Today, 65 million people in urban India live in extreme poverty. Most inhabit squalid and overcrowded urban areas, known as slums, without proper sanitary infrastructure or access to drinking water. To address this pressing need, India recently proposed an ambitious new program, Housing for All, designed to provide every person living in slums with access to adequate housing by 2022. The Dow Fellows student project team developed recommendations to ensure the successful implementation of the Housing for All program through the analysis of previous housing policies in India, and the study of city-wide housing schemes.

MILLIONS NEED AFFORDABLE HOUSING
Experts estimate that 18 million households in India are in need of low-income housing. This increasing demand, paired with a shrinking supply of urban land and high construction costs, is leading to an increasing slum population. People are migrating from rural to urban areas in search of employment and marriage. Experts estimate that by 2025 more than 42% of India's population will be urban.

Currently, the level of public services offered in slums is seriously deficient. An estimated 58% of the 110,000 slum areas have open or no drainage, 43% transport water from outside communities, 34% have no public toilets, and an average of two power outages occurs each day in these areas. Moreover, due to inadequate sanitation infrastructure, slum residents are exposed to a range of public health concerns, such as stunted growth in children and the spread of infectious diseases. Providing stable, affordable housing is a major first step to establishing and sustaining a basic standard of living for every household in India.

POLICY APPROACHES
Previously, two national policy interventions focused on providing housing solutions for all urban slum residents in India: Basic Service for the Poor (BSUP) from 1996-2002, and National Slum Development Program (NDSP) from 2006-2012. BSUP focused on tearing down and rebuilding slums to provide hot water, lights, and heating. Unfortunately, this redevelopment model uprooted entire neighborhoods, resulting in a high social cost. In contrast, NDSP implemented a slum upgradation model, allowing residents to make household improvements to existing structures. This program provided a “basic service package” including access to clean water, adequate sewage disposal, and a proper title to land. The slum upgradation approach is promoted by the World Bank as a model to preserve investments of people living in slums. Although the NDSP minimized the displacement of residents, the program drew criticism because of its high up-front cost.

HOUSING FOR ALL
Established in 2015, the Housing for All initiative plans to focus on 300 major Indian cities by 2019. The program has four main components:
1. Slum rehabilitation with the involvement of private developers;
2. Public-private partnerships to create affordable housing;
3. Affordable housing through a Credit Linked Interest Subsidy; and
4. Beneficiary-led individual house construction or enhancement.

Housing for All has the potential to impact the lives of nearly 14 million households in India by proposing a solution to address land shortage and high housing costs. An insitu redevelopment approach would use land currently occupied by squatter settlements as a financing tool to subsidize housing for the urban poor. This type of development promises to fulfill aspirations of new urban India by accurately identifying homeowners, timely construction, and improving existing housing infrastructure to create quality affordable housing.
ANALYSIS FROM FIELD VISITS/STAKEHOLDERS MEETINGS

In alignment with the Housing for All program, the Dow student team assessed redevelopment efforts in Mumbai and found that they provide an excellent model for other urban areas in India. The Mumbai plan encouraged sustainable financing by using land as a resource to provide free housing for slum residents, incentivized the private sector to use innovative constructive methods, and ensured redevelopment efforts provided high-quality housing units with toilets, sewage disposal, and electricity. Analyzing the challenges faced in Mumbai provided valuable lessons for the successful implementation of the Housing for All program.

RECOMMENDATIONS

The student project team distilled four key recommendations in the areas of administrative, environmental, financial, and cultural sustainability based on literature review of past policies and an in-depth analysis of the Mumbai program.

- **Administrative**: Replicate the Mumbai program in similar cities such as Delhi, Hyderabad, Chennai, and Pune, based on land scarcity, population and coverage, and real estate costs.

- **Environmental**: Implement a cost-effective, ecologically-friendly decentralized system for sanitation (e.g., localized wastewater treatment system); and install solar panels to minimize power outages, reduce dependence on conventional utilities, and focus on renewable energy. Additionally, solar panels on apartment rooftops would offset the energy needed for shared utilities, such as hallway lights, which would be a new expense to residents of the redeveloped buildings.

- **Financial** (government and financing institutions): Offer temporary leasehold rights to individuals living in households as they work towards ownership.

- **Cultural**: Expand spaces of entrepreneurship and business by maintaining a priority for community gathering areas and public spaces to support the cultural and economic integrity of new housing infrastructure.

CONCLUSION

The overall goal for decentralized sanitation and energy systems is to lower the impact of urban densification and increased resource demand on the larger urban infrastructure. Providing a decent quality of life for all people living in urban households is a complex challenge for many cities that requires interdisciplinary solutions. Smart investment, incentives, social inclusion, cultural sensitivity, and environmental stewardship are important factors in meeting this challenge. Strong partnerships between government, private investors, and developers are also critical to the success of creating sustainable cities.