

### **Pragya: Introduction**



- A non-governmental development organisation established in 1995.
- We address the development needs of fragile ecosystems and deprived indigenous peoples in the most remote
   & difficult areas in the country that lie in the shadow of policy & development attention.

#### **PROGRAMME AREAS**

Biodiversity conservation & Improving incomes for sustainable use of forest marginalised groups, and wealth, wetlands & developing suitable **Natural** alternative livelihoods, grasslands; Disaster Resource **Enterprise &** preparedness, relief & along with economic Management Livelihoods rehabilitation **Development** enablers. Disaster Management Rights, Welfare and Social **Development** Development & infusion of Improving access to rights technologies for energy, and effective political water, sanitation, participation. Improving construction material/ gender equity, education, methods healthcare, other basic services.

Special Consultative Status with UN-ECOSOC (ECONOMIC & SOCIAL COUNCIL OF THE UN)

Recognized as a 'SCIENTIFIC & RESEARCH ORGANIZATION' (DEPT OF S&T, GOVT. OF INDIA)

### **Pragya: Introduction**

Dedicated to working for disadvantaged peoples since 1995, 20+ years of programming & research experience.

Outreach to 150,000+ people in Backward Districts across India. Grassroots connect through Field Offices & Resource Centres.

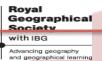
Supported by eminent donors: EC, DFID, World Bank-UNDP, UNDEF, UN Women, USAID, IUCN, GOI Ministries.

Diverse portfolio of programs spanning Livelihoods; Disaster Management; Education & Health; Women's Issues; Environment; Technologies in Energy, Water, Sanitation.

Internationally lauded for innovative & impactful programs on Environment, Education, Energy.

Recognised for pathbreaking research & models on Climate Change and Disaster Management.

Developed Innovations that have improved services: Community-based Surveillance of Maternal & Child Health; Education Information System for Marginalised Schools; Himalayaspecific Disaster Management.



#### RGS ACTION STATION, 2000

FOR WORK ON MEDICINAL PLANTS CONSERVATION & CULTIVATION



#### WHITLEY AWARD, 2000 (WFN & RGS)

FOR WORK ON MEDICINAL PLANTS CONSERVATION & CULTIVATION





#### STARS IMPACT AWARD, 2010

FOR WORK ON EDUCATION
OF DISADVANTAGED AND
MIGRANT CHILDREN

#### ENERGY GLOBE AWARD, 2005

FOR WORK ON RENEWABLE ENERGY TECHNOLOGIES FOR RURAL ELECTRIFICATION



#### TOP 20 IN RISK AWARD 2015

FOR CITIZEN-BASED
DISASTER-RISK-REDUCTION
IN THE HIMALAYAS

# ALL CHILDREN READING AWARD, 2011

FOR DESIGN OF EDUCATION
INFORMATION SYSTEM FOR
MARGINALIZED SCHOOLS



### **Pragya's Outreach: Communities served**





- · Children, Youth
- Women and Girls
- Small & marginal farmers and their families
- Pastoral nomads and their families
- Migrant workers and their families

### **Pragya interventions: DM and associated domains**



Water access, wasteland development and environmental threats in the Himalayas (2006-2011)

Study and publication on Impacts of Climate Change on the High Altitude Himalayas (2008 to 2010)

Study and publication on DRR in the Himalayan Context – relationship between NRM and community engagement (2009 to 2011)

Response to 2010 flashfloods in Ladakh (2010); Livelihood rehabilitation and disaster preparedness in Ladakh (2010-2013)

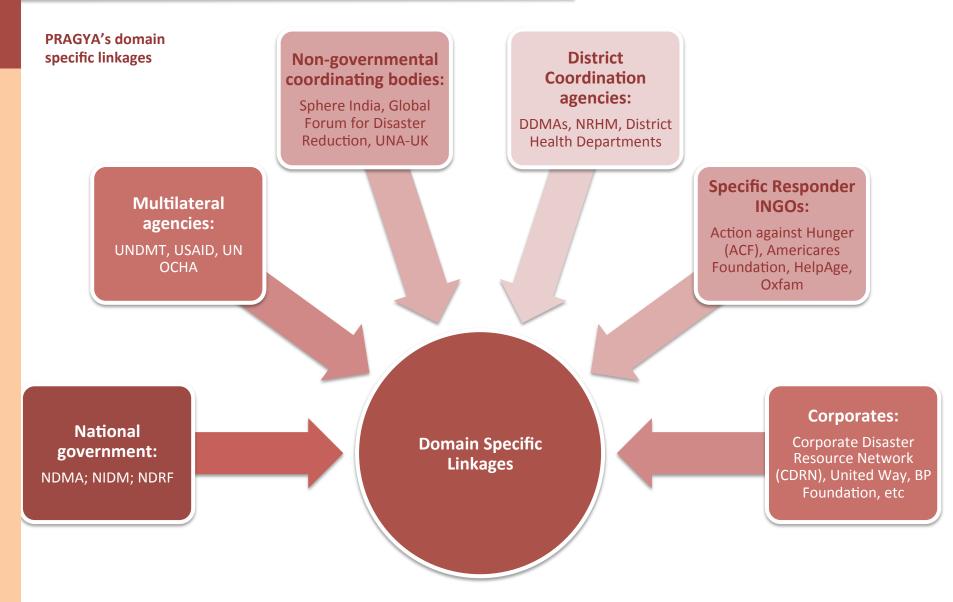
Citizen-based DRR model to reduce disaster toll in Himalayas (2012-2013)

Response to 2013 flashfloods in Uttarakhand (2013-2014)

Food security for Himalayan smallholders (2014 onwards)

### **Coordination**





**Other Linkages** 

• UN ECOSOC; • UN Solution Exchange; • IUCN (The International Union for Conservation of Nature); • Mountain Forum; • Mountain Partnership; • High Himalaya Forum

### **Coordination**



PRAGYA Linkages with local actors & communities

#### **Participative studies**

- Series of studies on environmental degradation and climate change trends;
- Local communities involved in data collection;
- Multi-stakeholder processes for analysis and interpretation
- Participatory research helped build local understanding and commitment to disaster preparedness;
- Information disseminated and dialogues conducted with policymakers
- Studies and stakeholder consultations to develop plans for hazard prevention/vulnerability reduction;
- Structural measures, and vegetative measures for slope stabilization;
- Weather resistant warehouses for buffer stock of essentials

#### **Capacity building**

• Course on Disaster Risk Reduction to be delivered through Resource Centres to all age-groups in the local communities

- 140+ youth trained for Disaster Response Teams
- Quality-training course materials for DRTs
- Training delivered in collaboration with district govt, with faculty from State Disaster Response Force
- DRT members involved in preparation of Vulnerability Maps

#### **Grassroots implementation**

- Wide network of community leaders
- Panchayats (village councils) coordinating transportation of materials, record keeping
- Panchayat coordinating beneficiary and site selection, community engagement and contribution
- Instituting fair benefit sharing process

- Working with farmer groups and agri-research institutions on mitigation of risks to agriculture
- Participative appraisal of land & water management and cropping practices
- Farmer Expert Groups involved in participatory field research in experimental plots

### Pragya interventions: Disaster Response in Leh





# Relief supplies mobilised & distributed:

4 consignments of medicines, 1130+ blankets and groundsheets, 10035 packets of food items & bottled drinking water, 81000+ water purification tablets, 2190+ personal hygiene items, 1690+ woolens/shoes to protect from harsh winters; 100+ sets of household utility items, heaters, solar lights PHASE - I

Focus: Emergency Response & Transitional Needs

Timeframe: August 2010 to November 2010

PHASE - II

Focus: Rehabilitation & Recovery

Timeframe: September 2010 to August 2012

9 food godowns in remote villages to store food grains for severe winters & to protect supplies in disaster events 18 portable prefabricated toilets & 16 water tanks at relief camp sites; later relocated to new habitation sites Agricultural toolkits to 30 small & marginal farmers who lost all farm implements

Vegetable seeds provided to 36 farmers from 5 villages; 2 nurseries for FEGs, 3 Fodder farms & 3 woodlots set up Damaged irrigation infrastructure rebuilt in Taru and Kungyam villages to help 86 farmers irrigating their lands (325 acres) DRR preparedness course developed and conducted with facilitators from NDMA

### Pragya interventions: Disaster Response in Uttarakhand



#### PHASE - I

Focus: Emergency Response & Transitional Needs

Timeframe: July 2013 to December 2013

#### **PHASE - II**

Focus: Rehabilitation & Recovery

Timeframe: September 2013 to June 2016

Relief supplies mobilised & distributed:

17 consignments of medicines, 4100+ blankets and bedsheets, nearly 81,000 packets of food items, and 5200 kgs of food grains, as well as 74000 water purification tablets, 4500+ personal hygiene items, and 440+ tarpaulins, 280 tents



122 prefabricated toilets set up benefitting 736 households 74 water tanks and filtration units set up benefitting 2620+ people 142 greenhouses set up for small farmers affected by floods 161 health camps benefitted 20128 people 48 helpline volunteers providing psycho-social support







### Pragya interventions: Disaster Response in Jammu & Kashmir





Focus: Emergency Response & Transitional Needs

Timeframe: September 2014 to December 2014

Relief supplies mobilised & distributed:

16520 kg food grains and spices 8287 packs of ready to eat food items 1949 blankets, 160 sets of utensils 9954 items of hygiene kits 282 packs of baby food

22040 water purifying tablets;

914 warm wear kits for children



#### PHASE - II

Focus: Rehabilitation & Recovery

Timeframe: December 2014 to July 2015



 Health-camps are being conducted in areas where public health infrastructure has been affected **Pragya interventions: Disaster Response in Nepal** 

#### PHASE - I

Focus: Emergency Response & **Transitional Needs** 

**Timeframe: April 2015 to** September 2015

#### Relief supplies mobilised & distributed:

5,789 kgs of food grains 1,266 hygiene items 2,117 packs of baby food, glucose, ORS 22 blankets tarpaulins, ground sheets 800 packs of ready-to-eat food 5 consignments of medicines 1,332 Galvanized Iron Sheets for temporary shelter Tents, TLMs and stationery to restart 10 schools



#### **PHASE - II**

**Focus: Rehabilitation & Recovery** 

**Timeframe: October 2015 to** September 2018

rebuilding

• We plan to build capacity for DRR and carry out gender focused interventions

toilets, water tanks and filtration systems

### **Disaster context – the Himalayas**



- Over 65% of 210 million people in the Himalayas face frequent natural hazards, causing immense destruction of life and property
- Impacts of climate change 3-5 times higher at high altitudes;
   climatic volatility is on the rise
- Growing risk of disaster and increasing frequency of extreme events
  - Remoteness; Difficult geographic terrain
  - Limited wider understanding of Himalayan specificities
  - Inadequate high-elevation measurement & monitoring sites for real time data
    - Poor infrastructure limited all-weather roads & telephone/radio connectivity







#### June 2013 – Himalayan Tsunami

- 1,10,000 evacuated; high infrastructure damage
- 20,36,000 people affected across nearly 40,000 sq. miles

# Dynamic Risk & Response Information System for Himalayas Research & Consultation phase supported by HIF



**Pre-disaster (proactive) measures** 

Risk assessment -Vulnerability Mapping, Hazard Analysis; Risk Quantification

Early warning systems and community preparedness

Risk reduction/ mitigation measures Disaster risk cover in the form of insurance

- a citizen science program for real-time information on local weather and hydrological/ mass movement trends
- an indicator-based early warning system

Post-disaster (reactive) measures

Emergency
Response & Relief
including first alert/
information

Evacuation, protection and assistance/relief during/after disaster Recovery-measures (psychosocial support, livelihoods & infrastructure support)

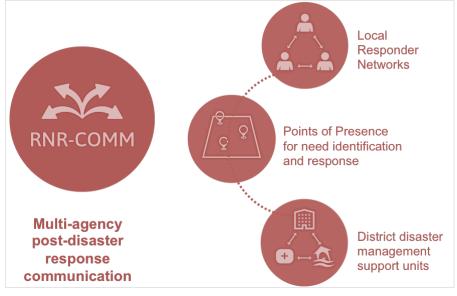
• a decentralised system for post-disaster damage & need assessment and communicating to relief suppliers

# DMS Himalaya



## **Dynamic Risk & Response Information System for Himalayas**





### DMS Himalaya Implementation Plan



Phase II:

Incubation & Pilot 4 years: 2015-2019

Phase I:
Development & Testing

3 years: 2012-2015

Research & development of the DMS-Himalaya

Piloting(in Leh district); wider consultations with state/ non-state responders (Uttarakhand, national level)

Small-scale guided implementation & incubation (in 4 districts) Evidence creation, Dissemina-tion, promotion and wider endorsement

Phase III: Full Adoption 2019 onwards

Capacity building for large-scale rollout Large-scale roll-out (in 95 districts across 10 states) Dynamic Risk & Response Information System for Himalayas Research & Consultation phase











Coordination

**DM Services** 

**Delivery Processes** 

**Resources & Materials** 

Responsiveness

Outreach

Adequacy





From Knowledge to Action

TOP 20 IN RISK AWARD, 2015

SENDAI, 2015

SHOWCASED at WHS INNOVATION MARKETPLACE

GENEVA, 2015 ISTANBUL, 2016



### **Research & Consultation phase**



- a. <u>First hand experiences</u> from the ground at immediate relief phase to rehabilitation phase reflected upon to draw out key observations & learnings
- b. <u>In-depth research</u> carried out across western, central and eastern Himalayas with communities, scientific experts, responders to examine top hazards and early warning and response tools. HIF Supported
- c. <u>Detailed consultations</u> carried out with a range of stakeholders to examine effectiveness of the response to the Uttarakhand disaster

Integrating lessons from PRAGYA's disaster response

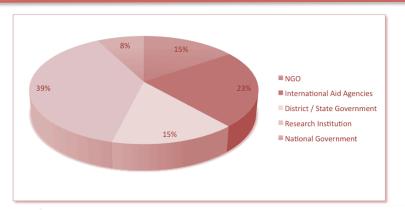


#### **Top Hazards**

	All Himalayas	Western Himalayas	Central Himalayas	Eastern Himalayas
1.	Landslide	Flood/ Cloudburst	Flood/ Cloudburst	Landslide
2.	Flood/ Cloudburst	Earthquake*	Earthquake*	Flood/ Cloudburst
3.	Earthquake*	Avalanche	Landslide	Drought
4.	Drought	GLOF	Drought	Earthquake*
5.	Avalanche	Landslide	Avalanche	Avalanche
6.	GLOF	Drought	GLOF	GLOF
7.	Desertification	Desertification	Desertification	Desertification

### **Research & Consultation phase**





- role and effectiveness of various agencies
- bottlenecks in delivery and coordination
- factors that influence decision-making, capacity of various agencies and their outreach and responsiveness
  - beneficiary perceptions regarding relief & recovery
- DM life cycle pre-event preparedness to relief efforts and strategies for rehabilitation

#### Representatives of first Responders/rescuers

• Indo-Tibetan Border Police force (ITBP), local police; local NGOs/CBOs: e.g. AAGAAS Foundation, Himadri Jan Kalyan Sansthan, Sri Bhuvneshwari Mahila Ashram, Janadesh, Udyogini, Pindar Ghati Bhaudeshya Vikash Evam Sanskritik Samiti, Uttaranchal Youth and Rural Development Centre.

#### second Responders including national & international NGOs

• e.g. Oxfam India, Save the Children, Plan India, SEEDS India, HelpAge India, Pratham, Handicap International, Peoples Science Institute; corporates: e.g. GMR Group, British Petroleum, Azim Premji Foundation

#### those involved in reconstruction phase

• e.g. General Reserve Engineering Force (GREF - a civil wing of Indian Army);

#### stakeholder coordination agencies

• e.g. United Nations Disaster Management Team - UNDMT - Rudraprayag, UNDMT - Chamoli and others. Experts from NIDM and Disaster Management Institute

#### PRAs involving 237 community members

 Participatory Rural Appraisals (PRAs) were carried out involving 237 community members in villages across two Himalayan districts (Rudraprayag, Chamoli)





# DMS Himalaya Dynamic Risk & Response Information System for Himalayas



Citizen-integrated Risk Governance model specific to remote areas

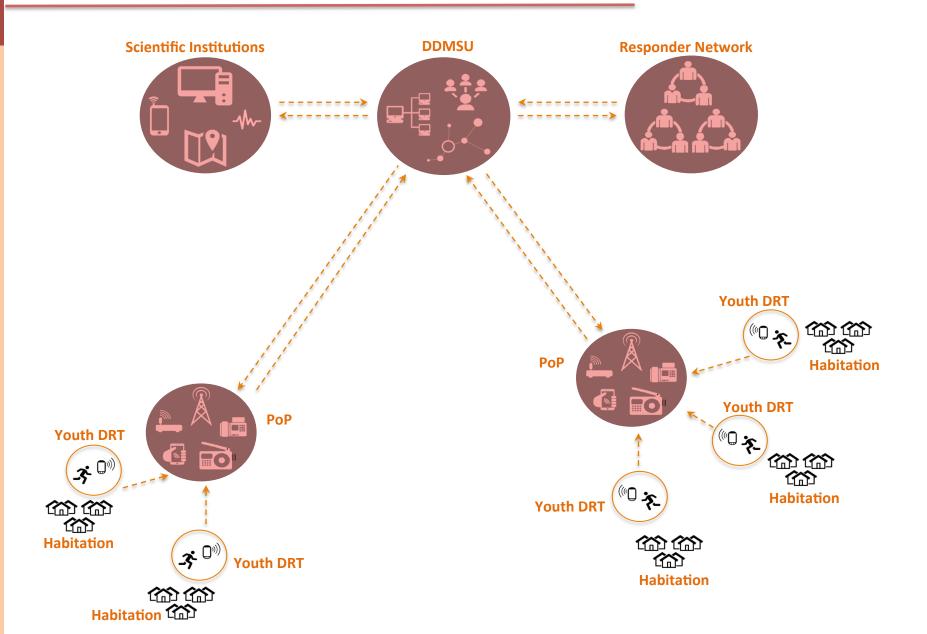
A people-state shared delivery structure for DM in remote areas improving local preparedness & resilience

Effective responder structures and an appropriate information infrastructure in remote districts to support the DM cycle (preparedness, early warning, relief & response)

Awareness of DRRIS among state and district DM functionaries and other stakeholders

### **Dynamic Risk & Response Information System for Himalayas**

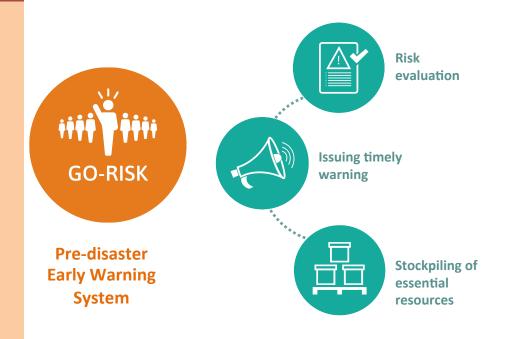


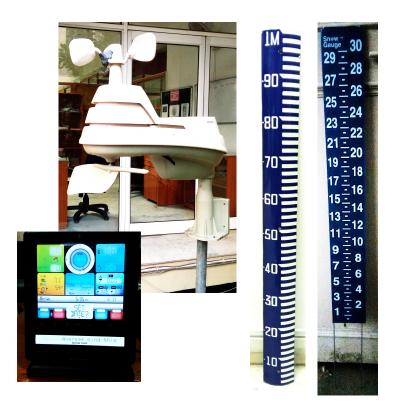


# **DMS Himalaya**

### **Dynamic Risk & Response Information System for Himalayas**





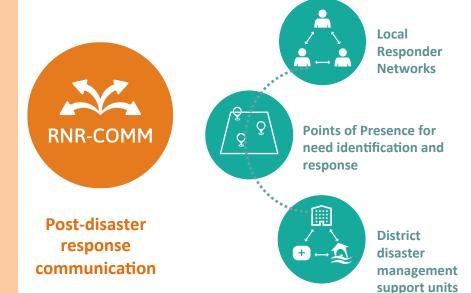


- Hazards Calendar: To be computed at district level. Can be maintained for each settlement. One digital copy would be available at DDMSU.
- Village Level Disaster Plans: To be developed for each settlement based on the NIDM Manual on Village Disaster Management Plan.
- Hazard Specific Tools: To be used for the specific type of natural hazard for monitoring threshold levels and triggering alerts. [Parameters; Frequency; Tools]

# **DMS Himalaya**

### **Dynamic Risk & Response Information System for Himalayas**





• Assessment Updates for Natural Disasters

#### **SOS Report**

First Communication / Flash report Level of emergency; Scale; Situation update

#### Level 1

- Safe; No assistance required at the moment Level 2
- Some relief assistance required; no urgent requirements

#### Level 3

- Relief assistance required

#### Level 4

- Immediate relief assistance required; critical medical emergencies

  Level 5
- Immediate evacuation, search & rescue needed; Immediate relief assistance required

- SMS based reporting to DDMSU
- IVR facility at DDMSU
- Dedicated email ID at DDMSU
- Excel conversion App for SMS based data
- RE powered communication facilities and battery backup

#### Stage 2

Damage Assessment / Initial Report

# Stage 3 Continual und

Continual updates

### **Dynamic Risk & Response Information System for Himalayas**





- **Settlement profiles**: for each settlement. To be updated monthly for any changes.
- DRT profiles and reporting schedules: To be fine-tuned for the DRTs.
- "Go-Risk" Monitoring Site profiles: Baselines and threshold levels of each parameter would be recorded for each site. Details to be updated on DMS Digital database for tracking.
- **PoP profiles:** PoP Profiles would be maintained at DDMSU and available in Resource Directory as well.
- **District profiles**: A comprehensive overview for each district, depicting "Go-Risk" and "RnR Comm" status of all sites, DRTs, PoPs. Would serve as the main navigation panel, linking all profile and data components. Would also include geographic overview maps with various layers depicting "Go-Risk" and "RnR-Comm" updates.

District	Block	Panchayat	Settlement ID	Settlement Name	Profile	"Go Risk" Status	"RnR Comm" Status
А	ABC	01	A/ABC/01/0001	Lorem Ipsum 1	View	No Alert	Safe
Α	ABC	01	A/ABC/01/0002	Lorem Ipsum 2	View	No Alert	Safe
А	ABC	02	A/ABC/02/0003	Lorem Ipsum 3	View	No Alert	Safe
Α	ABC	02	A/ABC/02/0004	Lorem Ipsum 4	View	Flood Alert	Safe
Α	ABC	03	A/ABC/03/0005	Lorem Ipsum 5	View	No Alert	Safe

### **Dynamic Risk & Response Information System for Himalayas**



#### **Consultation with NDMA**

Consultation with SDMA, DMMC, SDRF, District officials and responders

Mapping of village clusters for pilot and corresponding POPs and responders

**Identification of youth for DRT formation** 

Village and block level orientation sessions with DRTs, Panchayats



#### **88 village clusters** in 4 districts

- Uttarkashi 26 clusters
- Chamoli 20 clusters
- Rudraprayag 20 clusters
- Pithoragarh 22 clusters

# DMS Himalaya Dynamic Risk & Response Information System for Himalayas



### **Pilot village clusters - shortlisted**

		age ters	Blocks	Gram Panchayats	Villages
Uttarkashi	26	11	Bhatwari	55	104
		15	Naugaon	72	115
Chamoli	20	12	Joshimath	39	133
		8	Karnprayag	28	94
Rudraprayag	20	10	Augustmuni	23	105
		3	Jakholi	6	30
		7	Ukhimath	21	83
Pithoragarh	22	10	Munsiyari	28	100
		2	Dharchula	7	15
		10	Didihat	27	87
TOTAL	88			306	866

## **DMS Himalaya**

### **Dynamic Risk & Response Information System for Himalayas**



### **Responders training**

Districts	Participants
Rudraprayag	124
Chamoli	66
Pithoragarh	50
Uttarkashi	74

#### October - December 2016







## **DMS Himalaya**

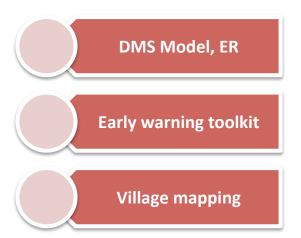
### **Dynamic Risk & Response Information System for Himalayas**



### **Training of DRTs**

Districts	Participants
Rudraprayag	22
Chamoli	36
Pithoragarh	37
Uttarkashi	Scheduled

#### November – December 2016



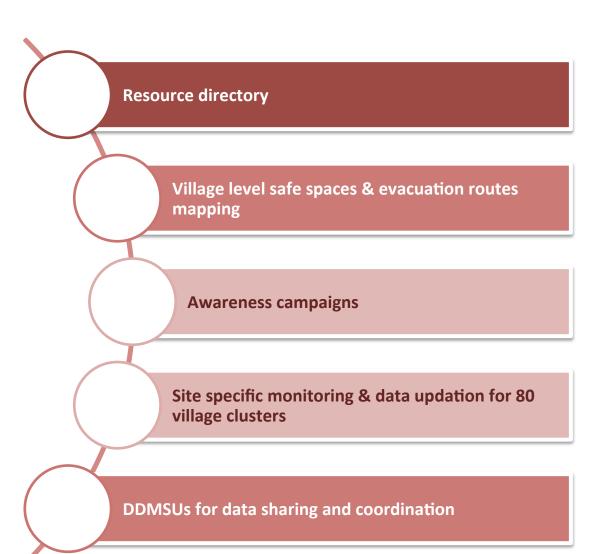


### **Dynamic Risk & Response Information System for Himalayas**



### Way ahead







www.pragya.org