CONCEPT NOTE

2-Hours Virtual Training Programme

on

Extreme Cold Wave: Preparedness and Risk Reduction

Date: 11th December, 2026

Timings: 14:30 hrs – 16:30 hrs

1. BACKGROUND

Cold waves are a significant weather-related hazard that can adversely affect human health, livelihoods, agriculture, livestock and essential services. Periods of unusually low temperatures, particularly when accompanied by cold winds, can increase exposure-related risks and place additional stress on communities and public service systems.

Prolonged exposure to extreme cold may lead to serious health consequences, including hypothermia and frostbite, and can aggravate existing respiratory and cardiovascular conditions. The impacts are often more severe for older persons, infants and children, people experiencing homelessness, outdoor workers, persons with disabilities and individuals with pre-existing health conditions. Cold conditions can also affect crop growth, horticulture, animal health, transport and day-to-day economic activities.

Effective cold-wave risk management requires timely weather monitoring and early warning dissemination, public awareness, health-system preparedness, protection of vulnerable groups and coordinated action by relevant departments and local institutions. Preparedness measures such as access to warm shelter, appropriate clothing, community outreach and timely medical assistance can help reduce exposure and prevent avoidable illness and loss of life.

1.1 Cold-Wave Risk and Vulnerability

Cold-wave impacts vary according to local climate, duration and intensity of low temperatures, population exposure, housing conditions and access to essential services. Urban homeless populations, people living in poorly insulated or temporary shelters, agricultural and construction workers, and communities with limited access to healthcare may face heightened risks. Preparedness planning therefore needs to consider local vulnerability, livelihood patterns and the capacities of institutions responsible for public health, social protection and emergency response.

2. OBJECTIVES

- To develop an understanding of cold waves, their characteristics and the meteorological conditions associated with their occurrence.
- To familiarise participants with cold-wave forecasting, monitoring and early warning systems.
- To identify the health, livelihood, agricultural and socio-economic impacts of extreme cold, with particular attention to vulnerable populations.
- To promote awareness of preventive healthcare measures, personal protection and first response to cold exposure.
- To strengthen understanding of institutional roles, interdepartmental coordination and community-level preparedness for cold-wave events.

3. NEED FOR THE TRAINING PROGRAMME

Cold-wave events can create significant public health and socio-economic challenges, particularly when low temperatures persist and affect people who have limited access to adequate shelter, warm clothing, healthcare and other essential services. Health complications associated with cold exposure may become severe if warning signs are not recognised and timely assistance is not available. At the same time, extreme cold can disrupt agricultural activities, affect livestock and place additional demands on local administration and service providers.

Reducing the impacts of cold waves requires more than weather information alone. It calls for clear communication of warnings, practical public advisories, preparedness of health facilities, identification and outreach to at-risk groups, and arrangements for temporary shelters and warming facilities wherever required. Coordination among disaster management authorities, meteorological agencies, health departments, local bodies, agriculture and animal husbandry departments, and community organisations is essential for effective preparedness and response.

In this context, the two-hour virtual training programme on "Extreme Cold Wave: Preparedness, Response and Risk Reduction" is proposed to enhance the knowledge and capacities of government officials, frontline functionaries and other stakeholders. The programme will cover the meteorological aspects and impacts of cold waves, health risks and protection of vulnerable populations, as well as early warning, preparedness and response measures. It will support participants in promoting awareness and strengthening coordinated action at institutional and community levels.

4. PROGRAMME STRUCTURE

The programme will comprise two technical sessions:

- **Session 01: Understanding Extreme Cold Waves** – Meteorological Risks, Impacts and Vulnerabilities. The session will cover the characteristics and meteorological conditions of cold waves, monitoring and early warning, and impacts on health, agriculture, livestock, livelihoods and essential infrastructure.
- **Session 02: Cold Wave Preparedness, Health Protection and Response Strategies** – The session will focus on cold-related health risks, preventive measures, protection of vulnerable populations, community preparedness, shelter and support mechanisms, and institutional coordination for response.

5. TARGET PARTICIPANTS

Departments / Organisations	Level of Participants
• Agriculture and Co-operation Department • Directorate of Animal Husbandry • Health and Family Welfare Department • Revenue Department / Commissioner of Relief • Urban Development and Urban Housing Department / Urban Local Bodies • Panchayat, Rural Housing and Rural Development Department • Labour, Employment and Skill Development Department • Women and Child Development Department • Education Department • District Disaster Management Authorities and other relevant agencies	**L1, L2**

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