumbers, carpenters etc. They can be enabled to build their own houses in formal spaces by lowering the entry-level requirements and costs, and by improving access to low-cost formal housing finance. Despite many schemes, the poor are still unable to provide the complete documentation that makes them eligible for loans. Hence, changes are needed to be made in the urban planning and building norms to enable such housing.

- Each poor family with a formal house can rent rooms to migrant workers, if possible. With adequate rent regulation and oversight, it could help increase the supply of good quality housing and enhance incomes for the owner. The model was recommended to the first-ever in-situ housing project approved under the Rajiv Avas Yojna in Bhubaneswar.

- Community groups can develop a good quality and low-cost housing at a scale provided that the local government help them with access to land, finance and infrastructure and recognize the importance of community-driven solutions.

Affordable, safe and adequate housing is significant for the poor. It needs to be mandated at right locations and local integration will make it an effective solution.
Conserving Heritage & Developing Cities

Culture, as an element has long been absent from the urban landscape when it comes to devising strategies for future development. However, since the past decade, the global discourse has started recognising the importance of culture and heritage in sustainable urban development, writes Mayura Gadkari, Conservation Specialist, National Institute of Urban Affairs (NIUA).

Realising the significance of culture and heritage in sustainable urban development began with the Executive Bureau of United Cities and Local Governments (UCLG) adopting the Policy Statement on ‘Culture: The Fourth Pillar of Sustainable Development’ in 2010. This was further reinforced in the 2030 Agenda for Sustainable Development 2015 and the New Urban Agenda (NUA) 2016, where culture was placed at the forefront of debates on urbanization.

The NUA acknowledges the importance of culture and cultural diversity in the sustainable development of cities and human settlements. Culture features prominently in the Agenda 2030; target 11.4 of the Sustainable Development Goals (SDGs) that seeks to strengthen efforts to protect and safeguard the world’s cultural and natural heritage. This implies that culture is now firmly recognized by the international community as a key component for achieving sustainable urbanization. Culture and values are crucial in determining policy outcomes, ensuring human-centred, inclusive and equitable development.

Our cities are ever-evolving systems with countless challenges to address to and what forms their backbone is their cultural inheritance; the tangible and intangible heritage and legacy that they hold within. Some of the oldest cities were planned in ways that can offer insights for sustainable growth. Historic cities of India showcase so much more, where not only is the architecture at its artistic best, but at the same time they exhibit the most effective indigenous design addressing all major and minor everyday problems. Historic cities in India have played an exceptional role in contributing to the knowledge of the development of urban planning and infrastructure in the world. However, we are at a turning point today with the rural-urban transition and the resultant urbanisation engulfing small historic settlements.

Consequently, the historic cores and cities have become pockets of entrenched poverty, while still being the nuclei of all economic activity. Thus, it is apparent that historic cores and cities throughout the country need a strategic approach for integrating their heritage assets into mainstream development planning principles.

1. World Summit of Local and Regional Leaders-3rd World Congress of UCLG, Mexico City, 2010
4. WUF 10 Background Paper, UN-Habitat, 2019
Ahmedabad ‘Walled City’: A Case Study

In the particular case of Ahmedabad, the walled city is a traditional settlement consisting of densely populated neighbourhoods around main streets that are called ‘pols’, which typically include 50-100 closely-packed houses, which share side walls and produce a homogenous urban fabric. This 535-hectare property was inscribed on the World Heritage Site list of UNESCO in 2017 under multiple criteria of ‘exhibiting an important interchange of human values, over a while on developments in town planning’, ‘being an outstanding example of a traditional human settlement’, ‘land-use which is representative of cultures, or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change’ and ‘being directly or tangibly associated with events or living traditions, with ideas or with beliefs, with artistic and literary works of outstanding universal significance. The walled city, which is home to approximately 3.5 lakh residents, has a large concentration of heritage; tangible heritage, both public and privately owned and intangible heritage such as arts and crafts, practices and festivals.

Like every other historic core in India, the walled city of Ahmedabad is an important economic hub, where it provides jobs to a large number of people and is also home to wholesale specialised markets of cloth, jewellery, grains, spices, amongst other things and also few culinary experiences. As evident from the ICOMOS criteria mentioned above, the walled city is considered as an excellent example of efficiently designed self-sustained pockets of traditional community housing with necessary utilities and facilities, however, today it is facing challenges of gentrification owing to developmental pressures. Parts of the walled city have also been ghettoised as affordable housing for low-income groups. While there is an efficiently managed and used Bus Rapid Transit System (BRTS) implemented through the walled city, the transport infrastructure faces challenges of its own, with a lack of Right of Way (RoW) for the vehicles passing through the walled city and not sufficient parking areas for private vehicles of the residents.

There is a persistent need to develop innovative solutions for sustained conservation efforts, including working with the community to build ownership of the assets and improve the liveability of the historic cores and cities of India. The city of Ahmedabad plans to address these challenges through a Conservation Plan that is in the process of being prepared by the National Institute of Urban Affairs (NIUA). The Conservation Plan is a significant document that can materialise into a statutory instrument through a Local Area Plan (LAP) for the walled city, to be eventually integrated with the city’s Development Plan. Presently, the infrastructural challenges of the walled city are addressed in silos, whereas there is a need for an integrated approach towards the management of historic cities in the rapidly urbanising scenario.

Envisaged Conservation Plan eventually aims to achieve the targets of ‘strengthening efforts to protect and safeguard the world’s cultural and natural heritage’ and ‘ensuring access for all to adequate, safe and affordable housing and basic services and upgrade slums’ of the Sustainable Development Goal 11 of making cities and human settlements inclusive, safe, resilient and sustainable.

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5. ICOMOS inscription document for Ahmedabad
6. United Nations Educational, Scientific and Cultural Organization
7. Census of India, 2011
8. International Council on Monuments and Sites
The challenge lies in the fact that due to the high concentration of people, infrastructure and economic activity, cities are particularly vulnerable to the effects of climate change. Working towards urban resilience is crucial if we are to mitigate social and economic losses while a sustainable approach to urbanisation is essential in order to protect the environment and prevent catastrophe in the event of a natural disaster. Resource-efficient cities combine heightened productivity with reduced costs and a smaller environmental impact, while also providing increased opportunity for consumer choices and sustainable lifestyles, writes Sanjay Seth, Senior Director – Sustainable Habitat Programme, TERI & CEO, GRIHA Council.
Nearly half of humanity currently resides in cities and by 2030 it is estimated that the number would be at six people out of every ten. Within the next decade, the world is projected to have 43 megacities of 10 million inhabitants each. Thus far, the trend towards urbanization has accelerated demand for basic services, infrastructure, jobs, land and affordable housing, particularly for the urban poor who are forced to live under appalling conditions in informal settlements. Sustainable Development Goal (SDG) 11 aims to address the need for sustainable cities and communities. It is one of 17 SDGs established by the United Nations in 2015.

It is without a doubt that urban spaces offer opportunities for people to prosper economically and socially but this only holds true in planned cities where there is an opportunity for employment and the land is not overrun by unplanned urban sprawl. As our cities spill beyond their formal boundaries, they create challenges in developmental planning and hinder global goals for sustainable development. Cities also emit vast quantities of greenhouse gas and other atmospheric pollutants. Over half of the global urban population breathes air that is 2.5 times more polluted than standards deemed acceptable by the World Health Organisation.

These challenges to urban spaces can be overcome by improving resource use and focusing on reducing both pollution and poverty. The future we want includes cities that offer opportunities for all, providing access to basic services, affordable energy, adequate housing and effective transportation. Cities can optimise efficiency either by reducing energy consumption or through the adoption of green energy systems.

**GRIHA for Affordable Housing**

In India, access to affordable housing is vital for achieving various social objectives, including poverty reduction. In 2012, the urban housing shortage stood at 18.8 million units and is expected to grow at 6.6 per cent to 34.1 million units by 2022. Unfortunately, popular perception associates sustainability with expensive technological advances. Affordability, however, lies at the very core of sustainability - common sense entails that if something cannot be reduced, reused, repaired, rebuilt, refurbished or recycled, it should be restricted or removed from production.

GRIHA envisions sustainable affordable housing where the occupants have both the opportunity and the desire to reside which is conducive to their socio-economic development & respectful of the natural environment.
The ‘GRIHA for Affordable Housing’ rating variant was designed specifically for this purpose and outlines at length how factors such as climate-responsive design help reduce energy demand (and by extension, the electricity bills incurred by residents) at no additional capital cost. GRIHA AH strives to break the myth of expensive green buildings by laying emphasis on cost-effective sustainability measures. India is a tropical country with a requirement for space cooling for much of the year in order to maintain bearable indoor temperatures, yet affordable housing is often conceived as being required to merely provide the very basics in terms of shelter and security for the economically challenged. Unlike their counterparts in commercial or high-end residential projects, the occupants of affordable housing are often expected to not have access to expensive air conditioning equipment.

GRIHA has always emphasized the importance of no-cost design interventions for enhancing performance and meeting thermal comfort through the manipulation of architecture and building material. Through the AH rating system, GRIHA envisions sustainable affordable housing as habitable spaces where the occupants have both the opportunity and the desire to reside beyond the short-term, which is conducive to their socio-economic development and respectful of the natural environment. Linking sustainability with quality rather than pricing can create opportunities for upcoming housing projects, especially since India’s socio-economic milieu warrants different perceptions of affordability. The underlying idea is that people should be able to maintain comfortable living standards within affordable sustainable housing.

In the coming days, consumers should be the drivers of this movement. Without additional incentives for making an immediate profit, there is no real cause for developers to spearhead the shift toward sustainability. Our experiences with the energy efficiency labelling programme showed us that once a few manufacturers agree, others follow suit because nobody wants to be left out. With a label, one empowers consumers to make an informed decision. Once the demand is set in motion, regulators can further strengthen benchmarks and push for greater impact. Both manufacturers and consumers have to play the game together in order to transform the market for green buildings. The focus should always be on sensitising consumers in order to expand the market. If we as consumers start demanding green, the market is left with no alternative but to provide it.

**Achieving SDG 11**

We are a tropical country and our ancestors knew through experience which direction the windows should face in order to reduce heat gain and maximize natural light. Developers might not see a business case in considering these aspects so there is a need to incentivise them to go green through measures such as making extra floor area ratio available should they choose to opt for a green building.

With the adverse effects of unmitigated carbon emissions and runaway climate change becoming increasingly apparent, there has been a marked increase in awareness and sensitisation towards sustainability, especially within the younger demography. It is also becoming common knowledge that the greatest economic benefits are realized when impact on the environment and on people are addressed jointly from the start of building design with clear intent being set to achieve key metrics – for example, improved air quality without sacrificing energy efficiency. Together, these factors have contributed to an increased acceptance of green buildings as a necessity moving forward.

For all of us to survive, thrive and prosper on this planet we need to step up our efforts toward creating affordable and resilient buildings and cities with regenerative and culturally inspiring living conditions. Building green paves a clear path towards achieving the goals outlined under SDG 11.
Affordable Housing in America: From Pruitt-Igoe to Via Verde

America has been a vibrant laboratory for experimentation and innovation in all aspects related to affordable housing. While lessons from these American experiments may not be directly applicable in the Indian context, they may offer valuable insights for policymakers in India. A critical evaluation of some of these policies, programs, and incentive structures adopted in America may inform policymakers in India as they pursue their ambitious goal of providing affordable housing under the Pradhan Mantri Awas Yojana (PMAY). It may enable them to design even more imaginative programs to help lead PMAY to the next stage in its evolution, writes Manish Srivastava, Professor of Finance, Investment and Real Estate Development, New York University.

Affordable housing first became a core concern within policy circles in America when its war veterans were returning home after World War II ended. The government's early response was rooted in President Franklin D Roosevelt's 'New Deal' and a belief that the government alone should fill critical social sector gaps like the creation of affordable housing. This led to a supply-driven model whereby the government became the sole developer of public housing.

By the early 1970s, the intellectual forces shaping economic policy were being propelled by the Chicago School of Economics which was deeply critical of big government. Led by Milton Friedman, this school promoted a limited role for the government as an exclusive provider of social goods. The school argued that the government was an inefficient allocator of public resources. In 1972, the demolition of Pruitt Igoe, an iconic public housing complex in St. Louis, Missouri, which had become crime-infested and uninhabitable, reinforced this view. Consequently, the government's direct role in the provision of affordable housing went through a paradigm shift.

The politico-economic consensus spotlighting the failures of government along with the well-publicized images of public housing demolitions forced a change in approach from the supply-driven model to one that was demand-based and focused on 'affordability.' Private sector participation became essential to creating affordable housing. The government's role changed from a developer to an enabler. This demand-driven model continues to date. Several
programs have been created to facilitate affordability and the creation of affordable housing projects. These included the Section 8 Program; the Low-income Housing Tax-credit Program; Inclusionary Zoning; and more recently, Opportunity Zones.

The Section 8 program was launched during the Nixon administration. As part of this program, direct grants were offered in the form of vouchers for the poor to bridge the gap between market rents and a portion of the income that could be reasonably allocable for rent. The rationale for these direct transfers of subsidies was two-fold. Firstly, these direct grants were intended to give recipients the flexibility to live in proximity of their place of work, including within densely populated cities, and therefore to facilitate social inclusion and mobility. Secondly, as the recipient’s income changed it was easier for the government to flexibly withdraw or extend subsidies without drawing unwanted attention typically associated with a reduction or withdrawal of federal subsidies for the poor.

The Low-Income Housing Tax Credit (LIHTC) program was created in 1986 by an act of Congress and is operated by the US Treasury. As a part of this program, the federal government allocates tax credits to states which in turn allocate their share to private developers of affordable housing. Between 40 per cent to 90 per cent of the qualified costs of affordable segments of housing projects can be funded with LIHTC credits. The private developer is able to sell these credits to corporations (typically financial institutions) and other for-profit entities. LIHTC credits are traded at between 75 per cent to 110 per cent of their value, depending on the markets in which these projects are located and based on their utility for the buyers.

The benefits of the LIHTC program have been three-fold. Firstly, it continues to leverage the capacities of the federal government to finance new and revitalisation projects in the capital-hungry yet capital-deficient affordable housing sector. Secondly, it recognises that in most cases affordable housing projects would not be feasible without a source of financing that bridges the gap between project costs and capital from traditional sources. By reducing a developers’ equity outlay, LIHTC credits preserve the financial viability of projects. LIHTC makes it more likely for developers to achieve market-level returns. Thirdly, the LIHTC structure connects the mandated social impact commitments of corporates with the need for affordable housing.

In recent decades, most high-density American cities have implemented ‘Inclusionary Zoning’ programs. Zoning regulations in cities with high land costs have been made flexible to allow private developers to build additional market-rate units in exchange for dedicating between 20 per cent to 25 per cent of their project as affordable units. These programs have been instrumental in facilitating social inclusion. Also, by establishing partnerships between not-for-profit organisations focused on public-private projects, private developers, and government agencies, inclusionary zoning has enabled affordable housing projects to be inclusive and financially viable.
Via Verde, a US $100 million, 222 affordable units, mixed-use development located in the Bronx borough of New York City demonstrates the success of these programs. This project was developed by the visionary developer, Jonathan Rose, in partnership with Phipps Houses, a not-for-profit public-private institution focused on affordable housing. Completed in 2012, the project combines market-rate units, affordable units, high-quality amenities, community participation and engagement, and offers an eco-system for sustainable living, challenging traditional notions of affordable housing.

In 2017, to alleviate inner-city plight across urban America, the Trump administration launched the Opportunity Zone (OZ) program. This program harnesses the illiquid capital gains of investors to fund the revitalization of poor and dilapidated neighbourhoods. Affordable housing development is an integral part of OZ developments. Investors in OZs with investment horizons of five years can reduce their capital gains taxes by 50 per cent and by 100 per cent for an investment horizon of ten years or more. The impact of this program in creating affordable housing stock is still evolving and yet to be fully realized.

Today, with a shortfall of about 20 million affordable units, voices demanding a reversion to a greater role for the government are becoming louder. However, reverting back entirely to the state being the sole provider of public housing is likely to remain a non-starter. Even though there is bipartisan support for the expansion of the LIHTC program by 50 per cent, the political will remains to be fully exercised. Democratic gridlock notwithstanding, America solves its social problems through debate, rule-of-law legal mechanisms, creative policy responses, and imaginative incentive formulations. Some of the ideas resonating today are not just limited to expanding funding sources and rethinking land use to increase land supply to reduce the production cost of affordable housing. There is an increasing focus on social and environmental impact. It has been recognized that well-designed affordable housing policies can be a powerful instrument for economic and social mobility, for facilitating social inclusion, and for expanding opportunities, and not just a mechanism for providing a home-in-a-box at an affordable price.

As policymakers in India address the complex and vast affordable housing issues, a deeper engagement and dialogue with American policymakers, public-private housing institutions, private affordable housing developers, educators, and intellectuals may be quite valuable. Importantly, rigorous exchange of ideas on affordable housing as a critical source of sustainable urbanisation in democratic societies could emerge as another powerful pillar in the rapidly evolving strategic partnership between America and India.
India's growing urban population has also led to the burgeoning growth of the construction sector to meet the increasing demand for residential and commercial buildings in the last decade. An analysis of urban GDP growth to 2035 estimates that 17 of the 20 fastest-growing cities in the world would be in India\(^1\). At the same time, 2018 estimates indicate that 70 per cent of the country's building stock that will be there in 2030 is yet to be built\(^2\).

**Raina Singh and T Shravani**, Climate Centre for Cities (C-Cube), National Institute of Urban Affairs (NIUA) write about the key role of the buildings sector in meeting India's climate action targets.
Considering the above-mentioned estimates, similar trends may be expected in the residential and affordable housing sector as well, in view of the various policy and fiscal incentives that have been rolled out in the last few years. The Pradhan Mantri Awas Yojana (PMAY), a scheme aiming for ‘Housing for all’ by 2022, has set up a target of constructing one crore houses in urban areas. As of December 2018, about 65 lakh houses had been sanctioned by the Ministry of Housing and Urban Affairs (MoHUA), Government of India. The scheme also recorded a rise of 70 per cent in housing construction between 2017 and 2018.

In India, buildings account for over 40 per cent of the country’s total energy consumption, 20 per cent of the raw material use, 20 per cent of water use, and 20 per cent of land use in cities. They are also responsible for 40 per cent of total carbon emissions, 30 per cent of solid waste generation, and 20 per cent of water effluents. The buildings sector, therefore, have a critical role to play in India’s actions towards addressing climate risks and achieving sustainable development goals (SDGs).

Currently, India’s ‘Green Buildings’, though growing consistently, constitute only five per cent of the building market. However, current evidence shows promising potential in the reduction of energy consumption and emissions through appropriate policies and implementation procedures in place. For instance, through the use of efficient lighting, space cooling methods, ventilation, refrigeration, and appliances, it is possible to save 30-70 per cent of energy consumed at the building level. A study by McKinsey indicates that the national power demand can be reduced by as much as 25 per cent in 2030 by improving the energy efficiency of buildings and operations. Estimates by the Bureau of Energy Efficiency (BEE) suggest that existing buildings also have the potential to save 30-50 per cent of their energy through retrofit measures for improved efficiency.

In view of the unique opportunity to lock in low-carbon and resilient urban growth, various initiatives for improving energy efficiency and implementing ‘green’ measures have been introduced in the residential and commercial buildings sector at the national and state levels in the last few years. The National Mission on Sustainable Habitat (NMSH), National Mission on Enhanced Energy Efficiency (NMEEE) now renamed ROSHANEE, and the Energy Conservation Building Code (ECBC/ENS both for commercial and residential) provide guidance on building design and construction practices and institutional and fiscal measures to facilitate implementation. The recently launched updated guidelines for PMAY (U) propose setting up a technology sub-mission to facilitate the adoption of modern, innovative and green technologies and building material for the development of green and resilient buildings. They also provide for the inclusion of rainwater harvesting and solar energy systems in affordable housing projects.

Besides, the India Cooling Action Plan, launched by India’s Ministry of Environment, Forests and Climate Change, provides a 20-year perspective and outlines actions needed to provide access to sustainable space cooling in buildings. This becomes extremely relevant with the expected increase in cooling requirement and related energy demand in buildings in light of the projected climate variability and change scenarios for the Indian sub-continent. In addition, various rating systems including GRIHA, LEED, GEM and EDGE, among others, are available to help assess and manage energy and resource


A pictorial representation of a green and sustainable city
efficiency at the building level. While a large share of green rating is currently taking place for institutional and commercial buildings, there is a growing interest and availability of rating systems specifically for the residential sector.

The ClimateSmart Cities Assessment Framework (CSCAF), launched by MoHUA in 2019 under the Smart Cities Mission, addresses green buildings as one of its key thematic verticals. The Framework serves as a tool for cities to track their performance towards green, sustainable and resilient urban development, and also provide a roadmap to progress on the same. With 28 indicators under five thematic areas - Energy and Green Buildings; Urban Planning, Green Cover & Biodiversity; Mobility and Air Quality; Water Management; and Waste Management. The CSCAF is currently being implemented in 126 cities across the country.

The indicators on green buildings focus on the promotion and adoption of green buildings through the implementation of compliance procedures, penalty/reward schemes and stakeholder cooperation for the promotion of new and existing green and energy-efficient buildings. This would include integrating NBC 2016, ECBC 2017 and ENS 2018 provisions in the general development control regulations (GDCRs) and building bye-laws. The other measures include institutionalizing a green building cell at the ULB level for knowledge dissemination, and a functioning high-level green building committee acting as a strategic advisory and promotional/penalty schemes available for code compliance, pre-certification, certification of green buildings. It may be noted that many of these measures have been already incorporated at the state level. As the next step, there is a need to translate these measures into specific targets and actions by adopting them at the city level for effective implementation. Undertaking appropriate capacity building, awareness and knowledge dissemination with the involvement of various stakeholders in the system is equally important.

As Indian cities address their present challenges and prepare for future urbanization prospects, the buildings sector will play a pivotal role in the pathway for green and sustainable growth. Studies suggest if all the buildings in urban areas were made to adopt green building measures, the country can save over 8,400 megawatts of power, which is enough to light 550,000 homes a year.

Implementing appropriate interventions for efficient use of building materials, energy and water will not only help in achieving resource efficiency and savings locally but also go a long way in meeting multiple India’s targets and commitments towards sustainable development goals and climate action.

8. Abbreviations: GRIHA-Green Rating for Integrated Habitat Assessment, LEED-Leadership in Energy and Environmental; GEM-Green and Eco-Friendly Movement, EDGE-Excellence in Design for Greater Efficiencies
### Indicators to measure India’s performance towards SDG 11.1

1. Percentage of urban households living in katcha house
2. Percentage of urban households with drainage facility
3. Percentage of individual household toilets constructed against target

#### Performance of States and Union Territories on Indicators of SDG 11.1

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