Supported by:

REGIONAL WORKSHOP ON IMPACT-BASED FORECASTING:

Training-of-Trainers and National Demonstration Planning for Temperature-Related Hazards

SAHF IBF Working Group Implementation Plan Project

09-13 February 2026

Kathmandu, Nepal

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Temperature Extremes and Community Vulnerability in Central Myanmar/ NMHS

TIN MAR HTAY

PYAE PHYO AUNG

SU MYAT NAING

Myanmar

1. National Demonstration Plan Overview

A1. Proponent Information	• NMHS (Lead) Department of Meteorology and Hydrology, Myanmar • Sector Co-Lead (e.g., Health / Livestock / Agriculture / Energy etc.) , MOH, MOALI, MOE, MOTC, DDM, NDMC, etc, • Other implementing partners (local government / CSO / academia / community level orgs), MRCS Local Government Authorities, CSOs, Academia, and School.
A2. Focal Contacts	• NMHS Lead Focal (overall): Dr. Kyaw Moe Oo, Director General, kyawmoeoo39@gmail.com, +95 9 250954636 • Sector Co-Lead: Director, Met Division
A3. Demonstration Project Title	*Temperature Extremes and Community Vulnerability in Mandalay, Dry zone. Hilly area*
A4. Geographic Scope	The Central Myanmar region, often referred to as the Dry Zone, extends across the middle part of the country between the Rakhine Yoma and the Shan Plateau. It is characterized by semi-arid climatic conditions, high temperature variability, and low annual rainfall.)
A5. Seasonal Focus	o Heat o Cold o Both
A6. Duration of Demonstration	Start Date: January 2026 - TBD End Date: June 2027 Note: please consider tentative dates for launch and test per season: Heat-focused demos: Mar-May 2026 (implementation); Sep-Nov 2026 (review) Cold-focused demos: Nov-Feb2027 (implementation); Feb 2027 (review)

2. Temperature Risk Context and Intended Outcomes

Objectives and Intended Outcomes

The main objective of this project is to develop and demonstrate an Impact-Based Forecasting (IBF) framework for temperature extremes in Mandalay, dry zone, Myanmar to enhance community preparedness and reduce adverse impacts. Specifically, the project aims to:

- *Temperature-related risks and community vulnerability in selected areas of Mandalay, Central Myanmar using historical climate data, socio-economic indicators.*
- *Develop and pilot an IBF risk matrix that links forecasted temperature thresholds with community vulnerability levels to support early warning and response planning.*
- *Strengthen decision-making and preparedness actions among local authorities, health sectors, and communities through targeted awareness programs and forecast-based advisories.*

- A temperature risk and vulnerability map identifying high-risk zones and priority communities for heat action.
- An IBF prototype system that translates meteorological forecasts into clear, actionable advisories for community response.
- Improved early warning communication and preparedness, demonstrated through community and sectoral response exercises that reduce health risks and economic losses during extreme heat events.

3. Stakeholders, Roles, and Coordination Approach

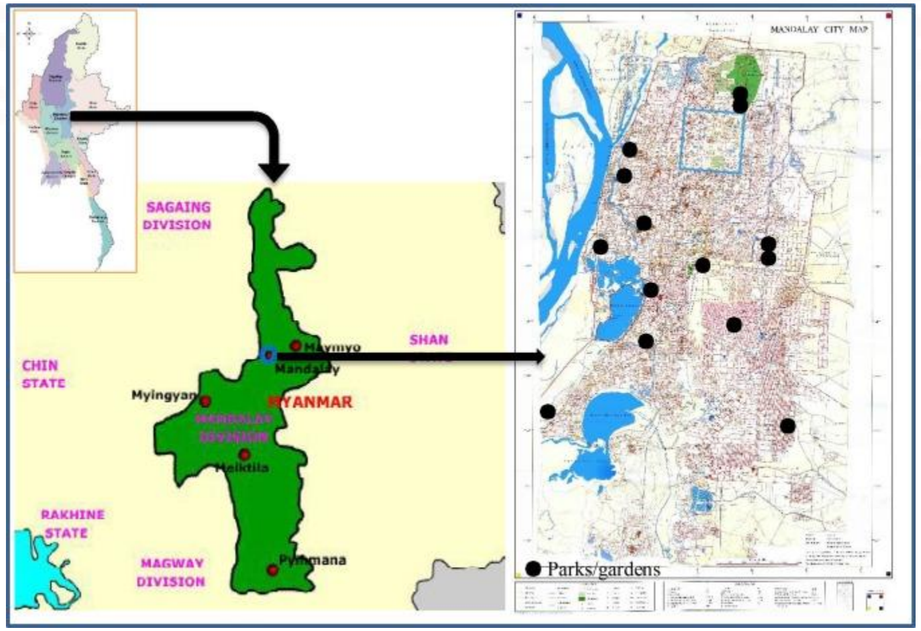
- Core team members involved (NMHS, DOPH, DDM, DOA, MRCS, etc.)
- Before the Target Season (Preparedness Phase)Joint planning meetings between NMHS and sector agencies to define hazards, impacts, thresholds, and user needs
- NMHS forecasting and warning SOPs have plan to update to include impact-based forecast
- Current status of coordination, or how engagement will be initiated following this workshop (e.g., planned meetings or consultations, at what level whether subnational, local gov't. or community, etc.)
  - At present, formal coordination mechanisms specifically for Impact-Based Forecasting (IBF) are not yet established.
  - The National Monsoon Forum, organized by DMH twice a year, is currently the main platform for:

    -Sharing seasonal climate outlooks

    -Exchanging general information with sector agencies and stakeholders

4. Pilot Area/s and Target Groups

- Pilot locations : Mandalay
- Priority sectors and target groups: Our core target group remains Elderly individuals, low-income households, non-engineered housing within informal settlements. Secondary vulnerable groups include women, outdoor workers and Persons with Disabilities, students and farmers
- Key temperature-related impacts: Extreme Heat, Drought, Water Scarcity, agricultural impacts and Health risks.
- High-level considerations of exposure, vulnerability, and impact of temperature hazards that are informing the demonstration focus:
  - Exposure — Population/ Sectoral data (Health, agriculture, water, and energy systems) Housing information etc.
  - Vulnerability — elderly, outdoor workers, low-income households
  - Impact — Health, agriculture, water, and energy systems
  - Planning Need — Early warning, sector coordination, community outreach
  - Demonstration Value — High relevance for testing heat wave protocols and anticipatory action



5. Data, Indices, Triggers and Thresholds

- Key data inputs currently available:
  - Meteorological and Climate Data (surface observations, gridded datasets, NWP outputs) – DMH but need to High Res:
  - Exposure and Population Data (Population distribution and density, infrastructure exposure, land use/ land cover) - 2014 census /MIMU/One Map Myanmar
  - Vulnerability and Impact Data (health and demographic indicators, socio-economic data, historical impact data) - MOH/ DDM/DOA/One Map Myanmar

- Indices or indicators currently used or being considered: P-90. P-95 and P-99
- Describe the resources and support that the NMHS can provide, such as staff time, infrastructure, communication platforms, and institutional permissions. Indicate any in-kind contributions (e.g., meeting venues, dissemination channels, data access) and note additional support needed from RIMES/PMU/UKMO (technical assistance, integration support, or specialized training)
- Additional Support Needed (from RIMES,UKMO. Etc.)

6. From Forecast to Action: Products, Communication & SOPs

- At present, temperature warnings in Myanmar are issued by the Department of Meteorology and Hydrology (DMH) when maximum temperatures increasing +1.5 ℃ above normal temperature.
- All these warning are shared to Higher authorities, related Ministries and sectors (e.g DOPH, DOA, DDM, etc.) and local authorities and local DMH offices.
- However, these responses are largely reactive and based on informal coordination, without standardized Early Action Protocols (EAPs) or SOPs specific to heat-related hazards
- Needs to implement the clear outlined through joint SOPs between DMH, DDM, DoPH, and local administrations

7. Assistance, Guidance, and Support Required

- Advance technique for heatwave indices calculation (e.g P-90. P-95 and P-99 and Heatwave frequency and number of Heatwave days)
- The Department of Meteorology and Hydrology (DMH) best coordinate with the Ministry of Health, but we need the technical knowledge ; “How to integrate the data and generate the warning and alerts when HWE thresholds are breached?”
- Support from RIMES and UK Met Office:

  - Capacity Building for Impact-Based Forecasting (IBF)
  - Evidence-Based Thresholds for IBF
  - Development of a Customized "Heatwave Impact Dashboard or Portal“
  - Need Finical support (Workshop; Meeting ; TOT;)
  - Limited HR, Advance Technique, Data

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THANK YOU!