

Promoting Resilient Housing and Secure Tenure in a Changing Climate



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Key Messages

- *Effective land planning and management are fundamental to reducing climate risks.* Vulnerability assessments and clear long-term strategies help to ensure that negative social and environmental impacts on communities are minimized.
- *Tenure security is an essential element in building community resilience and addressing urban inequalities.* If both women and men-headed households enjoy secure land and housing, they are more likely to plan ahead and invest in resilience measures.
- *Adapting existing housing to current and future climate threats is usually simpler and more effective than relocating communities.* Participatory upgrading and capacity development strengthens resilience while allowing residents to remain in place without disruption.

I. Housing Asia-Pacific's Urban Poor

Asia-Pacific is predominantly rural, yet it is one of the most rapidly urbanizing regions in the world. Its urban population is predicted to nearly double to reach 3.4 billion by 2050. Every day for the coming decade cities in Asia and the Pacific will need to accommodate 120,000 new residents, placing additional pressure on affordable land and housing provision¹. Meeting this demand will therefore be an essential element in ensuring inclusive and sustainable urbanization.

Parallel to rapid urbanization, an equally momentous challenge is the growing inequality in urban areas that is reflected in the growth of an already sizeable proportion of the population living in slums. Security of tenure is also recognized as a critical component for successful integration of such settlements into the fabric of urban life as well as facilitating improvements in service delivery. This in turn would present various solutions to address the issue of affordable housing and urban service delivery whilst guaranteeing the right to adequate shelter.

At present, however, urban housing in cities across the region is in a state of crisis. This is reflected in the growth of slums – urban areas characterised by one of more shelter deprivations, including a lack of durable housing, sufficient living space, clean water, access to adequate sanitation and security of tenure. Slum settlements became the visible face of urban poverty in the region. In the absence of public and private sector initiatives to provide affordable and secure housing for the urban poor as well as commercial bank loans to stimulate affordable housing enterprises, slum living has become an unavoidable reality and so has the threat of slum eviction. Lack of land

¹ UN-HABITAT. 2011. Affordable Land and Housing in Asia. Nairobi: UN-HABITAT.

tenure security remains a major constraint on poverty reduction. Access to land is an inseparable ingredient in a poor household's ability to survive, earn, thrive and lift itself out of poverty. Aside from being a basis for shelter and access to services, secure land rights can act as a safety net in times of hardship and provide financial security.

As many as half of the world's slum population, totalling more than 505 million people, are based in the Asia-Pacific. This amounts to one third of households in the region as a whole, ranging from 24 per cent in Pacific to 35 per cent in Southern Asia, and is in large part due to a lack of affordable and well located housing alternatives². The absence of land rights also undermines the poor's access to safe and secure housing, placing them at constant risk of eviction or displacement as a result of redevelopment. As a result, the urban poor face significant difficulties in both access and affordability, with their financial constraints compounded by institutional exclusion. Addressing landlessness and secure property rights among the poor is critical to build resilient cities as well as reduce urban inequalities. Those inequalities often retard economic development, perpetuate poverty and fuel social tensions.

The region's housing problems are exacerbated by increasing environmental variability. Across Asia and the Pacific, natural disasters and other climate change related impacts are damaging the homes of the urban poor: flooding, extreme heat, tropical cyclones, storm surges, landslides, sea-level rise and coastal erosion, all have a significant negative impact on housing. At the same time, residential and commercial construction for more affluent urban residents consumes vast amounts of energy, and is one of the fastest growing emitters of greenhouse gases in Asia and the Pacific.

In light of these challenges, how can local governments and residents adapt their housing to a changing climate?

II. Housing Challenges for the Urban Poor

Land management is the first step to be taken before any housing construction. Exclusion of low-income groups from land management and planning usually leads to informal housing development, which is often the most vulnerable to climate related risks, particularly when occupying hazardous areas such as hillsides, riverbanks and flood plains, for example on low elevation coastal zones. In addition, it leads to increased social tensions in cities³, reinforcing economic and class divisions through spatial segregation. The inaccessibility to decent housing, insecurity of tenure and unaffordable land are major contributing factors to the prevalence of slums and urban poverty in Asia-Pacific cities. A number of intersecting issues must therefore be tackled to ensure better housing options for urban populations:

- *Limited affordability*: land and housing prices in many cities have soared as a result of rapid population growth, unchecked speculation and inadequate or inequitable urban planning. Furthermore, the rise in land cost has not been accompanied by a proportionate rise in income for the majority of the urban population, especially the poor. This is compounded by their lack of access to formal housing credit and loans.
- *Non-existent land rights*: many urban households, particularly in slums and informal settlements, lack security of tenure. Besides putting them at risk of eviction, this also

2 UN-HABITAT. 2010. *The State of Asian Cities 2010/11*. Fukuoka: UN-HABITAT.

3 UN-HABITAT. 2012. *Going Green – A Handbook of Sustainable Housing Practices in Developing Countries*. Nairobi: UN-HABITAT.

undermines the ability of the poor to make long term investments in their homes and businesses, including resilience measures such as upgrading. Land rights should therefore be a priority focus area for any land or housing development programme.

- *Slum evictions bring to light many urban paradoxes:* Despite an acute housing shortage and with a declining trend in house ownership in urban areas, slums are being demolished without the provision of alternative shelter for their inhabitants. The reality is that forced eviction without relocation simply shifts poor people from one slum to another or leads to the development of other slums, depleting valuable housing stocks and land. Despite the number of slum evictions the number of slums continues to increase.
- *Negative impacts from urban development policies:* low income or households may face increased difficulties in accessing land and housing as a result of negative urban policies, such as forced evictions.
- *Environmental instability:* natural hazards such as flooding can damage or displace urban communities, particularly in under-resourced and environmentally vulnerable areas.
- *Weak or ineffective land planning and management:* the absence of land use and building regulations in many Asia-Pacific cities, or their lack of implementation and enforcement, can lead to inappropriate development in environmentally sensitive areas and substandard, high-risk housing that is more susceptible to damage due to extreme weather events and other climate related issues.

Through tackling land tenure and management issues in an inclusive, rights-based and gender-responsive manner, a city can begin to plan its development and invest in strategies that reduce vulnerability to the negative effects of climate change. Effectively planned land use is essential for the housing sector, people's livelihoods, transport, commercial and industrial development, ecosystem management, food and water supplies. There are many ways local governments can positively influence land tenure and management to promote resilient housing. These include:



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- *Provision of innovative forms of tenure security*, such as community land banks, long term leases and usufruct agreements, to provide poor urban settlements with secure, affordable and socially acceptable housing arrangements. These arrangements may involve multiple actors, including landlords, to negotiate an acceptable shared solution that provides residents with a more assured tenancy or ownership.
- *Capacity development and engagement of non-state actors in dialogues and project design*, resulting in pro-poor, responsive land and housing policies and programmes. Strengthening participation at every stage of the process will result in more socially appropriate solutions, as well as boost local ownership. Cooperation between different stakeholders, such as public-private partnerships, can also produce positive results if well managed.
- *Zoning laws/regulations and land use plans*, ensuring housing is built in less exposed areas and that the housing areas of the urban poor are included in land use plans. Otherwise, informal development will continue. At the same time it is important that local governments invest in building up land information within their territory, particularly on vacant or idle lands, as possible development and resettlement areas to accommodate housing demand.
- *Development standards and physical specifications for new housing development*, such as minimum floor heights to decrease vulnerability to flooding, designated roofing materials to remain in place during a typhoon and electricity plugs located above potential flooding points to avoid electrocution.
- *Building regulations and by-laws so housing development reflects current and future needs*, including environmentally adaptive design and quotas on the percentage of low-income housing that must be provided.
- *Renewable technologies and sustainable building materials*, such as traditional or locally sourced materials, to provide low cost and environmentally sensitive housing options to the urban poor. This could include investments in sustainable housing and renewable energy systems, such as solar energy, small-scale wind turbines, geothermal energy and water saving measures. One example of a cheap but effective adaptive technology 'solar bottle lights' – plastic bottles full of water and bleach installed on the rooves of houses that provide daytime lighting for slum households in many Asia-Pacific cities. These low cost solutions may often have a much better chance of uptake than more expensive options.
- *Effective subsidies, public land allocations, low interest loans, community micro-financing programmes and other pro-poor financial mechanisms* to ensure land and housing can be delivered at an acceptable cost to the urban population, especially the poor, who are often constrained not only by the price of land and housing but also their access to formal credit. Energy and water saving technologies may also require an upfront investment that most poor urban households cannot afford without subsidy support.

Preparedness and reliable data on climate risk and environmental instability is also a prerequisite for effective land and housing development. Gathering information to understand the current situation through a Vulnerability Assessment is essential before implementing any of the above options. To be effective, a Vulnerability Assessment should be a participatory process of selected stakeholders, which builds the capacity of citizens to address their city's vulnerability to different climate change scenarios and develop appropriate adaptation strategies⁴.

4 UN-HABITAT. 2010. *Participatory Climate Change Assessments – A Toolkit based on the Experience of Sorsogon City, Philippines*. Nairobi: UN-HABITAT; See another good example, UN-HABITAT, UNDP and UNEP. 2014. *Makassar Climate Change Vulnerability Assessment*. Fukuoka: UN-HABITAT.

Upgrading and adaptation may involve significant costs, however, that governments in developing countries may struggle to meet. Formalization of land tenure, while improving the situation of poor residents, may also have the added benefit of expanding the municipal tax base and providing authorities with additional resources to invest in community resilience. Other options include low interest loans that enable the recuperation of some or all of the initial costs in the medium term, while providing communities with a sustainable funding source to upgrade their settlements.

The Kirtipur Housing Project – Promoting Better Housing Options for Poor Communities in Kathmandu

The Kirtipur Housing Project in Kathmandu, Nepal is an example of a pro-poor housing strategy that combines environmentally friendly construction and disaster resilient design with effective land planning and affordable financing mechanisms. This innovative programme was designed by Lumanti, a local NGO that specializes in urban shelter, to achieve sustainable housing solutions for squatter communities who were to be displaced after residing for 50 years on the site of the Vishnumati Link Road Project in Kathmandu⁵. Besides adopting eco-friendly materials, the buildings are also earthquake resistant and economical due to the use of low cost architectural elements such as exposed brick walls, steel stairs and galvanized iron roofs. Most important, however, is the efficient spatial planning of the settlement into a row housing system. To support the development, the government has provided subsidized land – an essential element, as the 44 rehabilitated families could not have afforded the housing themselves without upfront financial assistance. The families have also been provided with an interest-free loan which the community has to pay back within a period of 15 years. As a result, the project has been able to deliver positive housing solutions to the poor that are both socially acceptable for communities and economically viable for local authorities too⁶.

III. Working with Communities for Resilient Urban Settlements

Communities should always be actively involved in housing and resilience development programmes. Given the many challenges and constraints they face, the urban poor often lack the time or resources to plan and invest in long-term strategies. However, simple measures to improve the resilience of their houses at little or no additional cost, such as building above the flood level in low-lying areas, are usually welcomed. As the informal settlements of most slum dwellers do not have security of tenure, and may as a result be susceptible to forced evictions or resettlement, land regularization is also an essential element in strengthening community preparedness. Zoning plans and controls, as well as gender-responsive and innovative forms of land tenure, can be used to formalize slum settlements as a first step to improving their resilience. In addition, governments should provide the necessary services, such as water and sanitation infrastructure, to help build the capacity of the poor. Community members themselves have an important role to

5 UN-HABITAT. 2010. *The State of Asian Cities 2010/11*. Fukuoka: UN-HABITAT.

6 WaterAid. Undated. *Kirtipur Housing Project: An eco-friendly community based on the principles of community based water resource management*. Kathmandu: WaterAid.

play in service delivery and may also enhance capability in other ways. For instance, organizing women in communities as first responders can help boost long-term recovery and sustainability. One example is the use of skilled female masons in reconstruction efforts in Phuket, Thailand, in the wake of the 2004 tsunami⁷.

Before upgrading a settlement, however, local governments must first understand the current and future vulnerability of the location, housing and community. Once the decision to upgrade has been made, in consultation with local residents, a range of potential options are available, depending on the local context:



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- *Determine if particular areas or households are more vulnerable than others.* Following consultation, those living in dangerous places can be relocated without moving out of the community, and the spaces they leave can be used for other purposes, such as creating community food gardens or emergency access routes.
- *Introduce a gradual strategy of tenure security improvement.* This should, through inclusive community participation and gender sensitive consultative, promote rights-based access to land and flexible forms of tenure security to ensure that the specific needs and interests of men, women and children are taken into account.
- *Introduce or enhance regulatory building codes.* Besides promoting the use of locally produced, recycled and other low-energy construction materials, building guidelines can stipulate the provision of proper guttering and drainage, water harvesting, embankments, landscaping, planning around natural features such as rivers, energy efficient building design and other disaster resilience measures such as earthquake resistance, including traditional techniques that may potentially be more suitable for the poor. Regulatory building codes need to be adapted to low-income housing, as poor households will not follow building codes that they cannot afford. Where appropriate, subsidies to support implementation of these measures should be considered.
- *Consider a system of both mandatory and voluntary codes.* Mandatory building regulations must be set by a local or national government, but NGOs can work with voluntary codes which may be more appropriate for low-cost housing projects.

⁷ UN-HABITAT, UNESCAP. 2008. *Housing the Poor in Asian Cities: Low-Income Housing: Approaches to Help the Urban Poor Find Adequate Accommodation*. Nairobi: UN-HABITAT, Bangkok: UNESCAP.

Enforcing building regulations usually falls under the remit of local government, so an adequate inspection system with the capacity for fines and incentives needs to accompany these building codes to ensure uptake.

- *Support accessible and community managed credit access, loans and subsidies for poor urban households.* Financing a housing upgrade will often be out of reach for individual households. Local governments can work collaboratively with communities, NGOs and the private sector to access financing, for example through community financing groups, government grants or short-term loans.

These approaches prioritize on-site strategies such as upgrading and capacity development to improve the resilience of urban areas, without damaging or disrupting the significant social and economic capital that is invested in local communities, including slums and informal settlements. Adapting current housing to respond to the impacts of climate change, besides usually being cheaper and easier than relocating a community elsewhere, also allows residents to participate in strengthening their existing capacity and resources rather than undergo the upheaval of rebuilding their lives in a new setting. Wherever possible, these measures should be preferred over relocation.

If, however, relocation is the only feasible option for safety reasons, local residents must first be consulted, compensated and informed well in advance, in line with the principles of Free, Prior and Informed Consent (FPIC). Forced evictions should always be avoided⁸. Following extensive consultation, an optional living site needs to be appointed that is socially as well as environmentally sustainable: relocating people in faraway locations without connections to infrastructure, services and employment is not acceptable. As relocation will dramatically impact on the lives and livelihoods of inhabitants, current and future vulnerability needs to be clearly understood by the community. In a worst case scenario, any move must prioritize the wellbeing of residents in the selection of the new site, in particular their safety, access to livelihood opportunities, availability of basic infrastructure and services, tenure security and ongoing support after relocation to ensure all members of the community are receiving these benefits, including women. Most importantly, the relocation must be undertaken with the express consent of the community. If residents clearly understand their risk and still do not wish to move, then other approaches to reduce risk need to be considered.



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8 UN-HABITAT, UNESCAP. 2008. *Housing the Poor in Asian Cities: Eviction: Alternatives to the Whole-Scale Destruction of Urban Poor Communities*. Nairobi: UN-HABITAT, Bangkok: UNESCAP.

The Baan Mankong Program – a Community-Led Approach to Urban Upgrading

The Baan Mankong Collective Housing Program is Thailand's city-wide, community-driven initiative for slum upgrading and housing development. Launched in January 2003, the programme is directed by a government body, the Community Organizations Development Institute (CODI), to provide public investment directly to poor communities to manage and execute upgrading to their housing, environment, basic services and tenure security themselves. Residents partner with other actors, including local authorities, academics and civil society groups, to assess all the settlements in their cities. Now in its tenth year, upgrading projects have been completed or are underway in a total of 286 towns and cities across the country, providing secure housing to around 54,000 households⁹.

IV. Towards Equitable Housing and Tenure Security for Climate Resilience

Climate change resilience for local communities combines technical, economic, social and environmental considerations. Land and housing development therefore requires a complex range of prescriptions if the urban poor are to enjoy safe and secure shelter, now and in the future. Moving forward, then, cities need to develop flexible and adaptive approaches to meet the needs of different communities, with an emphasis not only on environmental improvements but also livelihoods, social capital, affordability, access and most importantly of all, the rights and wishes of those affected.

Reliable information and data collection is a vital element in this, but should be supported by community participation and multi-stakeholder partnerships to ensure, at the next step, that upgrading programmes are designed and implemented effectively. Ultimately, resilience can be supported, enhanced and subsidized by governments and other groups but it cannot be imposed on residents without their consent. To be sustainable, the communities themselves must own programmes. From affordable credit and tenure security to better building codes and smarter urban design, land and housing policies can only succeed if poor households willingly adopt them.

It is hoped that this Issue Brief can be used by decision-makers and communities throughout Asia and the Pacific to adopt pro-poor funding mechanisms, environmentally sensitive building codes, innovative tenure arrangements and other measures to improve the accessibility and affordability of housing for the urban poor in a changing climate.

⁹ UN-HABITAT. 2010. *The State of Asian Cities 2010/11*. Fukuoka: UN-HABITAT.

Gopalganj Housing Model – A Way Forward for Community-driven Pro-poor Urban Housing.

The construction of disaster resilient resettlement housing for the households evicted from the Gopalganj Town in Bangladesh was a fine example of a collaborative housing project of Gopalganj Municipality, Urban Partnership for Poverty Reduction (UPPR), Comprehensive Disaster Management Project (CDMP) II, Asian Coalition for Housing Rights (ACHR), Asian Coalition for Community Action (ACCA) and local communities. The aim of the project was to use a collaborative effort to ensure sustainable resettlement in a disaster resilient housing complex through participatory approach to respond to the habitat needs of the urban poor following their eviction, an event that affected the lives of almost two thousand people.

The houses in which many had lived for all of their lives had been reduced to rubble and the livelihoods of many in the community had been lost. But UPPR turned an adverse situation into an opportunity and led the way towards a sustainable solution. At local level, UPPR's mobilization efforts resulted in other slum communities assisting their evicted neighbors and slum leaders successfully lobbying the local authorities to provide rapid, short- and long-term relief. UPPR's response at a higher level resulted in local and central Government decision makers taking steps towards providing land and low cost housing to the evicted community.

The project identified government vacant land in the area for resettlement. The Government allocated 4.16 acres of land on a 99-year lease to the Gopalganj town in June 2010. The urban poor communities with technical assistance of UPPR and ACCA/ACHR Project developed some models of low-cost housing through rigorous consultative and participatory processes. Following a series of multi-partner meetings CDMP-II offered an outstanding opportunity to improve linkages with, and synergies between, disaster risk reduction and adaptation to climate change both at the community and at the general stakeholder level¹⁰.

This project has shown that when given the right tools and knowledge, local governments, in partnership with the affected communities, can successfully address urban housing issues when they arise. More importantly, the Gopalganj eviction – and the resettlement project that followed - has shown that when mobilized, represented and empowered, slum communities can influence the decisions that affect them, and in doing so, sustainably improve their own lives and livelihoods.

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¹⁰ UNDP. 2013. The Gopalganj Housing Model – A Way Foreword for Community Driven Affordable Urban Housing. Dhaka: UNDP.

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UNDP Asia-Pacific Regional Centre
United Nations Service Building
3rd Floor Rajdamnern Nok Ave.
Bangkok, 10200, Thailand
<http://asia-pacific.undp.org>



United Nations Human Settlements Program
UN-Habitat Bangkok
5th Floor, A Block, Rajdamnern Nok Ave.
Bangkok, 10200, Thailand
<http://unhabitat.org>