



Climate Centre



German Red Cross



Vietnam

Hanoi



Heatwaves

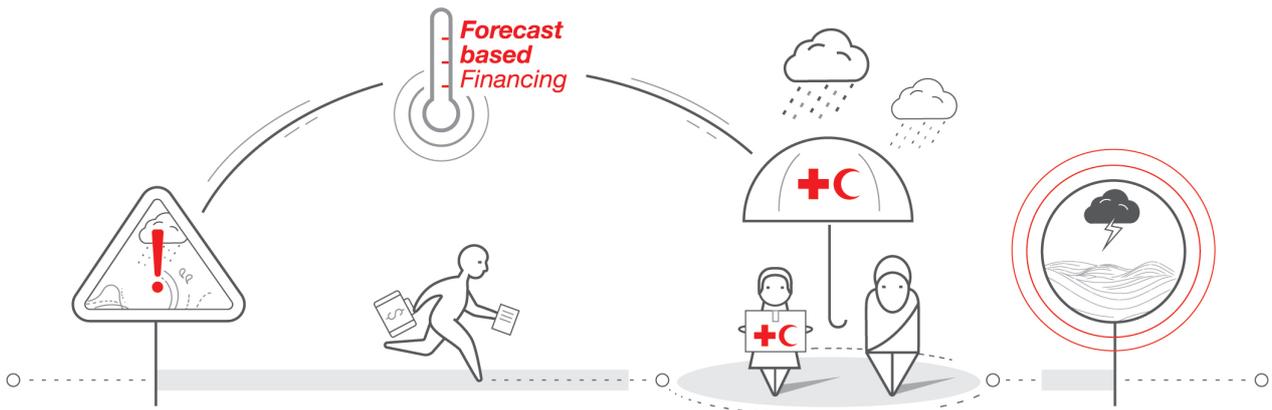
Forecast-based Financing

# Vietnam

Vietnam ranks among the world's top five nations affected by climate-change induced hydro-meteorological disasters. Among these, heatwaves pose a significant public health hazard to vulnerable urban populations such as the elderly, street vendors, young children and people with pre-existing health conditions, often in care centers and hospitals. Heatwaves have increased in both frequency and duration over the past 30 years, and are projected to rise in the future, with pronounced effects in urban areas. Due to global warming and growing urbanization, heatwaves are likely to increasingly affect densely populated cities and to be reinforced by the urban heat island effect, which intensifies heat in cities. The German Red Cross and the Vietnam Red Cross Society implement Forecast-based Financing to minimize heatwave impacts in Hanoi.

## The concept of FbF

Anticipation instead of reaction: with **Forecast-based Financing (FbF)**, the International Red Cross and Red Crescent Movement is reshaping the future of the humanitarian system. Based on forecast information and risk analysis, FbF releases humanitarian funding for pre-agreed activities, referred to as **early actions**. These predefined measures aim to minimise the **impacts of extreme weather events and save human lives**. For early actions to be performed quickly and efficiently before disaster strikes, **funds are allocated automatically** when a **trigger** is reached, based on weather and climate forecasts. This is defined in the **Early Action Protocol (EAP)**. A **dedicated financing mechanism** is key for taking fast and effective action before disaster strikes: **Forecast-based Action by the DREF**.



## The FbF project in Vietnam

The FbF project in Vietnam aims to **reduce the adverse public health effects of heatwaves** on Hanoi's most vulnerable populations. The project's primary goals include the identification of early actions and **capacity building within the Vietnam Red Cross (VNRC)**, with the aim of applying FbF to further hazards and provinces throughout the region. Thus far, 50 VNRC staff members have been briefed on the FbF approach and methodology, 21 of whom have been trained to communicate FbF components and steps. The mapping of high-risk neighbourhoods will support the selection of areas for project implementation and specific targeting of beneficiaries. In addition, valuable **learnings on the application of FbF in an urban context** are being gathered and shared with the wider FbF community.

## Partners and activities

The FbF approach and the EAPs in Vietnam are developed jointly by **VNRC** and **GRC** with support from the **Red Cross Red Crescent Climate Centre**.

- Triggers are developed in close collaboration with the **Vietnam Institute of Meteorology, Hydrology, and Climate Change (IMHEN)**.
- **VNRC** will implement the early action when the EAP is activated and is responsible for the provision of on the ground organisational and staff capacity. This

includes the VNRC HQ and leadership, the Hanoi chapter, and the staff of 8 districts and 15 wards in Hanoi. In addition, the EAP on heatwaves will **be scaled up to include the city of Da Nang**.

- In at least **4 disaster-prone provinces**, the **local Red Cross chapters** will develop maps to forecast the impact for selected hazards.
- At the national level, GRC and VNRC collaborate with **FAO** and **UN Women** to advocate for the replication and scaling up of the FbF approach on behalf of the Vietnamese government (VNDMA, Province authorities).
- Activations of EAPs will be funded through the International Federation of Red Cross and Red Crescent Societies' (IFRC) **FbA by the DREF**. IFRC will further provide guidance and support for procurement, Planning Monitoring Evaluation and Reporting (PMER), and finance.





**45.9 %**

increase in Hanoi's **respiratory** hospitalisation<sup>1</sup>



**>35 %**

loss in **productivity** among outdoor workers (in Da Nang)<sup>2</sup>



**45 d/y**

of extreme heat in **Northern Vietnam** by 2050<sup>3</sup>

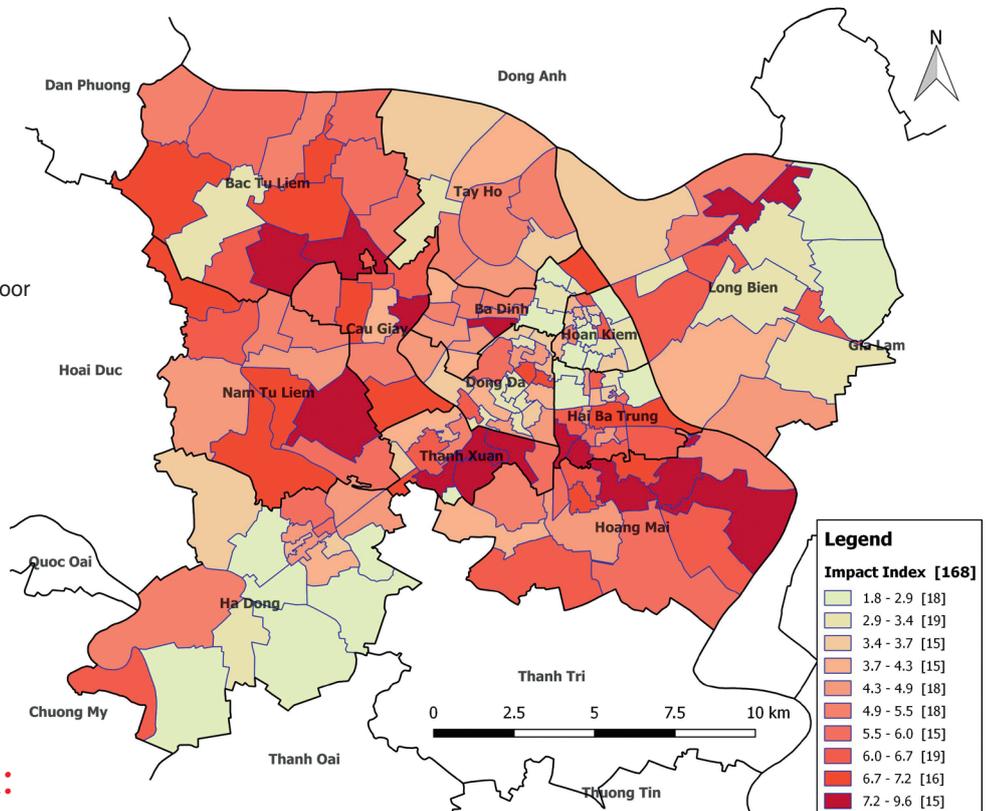


Heatwaves

## Early Action Protocol: Heatwaves in an urban context

Urban settings are characterised by high population densities compared to their rural surroundings. This implies that households with a wide range of vulnerability, exposure, and risk profiles live within close proximity to one another. Densely populated urban areas thus require **high-resolution local forecasts** to predict the occurrence of heatwaves with sufficient lead time, and a high degree of confidence regarding the area affected. IMHEN has assessed the capacities of – and gaps in – local forecasts and decided that the 3- and 7-day forecasts will be used to trigger the actions of the heatwave EAP. Given heatwaves' vast and sudden impact, forecasts are supplemented by other data to identify **urban heat island** “hot spots”, which may also host the highest number of people most vulnerable to an extreme heat event. Additionally, the project conducted an extensive **Knowledge, Attitudes, and Practices (KAP)** survey throughout Hanoi to collect quantitative and qualitative data regarding current coping capacities of vulnerable groups, and their level of awareness on heatwave occurrence and impact.

Using the findings from these two exercises, the project determined the appropriate early actions to take in the event of a heatwave and their location: **15 wards have been selected** (from 8 urban districts), which are at high risk of negative heat-related public health outcomes, along with pre-identified early actions (see below) to reach **up to 57,000 people** in the affected areas.



Map showing wards with different shades of color according to expected impact.



A local motorbike taxi driver finds refreshment from extreme heat at a Red Cross cooling centre in Hanoi, July 2019.

<sup>1</sup> D.Phung et al. 2016, p.7

<sup>2</sup> Dao Thi Mai Hoa et al. 2013, p. 23–36

<sup>3</sup> Pham Quang Nam et al. 2015, p. 29–30

## How do heatwaves affect the population?

Heatwaves pose a significant public health hazard in Vietnam, particularly for vulnerable populations such as the elderly. Heatwave events are associated with a 20 percent increase in general hospital admissions, 46 percent for respiratory diseases. The results of the KAP survey revealed that 66 percent of persons interviewed that belong to vulnerable groups (elderly, slum dwellers, builders, shippers, street vendors) have experienced four to six symptoms of heat exhaustion during heatwaves.

Extreme heat also impacts livelihoods. Roughly one third of KAP respondents reported that their income was reduced by 25 to 50 percent, meanwhile the healthcare costs associated with heat-related symptoms amounted to 1.5 to 2.5 times their daily income. Although the majority of vulnerable groups have developed adaptation measures, only 24 percent could recognize the signs of heat-related illness, and 7 percent had access to cool environments for prolonged periods of time.



Survey of Hanoi's street vendors' extreme heat coping capacities. These KAP-surveys are used to determine those population groups most in need of assistance.



## Heatwave Early Actions

Based on the KAP survey results, GRC/VNRC pre-identified early actions to be implemented in underserved target areas – such as informal settlements – once an extreme heat event is forecast:

- **Opening community cooling centres** (for example in local healthcare centres, cultural centres, Red Cross offices in selected wards, etc.) and **setting up mobile facilities** (tents equipped with cooling systems) to offer air-conditioned space for rest and recovery, first aid services, heat-related health guidance and water (or other fluids). The centres will be managed by VNRC volunteers
- The community cooling centres will be complemented by **Red Cross cooling buses** which will travel the main streets of Hanoi and direct the vulnerable population to the pre-identified cooling centres
- **Retrofitting of houses in informal settlements (e.g. shading roof installations)** and the **procurement of climate-friendly cooling systems** will also be tested
- In addition, as income was identified as a key barrier to owning, accessing, and using cooling devices, **cash distribution to subsidize utility bills** will also be piloted for the poorest households

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