



Norad



URBAN RESILIENCE

to Climate Extremes (URCE) in Southeast Asia



Urban Resilience to Climate Extremes (URCE) in Southeast Asia is a regional program implemented by Asian Disaster Preparedness Center (ADPC), Thailand with financial assistance from the Norwegian Agency for Development Cooperation (Norad).

The program is implemented in Viet Nam in collaboration with Viet Nam Disaster Management Authority (VNDMA).

Urbanization and Climate Extremes in Viet Nam (The Problem)

Viet Nam is a Southeast Asian country with an extensive coastline that stretches for nearly 3,000 km. Majority of cities and urban centers in Viet Nam are located along the coast or rivers. They are facing many challenges and highly vulnerable, due to climate induced natural hazards (typhoons, storms surge, floods, salinity intrusion and sea level rise) and anthropogenic factors such as rapid unplanned urbanization & aging civic infrastructure. According to the World Bank¹, nearly 36.62% of the population resides in urban areas as of Year 2019. It is expected that urbanization will continue to expand in Viet Nam and is estimated by year 2050, the percentage of urban population will reach 57%².

These challenges (rapid urbanization and high susceptibility to natural hazards) have the potential to bring urban systems to a halt and reverse years of sustainable development gains. The natural disasters often cause a heavy loss of life and damage to infrastructure and economic activity due to the high concentration of people living along the coastline and in low-lying deltas (Mekong and Red rivers). These disasters cause an average of 750 casualties yearly and result in annual economic losses equivalent to 1.5% of gross domestic product (GDP)³.



Nha Trang City after being destroyed by Typhoon Damrey, 2017

If cities/urban centers are not planned well and resilient, these climate induced hazards will bring in sever impacts to urban systems and urban inhabitants making them more vulnerable to climate extreme events. Devastating typhoons and floods that battered many parts of Vietnam are the latest evidence of a worrying trend that natural disaster risks, which have already been substantial, are intensifying due to rapid urbanization, economic development, and climate change.

Hence, building resilience to climate-induced extremes and hazards in urban areas needs to become high priority of city governments. Understanding risks, identifying hot spots, increasing preparedness and response capacities, and strengthening the social, ecological and technological systems will contribute to sustainable risk management for the future.



Flooding in Ho Chi Minh City, 2016.

¹ The World bank; <https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?locations=VN>

² UN; <https://population.un.org/wup/Country-Profiles/>

³ <http://dx.doi.org/10.1016/B978-0-12-802169-9.00009-4>

Urban Resilience to Climate Extremes (The Solution)

Asian Disaster Preparedness Center (ADPC) under the aegis of Norwegian Agency for Development Cooperation (Norad) initiated a 5 year program (2018-2023) titled “Urban Resilience to Climate Extremes (URCE) in Southeast Asia” program with the overall aim to build resilience of the urban systems and urban communities to the current and emerging climate extremes, disasters and emergencies that are anticipated in the deltaic and coastal cities in Viet Nam.

The Ministry of Agriculture and Rural Development (MARD), Government of Viet Nam approved the program and provided necessary approval to implement in Viet Nam over 3-year period (from 2021 to 2023). The Viet Nam National Disaster Management Authority (VNDMA) is nominated as the focal agency to provide necessary guidance during implementation of the URCE program. ADPC is closely working with the VNDMA to implement activities under the five outcomes of the URCE program.

The URCE program aims to build resilience in urban areas to weather and climate extremes through understanding current and future risks, building capacities for preparedness, emergency management, risk reducing sectoral developments as well as bringing risk governance and learning mechanisms for sustainable risk management for the future.



Nam Dinh City (Nam Dinh Province)

Nam Dinh City (Nam Dinh province) and My Tho City (Tien Giang province) have been selected to implement the URCE program in Viet Nam. Nam Dinh city is located in the Red River delta in northern Viet Nam and My Tho city in Mekong River Delta in southern Viet Nam. Both cities are highly prone mainly to floods and typhoons. Flooding in many low-lying areas of Nam Dinh and My Tho cities in Viet Nam is caused by upstream and local heavy precipitation, riverine flood, tide effect, but there are some other most important reasons as given below.

- The natural canals/lakes/wetlands and low-lying areas are converted and filled for urbanization, and has reduced the storm water retention & drainage capacities;
- The soil infiltration and percolation abilities are reduced due to more impervious surfaces;
- Both the cities need locations specific forecasts as Viet Nam is a long country and the typhoon forecast and flood types are quite different. There is also a shortage of local level observation instruments. An observation network needs to be established with relatively high density for making urban forecasts. Local level climate change scenarios are also needed for My Tho and Nam Dinh cities to develop climate informed master plans;
- Urban policies, programs and plans exist particularly in disaster response & management. However, improvements could be introduced to factor in new climate extremes scenarios as per CMIP-6 (Coupled Model Intercomparison Project Phase 6) to increase the effectiveness of the policies, programs and plans in managing disaster risk.



My Tho City (Tien Giang province)

ADPC Approach (The Way Forward)

ADPC identifies that building resilience to urban extremes is a matter of multiple intersections of understanding future and current risks, creating capacities on preparedness, emergency management, sectoral developments as well as bringing risk governance and learning mechanisms for sustainable risk management for a distance future. Therefore, ADPC embarks on a multidisciplinary approach with the involvement of stakeholders from different sectors.

The URCE Program will attempt to build resilience to climate extremes in the two cities by achieving the following Five Outcomes:



Improved Multi-Hazard Early Warning Systems and Risk Knowledge on climate extremes (Typhoons, Floods, Storm surges etc.) to be better informed on the impending disasters,



Strengthened urban community readiness and local preparedness to act efficiently during climate extreme disasters and emergencies;



Improved urban sectoral preparedness and emergency response to have a better capacity in Health, Water, Sanitation and Hygiene (WASH), Nutrition in Emergencies (NiE), Critical Infrastructure and assist vulnerable population with inclusive response;



Strengthened urban risk governance systems for dealing with emerging climate extremes and emergencies;



Improved knowledge and awareness on building urban climate resilience for extremes through Regional and National events/forums

Main Stakeholders: Viet Nam Disaster Management Authority (VNDMA) - Ministry of Agriculture and Rural Development (MARD); Viet Nam Meteorological and Hydrological Administration (VNMHA) - Ministry of Natural Resources and Environment (MONRE); Ministry of Health (MOH); Urban Development Agency (UDA) - Ministry of Construction (MOC); Viet Nam Institute of Urban and Rural Planning (VIUP) – Ministry of Construction; City Partners of Nam Dinh City (Nam Dinh province) and My Tho City (Tien Giang province)

Key Outputs under the Five Outcomes are:



Technical Assistance and Training on 'long-lead' and 'location-specific' urban forecasting



Training of city officials and partners in Community-Based Disaster Risk Management and local action plans



Technical support in the establishment of a functional and effective health risk management framework in the target cities



Development of a guidance manual on sustainable 'Climate-Smart Urban Recovery and Redevelopment' for managing climate extremes and disaster risk



Capacity building of partners in risk-sensitive urban governance tools and mechanisms



Facilitation of 'Forums' on emerging climate extremes and disaster risk affecting cities in the Asia-Pacific region

Findings and knowledge acquired from the URCE program will be upscaled with other cities as well as countries in the Southeast Asia through several national and regional level endeavors under the program.



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