



Urban Resilience to Climate Extremes in Southeast Asia Program (URCE)

Workshop on “Impact-based Forecasting and Warning (IbFW)”

Concept Note

22 March 2023 | Wednesday

09.00 – 05.00 Hrs (GMT +7)

1. Introduction:

Asian countries are experiencing multiple drivers of urban risk which are rapidly accelerating. Risk levels are growing through a complex nexus of climate change, demographic changes, effects of socio-economic development forces, increased environmental degradation, urban poverty/inequality/ marginalization, corruption, conflict and through the interconnectedness with other forces. In the context of deltaic and coastal cities in Asian countries, these drivers and forces of urban risks are manifested through an unprecedented trend of climate extremes, disasters and emergencies. The trends and patterns of natural hazards particularly due to climate change results in more severe, more intense, more frequent and often quite erratic disasters.

[Asian Disaster Preparedness Center \(ADPC\)](#) is aiming to tackle these challenges by demonstrating practically how to build resilience to urban climate risks and extremes in the Southeast Asian countries. To deal with this situation, ADPC with the support from [Norwegian Agency for Development Cooperation \(NORAD\)](#) has formulated the program titled [Urban Resilience to Climate Extremes in Southeast Asia \(URCE\)](#). ADPC identifies that building resilience to urban extremes are 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 longer future.

The program goal is to build ‘resilient communities in deltaic and coastal urban areas’ and strengthening 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 Southeast Asia. The program is being implemented in Viet Nam (particularly targeting Nam Dinh and Mỹ Tho cities in Vietnam) and also actively promote



learning and exchange with other countries in Asia and the Pacific through several regional level endeavors under the program.

2. Impact-based Forecasting and Warning (IbFW) Workshop

Impact-based Forecasting and Warning (IBFW) provides comprehensive information about impacts on lives, livelihoods and infrastructure which enables anticipatory actions. Traditional forecast and warning products describe what the weather will be, but IBFW describes what the weather will do – linking the forecast hazard to potential impacts including vulnerabilities, exposures and risks. In line with the **WMO Guidelines on Multi-hazard Impact-based Forecast and Warning Services-Part – I and Part II (2015, 2021)**, many National Meteorological and Hydrological Services (NMHS) agencies have begun exploring impact-based forecasting and warnings as a means to communicate risks and impacts to the public and sector end-users. Impact-based forecasting is a structured approach for combining hazard, exposure, and vulnerability data to identify risk and support decision-making, with the ultimate objective of encouraging early action that reduces damages and loss of life from natural hazards.

Traditionally, governments have employed hazard-focused warnings to communicate impending extreme weather conditions. However, while providing scientifically accurate information is important, it is critical to communicate what people need to know to effectively respond to hazard risks. This indicates a need to communicate specific and relevant potential consequences with respect to local contexts, not just for public end-users, but as well for different sectors and agencies. The development of this communication entails synthesizing weather information with quasi-static information on exposure and vulnerability profiles to identify the range of risks in an area. The identification of different levels of risks and impacts enables the issuance of different warnings to encourage adequate responses by relevant users to reduce damage and losses.

Impact-based Forecasting and Warning (IbFW) workshop will be organized under the project “Urban Resilience to Climate Extremes in Southeast Asia” (URCE)”, to support the capacities of the Viet Nam Meteorological and Hydrological Administration (VNMHA) and Viet Nam Disaster Management Authority (VNDMA) and to provide impact-based forecasting and early warning services by developing impact matrix for floods and typhoons.



3. Workshop Objectives:

The objective of this workshop is to discuss substantive steps for producing an impact-based forecast matrix, with special emphasis on floods and typhoons in Viet Nam. This will be covered in a day long discussion and exercises with following sub-objectives.

1. To introduce what impact-based forecasting and warning is, why it is used, and provides examples of successful implementation and use of impact-based forecasting by governments across the world.
2. To introduce the steps required for producing an impact-based forecast matrix for floods and typhoon (including hazard, exposure, vulnerability and risk assessment and impact).

4. Target Participants:

- Technical Staff of VNMHA (National Level),
- Technical Staff of VNDMA (National Level),
- Technical Staff of VNMHA (Regional Office HCM City and City Office in My Tho and Nam Dinh City)