

Viet Nam: Heatwave Early Action Protocol Summary

EAP approved: **March 2021**

Target: **25.525 people**

EAP timeframe: **5 years**

EAP #: **EAP2021VN01**

Budget: **225,286 CHF**

Lead time: **6 days**

The IFRC Disaster Relief Emergency Fund (DREF) has approved a total allocation of **CHF 225,286** from its Forecast based Action (FbA) mechanism for the Viet Nam Red Cross (VNRC). The approved amount consists of an immediate allocation of CHF 111,390 for readiness and pre-positioning and CHF 113,895 automatically allocated to implement early actions once the defined triggers are met.

The FbA by the DREF is a Forecast-based Financing funding mechanism managed by the DREF. Allocations for the FbA by the DREF are made from a separate financial component of the DREF (MDR00004) and do not affect the reserves of the DREF appeal code MDR00001. Unearmarked contributions to the FbA by the DREF are encouraged to guarantee enough funding is available for the Early Action Protocols being developed.

SUMMARY OF THE EARLY ACTION PROTOCOL

Vietnam is considered as one of the most hazard-prone countries in the Asia Pacific Region, susceptible to typhoons, floods, droughts, heat waves, landslides, forest fires¹, and is one of the five countries in the world potentially most impacted by climate change². The Vietnam Disaster Management Agency -VNDMA and VNRC list heatwave as one of the most underestimated extreme weather events. Extreme heat can cause major loss of life, negatively affect health and wellbeing³, as there is a physiological limit to the external heat exposure a person can survive⁴. Yet unlike other natural hazards, 'heat' is particularly difficult to identify, earning it the moniker "the silent killer". In Vietnam, according to the National Centre for Hydro-Meteorological Forecasting (NCHMF) a heatwave event occurs over a certain area if the observed daily maximum temperature is above 35 degrees Celsius.

¹ Vietnam Country profile. In Disaster Risk Management Programs for Priority Countries–p198- Global Facility for Disaster Reduction and Recovery (GFDRR)- UNISDR, World Bank, http://www.gfdrr.org/sites/gfdrr/files/publication/DRM_CountryPrograms_2011.pdf, 2011

² Dasgupta et al. 2007. The impact of sea level rise on developing countries: a comparative analysis. Policy, Research working paper; no. WPS 4136. Washington, 2007. <http://documents.worldbank.org/curated/en/156401468136816684/pdf/wps4136.pdf>

³ McMichael et al. 2006. Climate change and human health: present and future risks. [https://linkinghub.elsevier.com/retrieve/pii/S0140-6736\(06\)68079-3](https://linkinghub.elsevier.com/retrieve/pii/S0140-6736(06)68079-3)

Kovats and Ebi. 2006. Heatwaves and public health in Europe. <https://www.ncbi.nlm.nih.gov/pubmed/16644927>

Kjellstrom et al. 2009. The Direct Impact of Climate Change on Regional Labor Productivity. <https://www.ncbi.nlm.nih.gov/pubmed/20007118>

Kjellstrom et al. 2016. Heat, Human Performance, and Occupational Health: A Key Issue for the Assessment of Global Climate Change Impacts <https://www.annualreviews.org/doi/pdf/10.1146/annurev-publhealth-032315-021740>

Watts et al. 2018. The Lancet Countdown on health and climate change: from 25 years of inaction to a global transformation for public health. https://www.researchgate.net/publication/324909272_The_Lancet_Countdown_on_health_and_climate_change_from_25_years_of_inaction_to_a_global_transformation_for_public_health

⁴ Parsons. 1993. Human Thermal Environments: The effects of hot, moderate, and cold environments on human health, comfort and performance. https://soh.iuims.ac.ir/uploads/0415237920_95689.pdf

This Early Action Protocol (EAP) for the Vietnam Red Cross-National Society targets heatwaves **in an urban context** and is triggered by a forecast provided by *Vietnam Institute of Meteorology, Hydrology and Climate change – IMHEN*, with a lead time of 06 days. *IMHEN* has conducted a risk analysis (Annex I) which shows a trend where in the number of heat waves (events with at least two consecutive days above 35°C) between the decade 1975 -1984 and 2005-2014 has increased by 107%, from 45 events to 93 events. The *IMHEN* study confirms shows that for Hanoi, the number of hot days (>35°C) is expected to further increase in the future according to the different climate change scenario (Fig. 1).

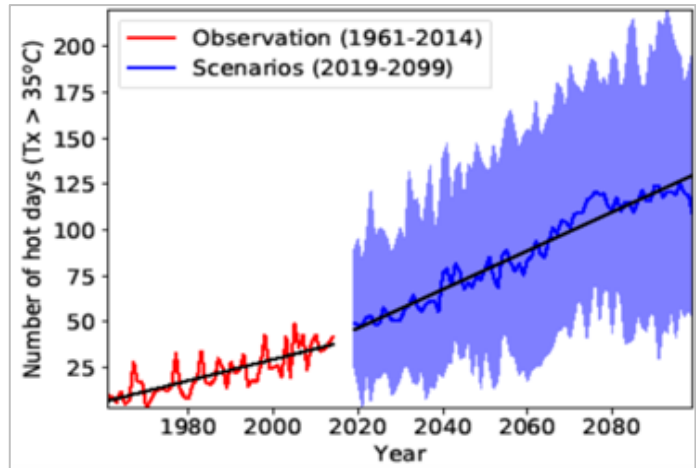


Figure 1: The future trend of number of hot days in Hanoi according to the climate change scenarios for Vietnam (IMHEN 2019)

The EAP will be implemented by VNRC with the support of IMHEN in the development of triggers and the cooperation of Hanoi, Danang and Hai Phong ward authorities. When triggers are reached, VNRC will share forecast information and its plan for activation of EA with VNDMA and the Disaster Management Working Group (DMWG). This EAP is an integral part of the VNRC five-year Forecast based Financing (FbF) strategy and it is connected to the VNRC Disaster Response Plans of the VNRC, starting from 2021.

From the 15 of April until the 15th of September, when IMHEN forecasts a Heat Index exceeding the 99th percentile-based threshold for at least 2 consecutive days in Danang, or a Heat Index exceeding the 97th percentile-based threshold for at least 2 consecutive days in Hanoi and Hai Phong, then VNRC will act in the respective city(ies). The lead-time for this first trigger at DAY 1 is 6 days. Each time a city will reach the impact level (97th in Hanoi and Hai Phong and 99th in Danang), the city chapter will prepare for activation while the other(s) city(ies) will continue monitoring the forecast.

A stop mechanism for each city is set up at DAY 4 which is 3 days before the potential occurrence of the heatwave. VNRC leadership will give the signal to stop the implementation of the Early Actions if the trigger does not reach anymore the impact level (97th in Hanoi and Hai Phong and 99th in Danang). The stop signal will be transferred from VNRC leadership to city chapters and down to district and ward levels

The Early Actions target specific groups of outdoor workers (street vendors, shippers, motorbike taxis, builders) and slum dwellers, and within this group the elderly persons or those with physical and mental vulnerabilities will be prioritized. The 29 wards targeted in Hanoi, Hai Phong and Danang have been selected through impact mapping looking at vulnerability, exposure and hazard data. Those wards are the 10% most at-risk wards of each city.

Within those wards the cooling centers will be set up nearby informal settlements, markets, building sites where the targeted population is working. The buses will circulate in the main streets of the wards and around the cooling centres and will direct the beneficiaries to the cooling centres. Loud-speakers in the centres and on the buses will be used to attract the target populations while the slum visits will complete the intervention.

The cooling centres and buses will be open to all passers-by, however VNRC volunteers will invite mainly the outdoor workers to come in. The outdoor workers will receive a 700ml water container with priority for the elderly, PWD and persons with children under five. Slum visits will be conducted on a door to door basis guided by the VNRC ward staff. Households with elderly persons, persons with disability or with young children will be prioritized. This early action aims to reach 25,525 persons directly, or about 900 persons per target ward. This represents 18% of the persons living in informal settlements. In addition, about 200,000 persons will be reached indirectly through two Facebook campaigns.

The operational strategy – How the EAP will be implemented

1) Who will implement the EAP – The National Society

The **Viet Nam Red Cross Society (VNRC)** founded on 23 November 1946, is the leading humanitarian agency in Viet Nam delivering emergency assistance and humanitarian relief; healthcare; first aid; blood, tissue and organ donations; reuniting families separated by war and disasters; disseminating humanitarian values; and supporting disaster preparedness and response. With more than 350,000 volunteers and 14,532 staff members, VNRC chapters are present in all 63 provinces of the country. VNRC is also a member of the National Steering Committee on Natural Disaster Prevention and Control. Thus, VNRC is well rooted locally: through its vicinity to local communities as well as to governmental institutions, and through its experience in community based DRR, VNRC is well situated to promote the implementation of DRR measures and their integration in local development plans. VNRC has been also successfully implementing average one to two major disaster operations annually, mostly for tropical typhoons, floods and droughts. VNRC is the lead for the implementation of this Flood EAP.

The **Vietnam Institute of Meteorology, Hydrology and Climate change (IMHEN)** has been involved in a large number of studies covering both basic and theoretical research on climate change, as well as scientific and technological applications. IMHEN's climate related studies include climate change processes and modelling, Southeast Asian Monsoon, climate change and sea level rise scenarios, climate change impact assessments, climate risk reduction studies, mainstreaming climate change into policies and development.

VNRC (HQ, city, district and ward levels) and IMHEN will be the key actors of the implementation. A MoU between the 2 agencies has been signed for the duration of the EAP (5 years). Other key actors are **the wards authorities** of Hanoi, Danang and Hai Phong. A 5-year cooperation agreement with the Ward People's Committees of those cities will be signed after the EAP validation by IFRC.

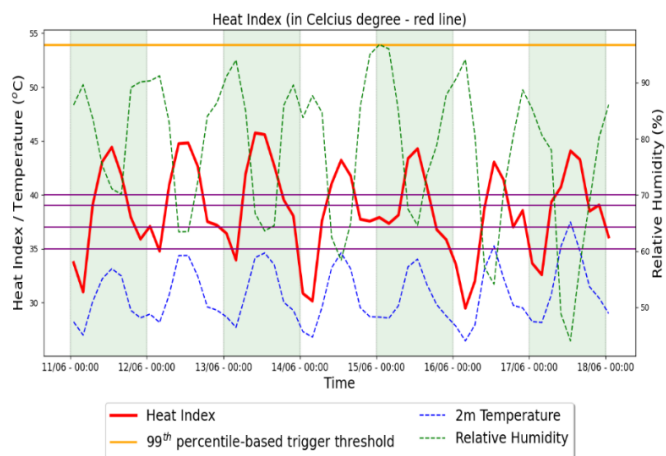
The **emergency ambulance service** in the three cities (115) is also a key actor who will intervene in case of emergency: if a beneficiary of the Early Action has symptoms of heatstroke, an ambulance will bring him/her to the nearest pre-identified hospital.

The IFRC Country Cluster Delegation Office in Bangkok, Thailand is supervising the overall process of the EAP implementation in-country in coordination with the VNRC and IMHEN, from the readiness stage, then the activation up to the monitoring and evaluation of the intervention.

2)

How will the EAP be activated - The Trigger

ANNUALLY FROM 15 APRIL to 15 SEPTEMBER, IMHEN runs the Heat Index forecast for the 3 cities: Output accessible to VNRC HQ focal person 7/7days, 24/24hours on a dedicated website: <http://222.254.32.12/~rcm/FbF/HeatIndex.html>.



The above graph presents the output of the 3-hourly time-series of the forecasted Heat Index (i.e. red line) for the next 7 days. The horizontal orange line shows the threshold of Heat Index based on the 99th percentile for Danang. It is based on the 97th percentile for Hanoi and Hai Phong.

FORECAST MODEL OUTPUT

DAY 1

TRIGGER 1 is reached in at least 1 city
= the red line reaches the orange line for at least 2 consecutive days

EARLY WARNING:

- 1 warning email automatically sent to VNRC HQ Focal person from the webpage
- IMHEN focal person also send 1 confirmation email and call VNRC HQ focal person

DAY 3

TRIGGER 2 is reached = the red line still reaches the orange line for at least 2 consecutive days in the same city(ies)

TRIGGER TO ACT:

- 1 email automatically sent to VNRC HQ Focal person
- IMHEN focal person also send 1 confirmation email and call VNRC

In the remaining city(ies), the monitoring of the Heat index continues until 15th September till triggers are reached

STOP MECHANISM: EARLY ACTION CANCELLATION by VNRC leadership

VNRC leadership gives signal to start the action in the city(ies)

3) How will the EAP reduce the impact on the population – The early actions

The proposed Early Actions were defined through consultations with all implementing partners. More specifically:

1. **Operating community cooling centres for outdoor workers and people living in informal settlements (Tents and Buses):** The cooling centres offer an air-conditioned place to vulnerable outside worker groups. These facilities consist in fully equipped tents with cooling fans, wall fans, sprinklers and isolating roof. They are managed by VNRC volunteers who provide water, cold tea and fresh towels to visitors as well as adapted care according to their health status. The cooling centres allowed street vendors and other vulnerable persons working in the streets (builders, shippers) to have much-needed rest to recover from long exposure to high temperatures. The community cooling centres are complemented by **cooling buses** which travel the main streets and direct the vulnerable population to the pre-identified centres. In addition, the **visit of slums** to attract the target population to nearby cooling centres ensures a greater outreach of the action.
2. **Awareness messages (megaphone, slums visits, face to face information sharing in community centres, Facebook campaign) for preventing and dealing with heat related health impacts** is also provided in addition to the cooling centres, buses and slum visits. This includes IEC materials design and distribution, and the setting up of a [Facebook page](#) to share information about the forecast and the location of the cooling centres. This Action aims to encourage the adoption of appropriate behavior: visitors experiencing an improvement in their condition after using the cooling centres and receiving awareness on heat stress would tend to have a more positive behavior, by making breaks in their jobs, coming back to the centres and staying longer in case of a heatwave. Two Facebook communication campaigns per city will complete the awareness activity.

Intervention Sectors

Overall objective:

Priority Sectors



Health

People targeted: 25,525 outdoor workers and people living in informal settlements in 29 at risk wards of Hanoi, Hai Phong and Danang (15 wards in Hanoi, 7 in Hai Phong, 7 in Danang)

Male: 12,762

Female: 12,763

Requirements (CHF): 178,021

Population to be assisted: older adults, very young children, pregnant and lactating women, and those with pre-existing medical conditions (i.e. cardiovascular and respiratory conditions, obesity, mental illness), and those working outdoor or living in informal settlements.

P&B Output Code	Health Outcome 1:	Communities are provided by NS with services to identify and reduce health risks																			
	Health Output 1.1:	28,000 people reached through VNRC emergency health management programmes																			
	Activities planned	Timeframe (semester) Starting April 2021																			
	Readiness activities	1	2	3	4	5	6	7	8	9	10										
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

AP022	Sign 5-year cooperation agreement with Ward People’s Committees																					
AP022	Annual stakeholder meeting (HQ, chapter, district and ward, and other partners i.e: IMHEN) to plan for implementation and VNRC district and ward training in SOP																					
AP022	Annual training of VNRC chapter staff in monitoring																					
AP022	Annual sites and routes assessment (for cooling centres, buses and slum visits)																					
AP022	Annual volunteers’ mobilization and on-line training																					
AP022	Warehousing in city/District level warehouse																					
AP022	Annual inventory and materials maintenance																					
AP022	Annual market assessment (for consumables and buses rental)																					
	Pre-positioning activities	1		2		3		4		5		6		7			8		9		10	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
AP022	Procurement of small materials for cooling centres,																					

	buses and slum visits (ice containers, plastic bottles, portable speakers...)																				
AP022	Printing of IEC materials (banners, posters, hand fans)																				
	Early action activities	1		2		3		4		5		6		7		8		9		10	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
AP022	Refresher training and volunteers' deployment																				
AP022	Purchase of consumable materials and bus rental																				
AP022	Transport equipment to the sites																				
AP022	Set up cooling centres																				
AP022	Welcome visitors in centres and buses																				
AP022	Slum visits																				
AP022	Facebook Communication Campaign and Media coverage																				
AP022	Monitoring																				
AP022	Lessons Learned Workshop																				

Strategies for Implementation

Requirements (CHF): 47,264

P&B Output Code	S1 Outcome 1:	VNRC is capacitated and able to implement and keep the EAP updated																			
	S1 Output 1.1:	VNRC chapters are capable of implementing the EAP once a trigger is confirmed																			
	Activities planned	Timeframe (semester) Starting April 2021																			
	Readiness activities	1		2		3		4		5		6		7		8		9		10	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
AP022	Refresher training and volunteers' deployment																				
AP022	Facebook Communication Campaign and Media coverage																				
AP022	Monitoring																				
AP022	Lessons Learned Workshop																				

Budget

To implement the Early Action Protocol (EAP) 225,285.50 CHF have been allocated split between readiness*, pre-positioning of stock and early action costs as per below summary by area of intervention.

Budget by Area of Intervention

Area of Intervention		READINESS	PRE- POSITION STOCK	EARLY ACTION	EAP Budget CHF
AOF1	Disaster Risk Reduction				0
AOF2	Shelter				0
AOF3	Livelihoods and Basic Needs				0
AOF4	Health	23,424	53,175	101,423	178,021
AOF5	Water, Sanitation and Hygiene				0
AOF6	Inclusion, Gender and Protection				0
AOF7	Migration				0
SFI1	Strengthen NS Capacities	31,226		9,648	40,874
SFI2	Ensure effective int'l disaster mgmt				0
SFI3	Influence others as leading strategic partners	3,566		2,825	6,390
SFI4	Ensure a strong IFRC				0
TOTAL		58,215	53,175	113,895	225,285.50

**The activities for readiness and pre-positioning of stock will be captured in the IFRC Country Operational Plan (COP), reporting on annual basis. In case of an Early Action trigger, the annual readiness funding allocation is terminated with a 12-month notice, allowing the National Society to conclude its 3rd party financial and legal commitments and liabilities under the Early Action Protocol.*

Contact information

For further information, specifically related to this operation please contact:

Viet Nam Red Cross Society

- **Nguyen Hai Anh**, vice president, secretary general; email: haianhcami@gmail.com
- **Tran Sy Pha**, director of disaster management department; email: tranphavnrc@gmail.com

IFRC Country Cluster Delegation (CCD) Bangkok

- **Kathryn Clarkson**, Head of the Country Cluster Delegation, Bangkok; email: kathryn.clarkson@ifrc.org
- **Hung Ha Nguyen**, Programme Coordinator of Country Cluster Delegation, Bangkok; email: hungha.nguyen@ifrc.org

IFRC Asia Pacific Regional Delegation (APRD)

- **Alexander Matheou**, Regional Director, email: alexander.matheou@ifrc.org
- **Gwendolyn Pang**, Deputy Regional Director a.i.; email: gwendolyn.pang@ifrc.org
- **Andreas Weissenberg**, Head of Disaster and Crisis Prevention; email: andreas.weissenberg@ifrc.org
- **Vinod Muniandy**, Operations Coordinator; email: opscoord.southeastasia@ifrc.org
- **Raymond Zingg**, Regional FbF Coordinator; email: raymond.zingg@ifrc.org
- **Antony Balmain**, Regional Communications Manager; email: antony.balmain@ifrc.org
- **Audrey See Tho**, acting PMER Manager; email: audrey.seetho@ifrc.org

IFRC Geneva

- **Nazira Lacayo**, Senior Officer, DREF Forecast-based Action (FbA); email: nazira.lacayo@ifrc.org

Reference documents

Click [here](#) for EAP main document

How we work

All IFRC assistance seeks to adhere to the **Code of Conduct** for the International Red Cross and Red Crescent Movement and Non-Governmental Organizations (NGO's) in Disaster Relief and the **Humanitarian Charter and Minimum Standards in Humanitarian Response (Sphere)** in delivering assistance to the most vulnerable. The IFRC's vision is to inspire, encourage, facilitate and promote at all times all forms of humanitarian activities by National Societies, with a view to preventing and alleviating human suffering, and thereby contributing to the maintenance and promotion of human dignity and peace in the world.