

Virtual Event Series: The Asia Regional NDC Clinic

Session 1 – Building Affordable Resilient Housing for Coastal Communities

(15 December 2021, 1500-1700 GMT+7)

Context Setting

40% of the world is projected to live in vulnerable housing by 2030¹. The Asia Pacific region is the most disaster-prone region in the world (GermanWatch, 2019)². Climate change is already increasing the frequency and intensity of disasters, contributing to population displacement, exacerbating conflicts and affecting efforts to reduce poverty and worsening inequality (UNESCAP, 2018)³. In low-lying coastal areas, sea-level rise will most likely contribute to more severe storm surges, inundation, saltwater intrusion, salinization of freshwater and soil. With more than half of Asia's population at approximately 2.4 billion people live in low-lying coastal zones and flood plains (IPCC, 2014)⁴, the risks and economic loss caused by the chain effect of climate change will accumulate to \$675 billion per annum, or 2.4% of the region's GDP (UNESCAP, 2019)⁵. A 2-meter sea level rise could displace over 180 million people, mostly living in Asia. In Bangladesh, around 18 million people living in coastal areas will lose their homes if the sea level rises by 1 meter. Furthermore, rising sea level threaten to intensify floods and storms with an average 42,000 people in the Asian region killed by these natural disasters each year (UNESCAP, 2019).

Climate related natural disasters can impact any country, with substandard houses and the families living inside them suffering the most (World Bank, 2019)⁶. Estimation from World Bank shows that for every \$1 invested in climate resilient and proofed infrastructure, we can enjoy four time, or \$4 benefit (Hallegatte S et al., 2019)⁷. Given that housing often accounts for a major share of monetary losses relate to climate change and natural disasters, climate resilient housing is one of the most effective measures to save lives and mitigate the loss of property in coastal regions. The synthesis report of UNFCCC (2021) reviewing the recent update of NDCs submitted by 191 Parties found that human habitats was identified as a priority area in many adaptation components. Efforts in this area are aimed at adapting

¹ From UN-Habitat, <https://unhabitat.org/topic/housing> (accessed on 4 November 2021).

² GermanWatch (2019), Global Climate Risk Index 2019, available at https://germanwatch.org/sites/default/files/Global%20Climate%20Risk%20Index%202019_2.pdf (accessed on 6 September 2021).

³ UNESCAP (2018), Population dynamics, vulnerable groups and resilience to climate change and disasters: note by the secretariat, UNESCAP, Bangkok.

⁴ IPCC (2014), "Asia" in Climate Change: Impacts, Adaptation and Vulnerability, Cambridge University Press, Cambridge.

⁵ UNESCAP (2019), Asia-Pacific Disaster Report 2019, UNESCAP, Bangkok.

⁶ World Bank (2019), Global Programme for Resilient Housing, World Bank, Washington DC.

⁷ Hallegatte S, Rentschler J and Rozenberg J (2019), Lifelines: The Resilient Infrastructure Opportunity. World Bank, Washington DC.

and enhancing the resilience of both rural and urban settlements, with a focus on housing and associated infrastructure (UNFCCC, 2021)⁸.

Improving housing resilience to climate change, however, is easier to be said than be done. It requires a spectrum of policy measures, some, such as secure land tenureship has been a socioeconomic contest in developing countries for decades, others, such as land use planning and construction code enforcement are still at their infant stages with experiences accumulated through learning by doing. It also requires substantive technical capability to incorporate climatic conditions into material selection and architectural design so houses can survive the next flood and roofs won't be blown away by the next cyclone. This technical knowledge will also need to be widely spread, so people who continue to construct their own houses can easily adopt simple techniques to improve housing capacity to deal with intense weather events. But most importantly affordability of resilient housing is paramount, be it new construction or retrofitting existing homes. Through a recent World Bank organized global competition to design modular house which can stand various climatic conditions with costing under \$10,000⁹, innovative ideas arrived from all over the world – a great reassurance that these houses can be made low-cost. Various forms of credit guarantees bundled with access to technical specificities for affordable and resilient housing finance solutions can help build investor confidence and make more mortgages available to households in both formal and informal markets. Market assessments, financial innovations and pilot studies from the Philippines, India, Pakistan and other corners of the world have all sent some encouraging signals that resilience and affordability are able to go hand in hand and there are concrete solutions can be potentially scaled up to address housing vulnerability and poverty.

Box 1. Climate resilient low-cost housing in Bangladesh

Bangladesh is considered as one of the countries most vulnerable to extreme events, climate variability and change. The country's location in the Bay of Bengal makes it susceptible to seasonable cyclones. Its location on a major floodplain increases the risks related to seasonable flooding. Low-lying coastal land is also vulnerable to future sea level rise. Salt water intrusion has already been observed. With over 90% of people living in Bangladesh's rural coastal areas live in informal settlements which are vulnerable to climate hazards, climate resilient housing is identified as one of the top adaptation priorities under its Nationally Determined Contributions (NDCs). Some ongoing efforts to build housing resilience is covered under the Bangladesh Climate Change Trust Fund (BCCTF). In addition, the Climate Technology Center and Network (CTCN) has assisted Bangladesh to identify and prioritize "low-cost durable housing technologies applicable for coastal areas". Key finding from the TA includes the lack of an integrated and harmonized policy setting so climate change can be mainstreamed into the national housing policies, as well as the need to make mortgages more affordable through subsidization and lowering interest rates. The *NDC Action Project*, implemented by UNEP and UDP in Bangladesh will build on the finding from the CTCN assessment to recommend how policy and financing gaps can be closed and develop innovative financing modalities so vulnerable households can become eligible to access financial resources for their resilience building.

⁸ UNFCCC (2021), Nationally Determined Contributions Under the Paris Agreement: Synthesis Report by the Secretariat, UNFCCC, Bonn.

⁹ World Bank (2019), Resilient Homes Challenge, available at <https://www.worldbank.org/en/topic/disasterriskmanagement/brief/resilient-homes-challenge>.

About the Virtual Event

As part of the [Asia Regional NDC Clinic series](#) led by UNEP and UDP under the NDC Action Project and in collaboration with the NDC Partnership, this 2-hour virtual session is designed to allow countries to pose questions, share concerns and challenges they've encountered, as well as experience they've obtained in building and financing resilient affordable houses to adapt to the changing climate and its consequences. The aim of the event is to provide country policymakers and practitioners with essential information and advice on technical, policy and financial considerations so they can effectively implement their relevant NDC commitment on providing more affordable climate resilient houses to reduce vulnerability of people and communities, in particular in the coastal regions. The survey prior to the event, the questions solicited from initial country engagement, and the interactive session design will stimulate dialogue and exchange.

A set of questions to be dived into in this session include:

- What does climate-resilience mean in the housing sector? Do we have sufficient knowledge and demonstration on the **intersection between resilience and affordability** when it comes to housing design?
- What lessons have we learned through **raw material selection and architectural design** to improve housing resilience to climate crisis? What is the critical nature-based solutions that can be utilized to strengthen the resilience of the housing and also to build adaptive capacity around the residential areas so the community as a whole can be more resilient to future changes of climate?
- What are the **key policies and regulations** required to build the enabling environment to move climate resilient affordable housing investments from pilot to scaling up stage?
- What are some of **the innovative and successful financing modalities** which have shown positive results to help households, in particular in the informal market to access capital for new housing construction or retrofitting?

The outcome of the webinar will shape the technical activities being implemented in NDC Action project in Asia on housing sector resilience building. It will also be shared with countries beyond the region where common challenges are faced, solutions can be deployed and contributions towards implementing NDCs can be achieved.

Time Slot	Agenda Item	Speaker and role
1500-1510	Introduction and opening remarks	Dr. Sudhir Sharma, NDC Action Regional Coordinator, UNEP Asia and the Pacific Office
1510-1525	Theme setting presentation to provide an overview of the need and importance to focus on climate resilient affordable housing in coastal regions	Ms. Alicia Regodón Puyalto, Sustainable Housing Expert, UN-Habitat
1525-1605	<p>Part A of a moderated session with experts and country representatives to discuss a set of questions on how to make resilient affordable housing a success and at scale.</p> <p>Q1. What does climate-resilience mean in the housing sector? Do we have sufficient knowledge and demonstration on the intersection between resilience and affordability when it comes to housing design?</p> <p>Q2. What lessons have we learned through raw material selection and architectural design to improve housing resilience to climate crisis? What critical nature-based solutions can be utilized to strengthen the resilience of the housing and also to build adaptive capacity around the residential areas so the community as a whole can be more resist to future changes of climate?</p>	<p>Moderator: Mr. Curt Garrigan, Chief, Sustainable Urban Development Section, UNESCAP</p> <p>Country remarks from Mr Anowar Hossain, Superintending Engineer, Local Government Engineering Department, Bangladesh</p> <p>Expert response with a regional view: Prof Rajat Gupta, Director of the Oxford Institute for Sustainable Development, Oxford Brookes University, UK</p> <p>Country remarks from Mr. Paul Chris Hoiyasi, Deputy Director, Ministry of Infrastructure Development, Solomon Islands</p> <p>Expert response with Small Island States and South Asian contexts: Dr. Mittul Vahanvati, Co-Lead, Climate Change Transformations Research Group, Sustainability and Urban Planning, RMIT University, Melbourne</p>

1605-1650	<p>Part B of a moderated session with experts and country representatives</p> <p>Q3. What are the key policies and regulations to build the enabling environment to move climate resilient affordable housing investments from pilot to scaling up stage?</p> <p>Q4. What are some of the innovative and successful financing modalities which have shown positive results to help households, in particular in the informal market to access capital for new housing construction or retrofitting?</p>	<p>Country remarks from Ms. Luu Linh Huong, Senior Expert, Ministry of Construction, Viet Nam</p> <p>Expert response with a regional view: Dr. Donovan Storey, Head of Global Policy and Influence, Reall</p> <p>South Asia country case study: Ms. Sheela Patel, Founder and Director, Society for the Promotion of Area Resource Centres (SPARC) India</p> <p>Southeast Asia country case study: Ms. Girlie Lopez, Housing Finance Manager, Build Change</p>
1650-1700	<p>Closing remarks</p>	<p>Dr. Sudhir Sharma, NDC Action Regional Coordinator, UNEP Asia and the Pacific Office</p>