Heat and Cold Early Warning and Early Action

Opportunities and Lessons learned from Nepal

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Resilience, Adaptation and Inclusion in Nepal

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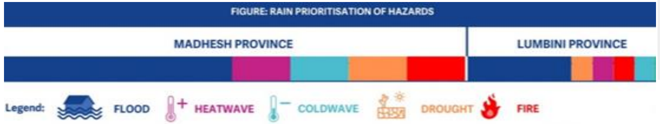
People in Need (PIN): (Lead),

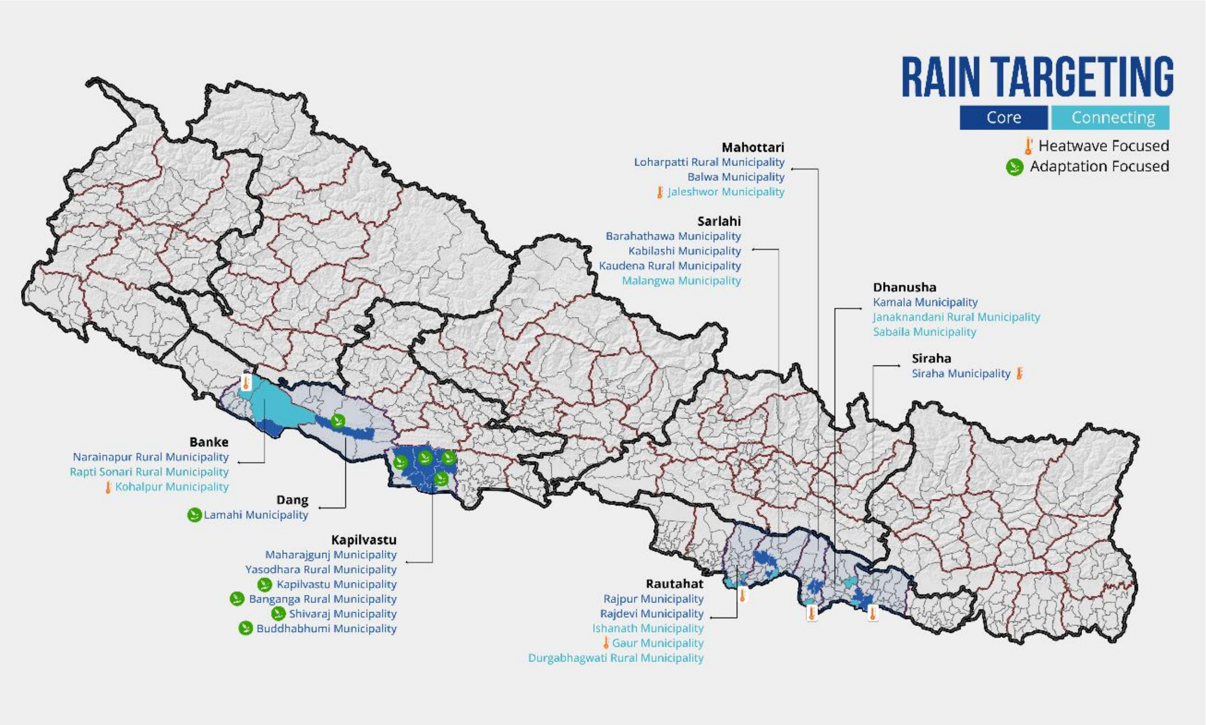
Dan Church Aid (DCA): (Co-Lead), collaborating closely with

- **National NGO partners:** Community Self Reliance Centre (CSRC), Prerana, LIBIRD, and Youth Innovation Lab (YI-Lab)
- **Technical Partners:** Red Cross Climate Center (RCCC) and UKMet

Project components

- **Early Warning and Early Action**
- **Community Resilience and Adaptation**
- **Inclusion and Localization**
- **Shock Responsive Social Protection**





16 LGs in Madhesh Province and 10 in Lumbini Province

Heat Early Action- 2025

Heat Early Action implemented based on DHM weather forecasts in Siraha, Gaur and Jaleshwar in Madhesh Province

Background to heat Spell

- As per The Department of Hydrology and Meteorology (DHM)'s weekly weather outlook, it forecasted temperature rise from June 8-11 in the RAIN targeted LGs. (Sorce: Weekly weather outlook published by DHM)
- RAIN assessed the situation at the community level through mobilising volunteers.
- RAIN activated its heat early action and response SOP to reduce the impact of heat spell based, prepared in consultation with project-targeted local levels, District land rights forum (DLRF), local Red Cross district chapters and sub-chapters aligning with existing NDRRMA plan of action for heatwave and DHM's existing heat alert mechanism.
- Pre-identified Early Actions and Response

Targeting

A. Target Groups for Heat Action

Vulnerable Person/Groups

- Outdoor workers such as rickshaw riders, street vendors, daily wage labours, agricultural workers, traffic police, security guards and street dwellers

Vulnerable Households

- Landless, Informal settlements, Marginalised communities

Public places for Heat Action

- Crowded public places (Bus Park, marketplaces, vegetable market etc.)

B. Target Areas (Locations) for Heat Action

This heat early action and response targeted the following municipalities of Madhesh.

Madhesh Province	
	• Rautahat (Gaur Municipality) • Mahottari (Jaleshwor Municipality) • Siraha (Siraha Municipality)

S. N	LG	Wards	Name of Communities	
1	Gaur	1, 2, 3, 4, 5, 7, 8 & 9	1 Kanu & Dalit Tole	5 Chamar Tole, bin tole
			2 Musahar/ Ram /Majhkotiya Tole	
			3 Ram Tole, Mjhkotiya tole	8 Dhangar Tole
			4 Sahani Tole	9 Baitha, Chamar tole
2	Jaleshwor	1, 2, 3, 4, 5, 6, 7, 8, 9, 11 & 12	1 Paswan Tole, Vaslar	7 Mahadebpatti Paswan Tole,
			2 Paswan Tole	8 Latwara, Khatwe, Bajrahi
			3 Khayera, Musahara Tole	9 Parkauli
			4 Sugagau, Paswan Tole	11 Locahna Khatwe Tole
			5 Pahaili, Musahar Tole	12 Velahi Ram tole, Chauryadi tole
			6 Ram tole, Dhabauli Tole, Khatwe Tole	
3	Siraha	1, 5, 6, 7, 10, 11, 12, 13, 14, 16 & 17	1 Das Tole	11 Musahar Tole
			5 Musahar Tole	12 Katti Tole
			6 Chamar Tole	13 Musahar Tole
			7 Sada Tole	14 Sada Tole
			10 Padampur- Paswan tole	16 & 17 Musahar Tole

Timelines of Intervention

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RAIN was constantly monitoring the temperature (minimum and maximum) in the targeted LGs **along with the ground situation reporting on the impact of heat on most vulnerable population**

As of June 6: Decided for immediate field deployment from June 8 onwards; with preparatory works from June 6- **guided by situation report on increasing heat stress**

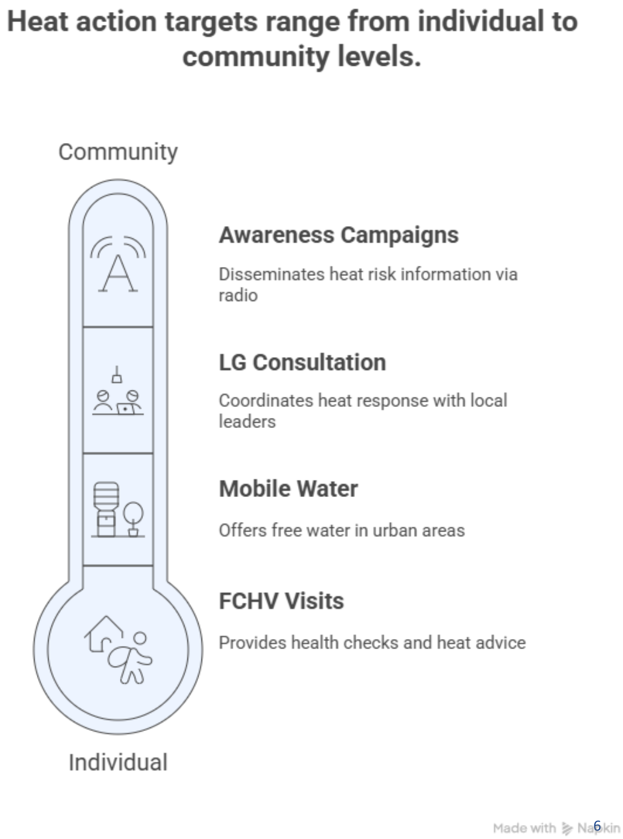
Municipalities/ Cities	Relevant (Nearest) Weather Stations	Forecasted Temperature (As of June 6) (Tmax: degree Celsius)					
		6th June	7th June	8th June	9th June	10th June	11th June
Gaur	Gaur	34	35	36	37	38	35
Jaleshwor	Janakpur Airport	34	35	37	38	38	35
Siraha	Lahan	34	35	36	37	38	34

Target Municipalities/ Cities	Temperature Thresholds Percentile (Tmax)			Pilot Trigger Threshold
	90th Percentile	95th Percentile	99th Percentile	
Gaur	37.6	38.5	40.5	**38.5**
Jaleshwor	36.8	38.05	40	**38.05**
Siraha	35.5	36.5	38.5	**36.5**

Municipalities/ Cities	Relevant (Nearest) Weather Stations	Observed Temperature (Tmax and Tmin: degree Celsius)					
		6th June	7th June	8th June	9th June	10th June	11th June
Gaur	Gaur	34.18/24.16	36.96/24.53	38.5/26.76	38.82/28.27	39.19/28.87	39.69/29.6
Jaleshwor	Janakpur	33/23.9	36/24	36.8/25.0	36.8/28.8	37/29	37.5/29.6
Siraha	Lahan	33.9/22.8	35.3/23.9	36.5/26.5	36.9/27.6	37.1/28.3	37.4/29

Heat Interventions

- 1,800+ marginalized people received health check-ups and awareness sessions on heat illnesses via Female Community Health Volunteers (FCHVs).
- 17,500+ outdoor workers accessed safe drinking water in Jaleshwor, Siraha & Gaur.
- Heat risk awareness jingles aired in local languages (Bajika, Maithali) on community radios (Radio Rudraksha 98.8 Mhz, Jaleshwor, Radio salhesh 88.8mhz Siraha, Jan awaj FM)
- Respective Local governments consulted on heatwave history and DHM forecasts.
- Post action assessment



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Cold Spell Early Action- 2026

Target Areas (Locations) for Cold Action

- Cold spell across the Terai, in early January
- Aligned with NDRRMA’s Cold Days and Cold Wave Action Plan.
- Based on Situation report from the community and LG (cases of hypothermia, inability of daily wage workers to go to work), activated cold spell early action
- Winterisation kits (blankets and warmers) for 1100 HHs prioritizing Dalit landless-children, elderly people, persons with disabilities

Targeting

Target Areas (Locations) for Cold Action

This cold early action and response targeted the following municipalities of Madhesh and Lumbini.

Target Groups

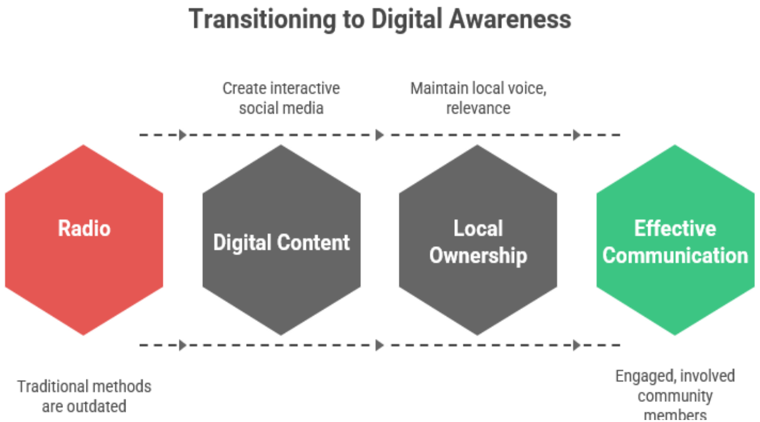
Landless Dalit- Persons with disabilities, children and senior citizens-critical to assess at what min daily temperature they start showing signs and symptoms

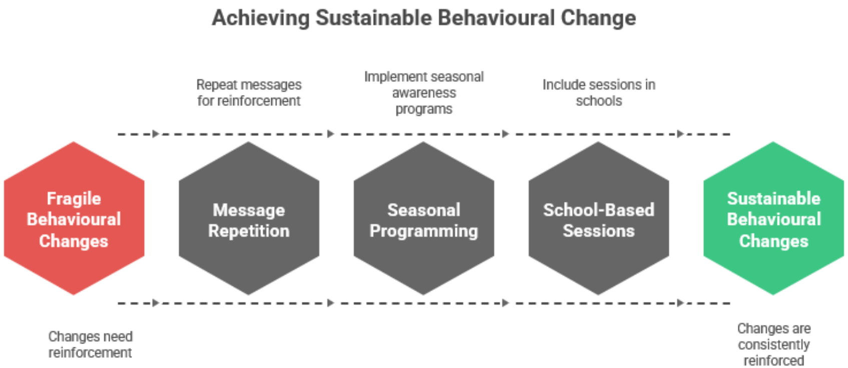
Post event and distribution review - ongoing

Province	District	Local Govt.	Tentative targeting no.
Madhesh	Siraha	Siraha Municipality	200
	Dhanusha	Kamala Rural Municipality	100
	Mahottari	Loharpatti Municipality	100
		Balawa Municipality	200
	Kapilvastu	Maharajgunj Municipality	100
		Yasodhara Municipality	100
	Banke	Narainapur Municipality	100
Total			1100 HHs

Findings from Post Action Community Consultations on Heat spell

- Transition of Awareness Messaging from Traditional to Digital Platforms while maintaining Local ownership
- Behavioural Change Is Possible with Repetition, Trust, and Personalisation
- Short-Term Response Is Not Enough—Long-Term, Systemic Solutions (RAIN is implementing 32 small adaptation interventions- managing local ponds, agroecological village, drinking water schemes, plantations, and others*)*
- **There were cases of heat stress reported before the temperature reached 40 degree celsius; when DHM would officially release the heatwave bulletin. Outdoor workers, Lactating and Pregnant women, People with chronic diseases were already showing symptoms of heat stress at 37**





Findings:
FCHVs as Community Champions

- Mobilising Female Community Health Volunteers (FCHVs) through door-to-door visits proved effective way for reaching marginalized populations including the poor, marginalised, persons with disabilities, and women for community awareness **but also for assesssing the actual heat & cold impact situation at the most vulnerable population**

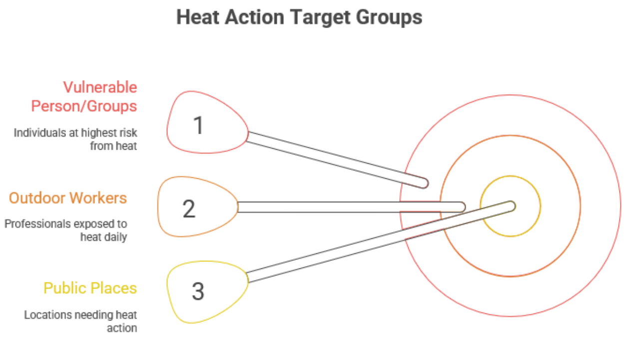
- FCHVs when properly trained and supported, are trusted messengers to the most vulnerable (senior citizens, women, children, pregnant, lactating, adolescent girls, persons with disability) and are capable of spreading awareness before, during and after disasters.

Opportunities

Evidence-Based Thresholds for Heat and Cold Early Action

- Community-level evidence on the impacts of heat and cold to be systematically collected to support DHM in designing its existing thresholds and triggers.
- While 58% of respondents reported heat related signs and symptoms (skin rashes, headache, excessive sweating, headache, loss of appetite), the actual correlation between piloted temperature threshold and the impact of the heat spell could not be linked, especially that it was only a week-long heat spell.
- This year, as the heat spell and cold spell was shorter, it was not technically feasible to collect the evidences of heat impact but collecting community impact on health is critical opportunity for any early action.
- Moving further, RAIN aims to test the temperature threshold with the health-related signs/symptoms and the differential impact on different groups and even different housing types; which will allow for evidenced based heat and cold early action. Identifying these critical temperature thresholds would also support DHM and response agencies with evidenced based heat & cold alert mechanism linking with early action.

Health coordinator in Jaleshwar: *“People were already affected at 37–39°C. Waiting for 40°C is too late.” Similarly, a teacher in Siraha reported that “Even at 38°C, schools were shut down, and people fell ill.”*



Thank you

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