



DRRIS

USER MANUAL

INTRODUCTION

This manual has been prepared by Pragma (<https://pragyasolutions.com/>), a development organization working for the appropriate development of the vulnerable communities and sensitive ecosystems of the world.

The Ganges-Brahmaputra-Meghna (GBM) Basin including the delta and associated upstream watersheds have extraordinarily high exposure to the impacts of climate change. The population residing there are particularly vulnerable to the compounded impacts of a mix of sea level rise, high subsidence rate, increasing salinity and arsenic contamination, changes in sedimentation patterns, changes in flow patterns of rivers and riverbank erosion, increased and changes in precipitation and cyclone patterns, and frequent storm surges and catastrophic flooding and inundation, depending on their location in the GBM.

Pragma has long experience of working in some most remote and marginalized regions in the country. Based on rigorous consultative research, it has come up with an area-specific, cost-effective, decentralised system: “**DRRIS (Dynamic Risk-reduction & Response Information System)**” for two critical components of the Disaster Management cycle:

- i. Early warning and grassroots preparedness;
- ii. Post-disaster damage and needs assessment and communication system

These process innovations and tools supplement the capacity building efforts and communication resources/networks in pilot locations and help in the mainstreaming and effective execution of Disaster Management plans of the local authorities.

DRRIS is being implemented across 400 villages in India and Bangladesh in 2 districts in 2 Divisions in Bangladesh (Munshiganj district in Dhaka division; Khulna district in Khuna division) and 2 districts in 2 states in India (South 24 Parganas district in W. Bengal state; Sonitpur district in Assam state).



WHY DRRIS?

- DRRIS catalyzes effective, composite disaster response at 3 windows of opportunity: pre- disaster preparedness, early warning, and immediate post-disaster relief - that can reduce the toll of extreme events considerably.
- It incorporates 2 tools – “**Go-Risk**” (early warning tool with grassroots measurement grids and communication channels for pre-disaster use) and “**RnR-Comm**” (relief & response information- sharing tool to help multi-agency response coordination for post-disaster use) to enhance local self- reliance and improve effectiveness of humanitarian support.
- DRRIS develops structures and networks to connect communities with state and civil society responders, ensuring flow of information and effective coordination.
- It adopts the approach of risk governance for dynamic management of hazards, vulnerabilities, disasters, and to facilitate linkages for people-state collaboration for timely action/support.

Pragya has worked extensively on Disaster Management, and based on rigorous participatory research, designed an area-specific, decentralized system for facilitating disaster management processes. **DRRIS** empowers remote and marginalised communities to take charge of disaster management at the local level, whilst enabling seamless community-state collaboration.

Our aim is to improve community capacities for disaster risk reduction and response, make communities more resilient with effective disaster preparedness and risk identification and to support local authorities with improved early warning and relief information tools.

The DRRIS app facilitates decentralised information generation. It has three main components:

- **Go-Risk** is a location-specific pre-disaster early-warning tool using grassroots measurement grids. The data parameters monitored through the app are specific for each hazard. The relevant authorities are alerted in case of a threshold breach (potential early warning).
- **RNR-Comm** is a relief and response information communication tool for post-disaster damage and needs assessment. It documents the age and gender-specific needs of disaster affected populations to facilitate rescue and relief operations.
- **Emergency Contacts** section offers the contact information of the nearest Control Room and local responders, who can help in coordination with local authorities, emergency relief and rescue operations.

This DRRIS app is designed for Hazard Monitoring, Early Warning and Relief Needs Communication and is customized for the communities residing in the Ganges-Brahmaputra-Meghna Delta. This user manual would be used by the Responder Network in the target districts comprising Climate Resilience Champions (CRCs), CBDRR leadership groups, communication points in the neighbourhood (Points of Presence), Climate Action Clinics (CACs), local government and first responders, weather monitoring agencies and civil society.

Effective communication between all stakeholders is of paramount importance, and the DRRIS app plays a key role in facilitating the communication. All data, observations, photos from both Go-Risk and RNR-Comm reports are collated on the DRRIS web interface, which is monitored and used by local authorities and responders.

WHO ARE INVOLVED?

- **All members of community:** All residents of a settlement.

Role:

- Participate in village-level awareness sessions and drills
- Cooperate with Climate Resilience Champions (CRCs) and Points of Presence (PoPs), as well as Upazila, Panchayat, Block and Union Council level officials by providing required information.
- Participate in village level mapping of vulnerabilities, safe spaces and evacuation routes.
- Follow instructions of CRCs and PoPs when disaster warning is sounded and during Relief and Response (RnR).

- **Climate Resilience Champions (CRCs):** Local youth with high level of physical fitness, basic digital literacy are identified and trained to conduct village level vulnerability mapping and safety drills, monitor and report on various parameters for enabling early warning, report on damages and relief needs post-disaster. They represent a hamlet/settlement/cluster of houses and act as the communication linkage between the settlement and the nearest Point of Presence (PoP). They would also function as First Responders for the settlements they serve, arriving and assisting at the scene of an emergency in coordination with Upazila, Panchayat, Block and Union council officials.

Role:

- Undergo training on DRRIS tools – “Go-Risk” and “RnR-Comm” and emergency response.
- Hold awareness meetings with community members to explain the process and benefits of DRRIS implementation and their roles.
- Conduct village-level vulnerability, safe space and evacuation route mapping and display it prominently.
- Conduct regular emergency drills / evacuation exercises involving all community members.
- Regularly measure and report using “Go-Risk” tools as per schedule.
- Communicate damage and needs assessment data to PoPs using “RnR-Comm” tools.
- Act as First Responders in case of a disaster event as per training provided.

- **Points of Presence (PoP):** Facilities with relevant ICT equipment that function as proximal broadcast / communication centres for isolated habitations (e.g, police outposts with advanced telecom facilities) to act as effective communication channels for risk monitoring, early-warning and post-disaster response coordination.

Role:

- Cooperate in sending data collected by CRCs in neighboring settlements to Local Government using “Go-Risk” tool
- Communicate early warning alerts issued by the Local Government to neighboring villages through CRCs
- Communicate request for emergency rescue/evacuation requests, damage and needs assessment data/ updates to the Local Government using “RnR-Comm” tools post disaster.

- **Responders:** Individuals / agencies (both state and civil society) present in the target district with the capacity and the mandate to provide emergency rescue, evacuation, relief and response services. The Responders potentially include armed forces, police, paramedics, local / international / regional NGOs, local youth and community members present in the district.

Role:

- Participate in regular networking and capacity-building events organized by the Local Government
- Access “RnR-Comm” data from the Local Government
- Respond to requests for emergency rescue/evacuation, relief needs from specific locations in coordination with Upazila, Panchayat, Block and Union Council level officials

- **Local Government:** Govt functionaries from Disaster Management Units and associated departments, Upazila, Panchayat, Block and Union Council level officials with capacity and the mandate for early warning, mitigation, capacity building, risk reduction, emergency rescue, evacuation, relief and response at district headquarters. Access to information and network of CRCs and PoPs would enable them to undertake effective preparedness and response actions.

Role:

- Utilise the network (Responder, PoPs, s) and the tools (“Go-Risk” and “RnR-Comm”) to implement DRRIS effectively and efficiently.
- Access information from DRRIS Resource Directory and DRRIS-Digital database for facilitating timely mitigation, alerts and decision-making on relief and response.
- Collaborate towards building capacity of Responders, CRCs, Communities, state and civil society actors
- Facilitate identification and equipping of PoPs as necessary.

- **Network Agencies:** Technical / Knowledge Resource Institutions with dedicated expertise in monitoring specific environmental parameters and hazards, to validate data from grassroots monitoring sites to avoid triggering false alerts and to enable real-time monitoring of hazards once a threat is validated, to enable swifter, informed emergency response.

Role:

- Access data collected using “Go-Risk” tools
- Validate data and if appropriate, issue early warning
- Use the data trends of environmental parameters from across the districts for further research
- Collaborate to build capacity of CRCs; provide guidance for identifying, setting up monitoring sites.

DRRIS TOOLS

DRRIS has two key components as described below.



Go-Risk:

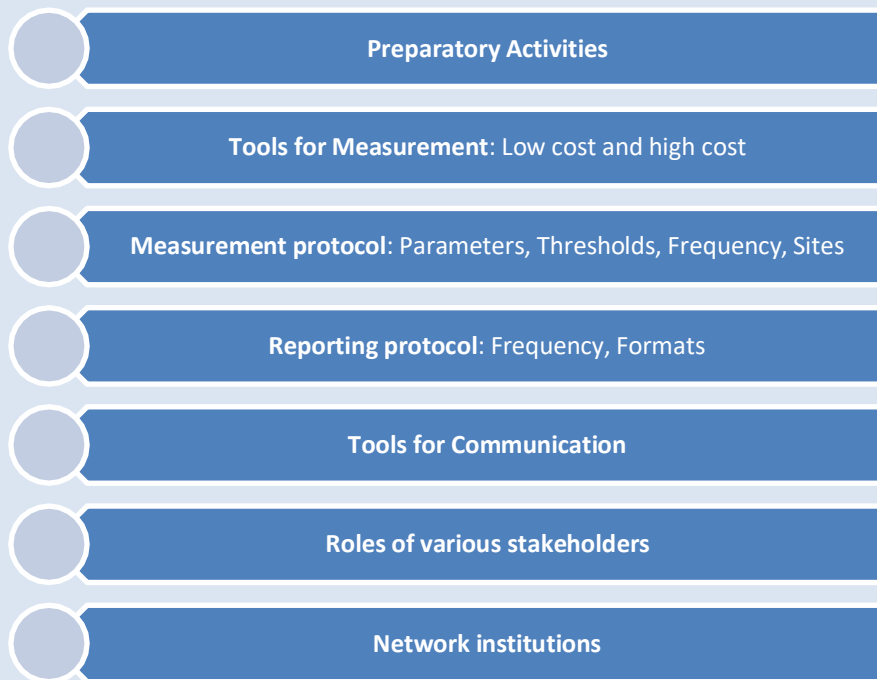
This is a local-level Early Warning tool which functions based on measurement / monitoring of various parameters at the grassroots and communication networks established for timely pre-disaster warnings. It comprises simple measurement processes & instruments for citizen-based, real-time monitoring of local environmental / weather parameters at the grassroots, surveillance of hazard-markers / thresholds for potential early-warning. It integrates liaison with technical institutions for threat-validation before issuing alerts. Grassroots awareness and capacity building, mapping and strategic stockpiling of resources and timely relay of information enables community preparedness and risk-reduction.

The tool facilitates early warning for the following frequent and high impact hazards in the GBM Delta:

Rapid Onset	Slow Onset
<ul style="list-style-type: none"> • Landslide • Flood / Cloudburst • Cyclone • Earthquake • Avalanche • GLOF (Glacial Lake Outburst Flood) • Forest Fire • Tsunami • Heatwaves 	<ul style="list-style-type: none"> • Drought • Desertification • Bank and Coastal Erosion

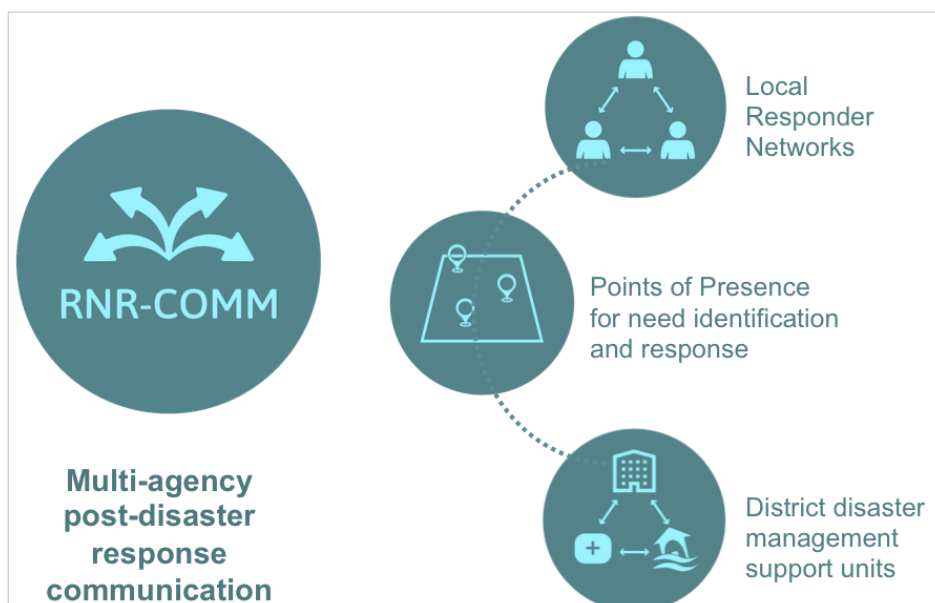
Please refer to **DRRIS TOOLKIT** for more details.

The **Go-Risk** tool incorporates:

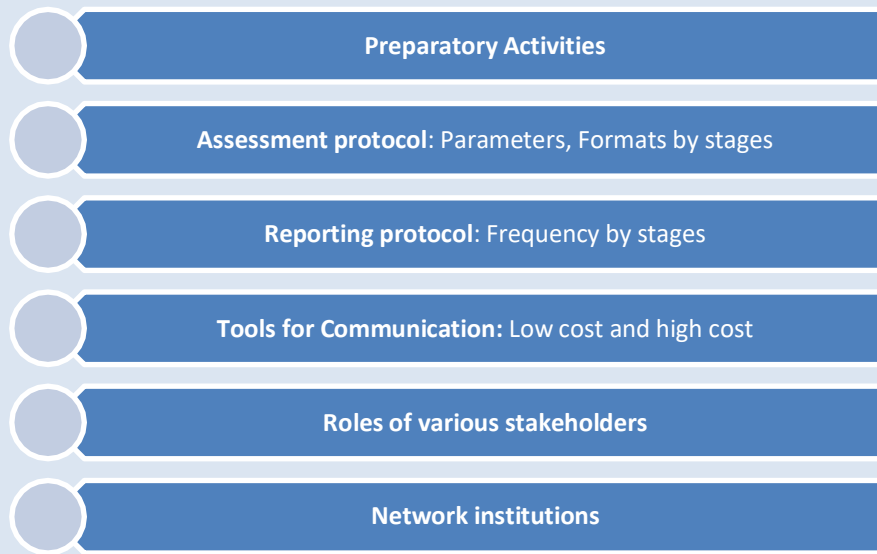


RnR-Comm:

This is a local-level relief and response information-communication tool that facilitates multi-agency response coordination at post-disaster stage. It includes tools and processes for grassroots post-disaster damage and relief needs assessment, incorporating process for validation and structured communication of age and gender-specific needs of disaster-affected populations (by sector – e.g. food & nutrition, shelter, health, WASH, protection) to responders through pre-established communication channels. This, in turn, facilitates: targeted relief coordination and delivery, shorter response time, minimum wastage of resources.



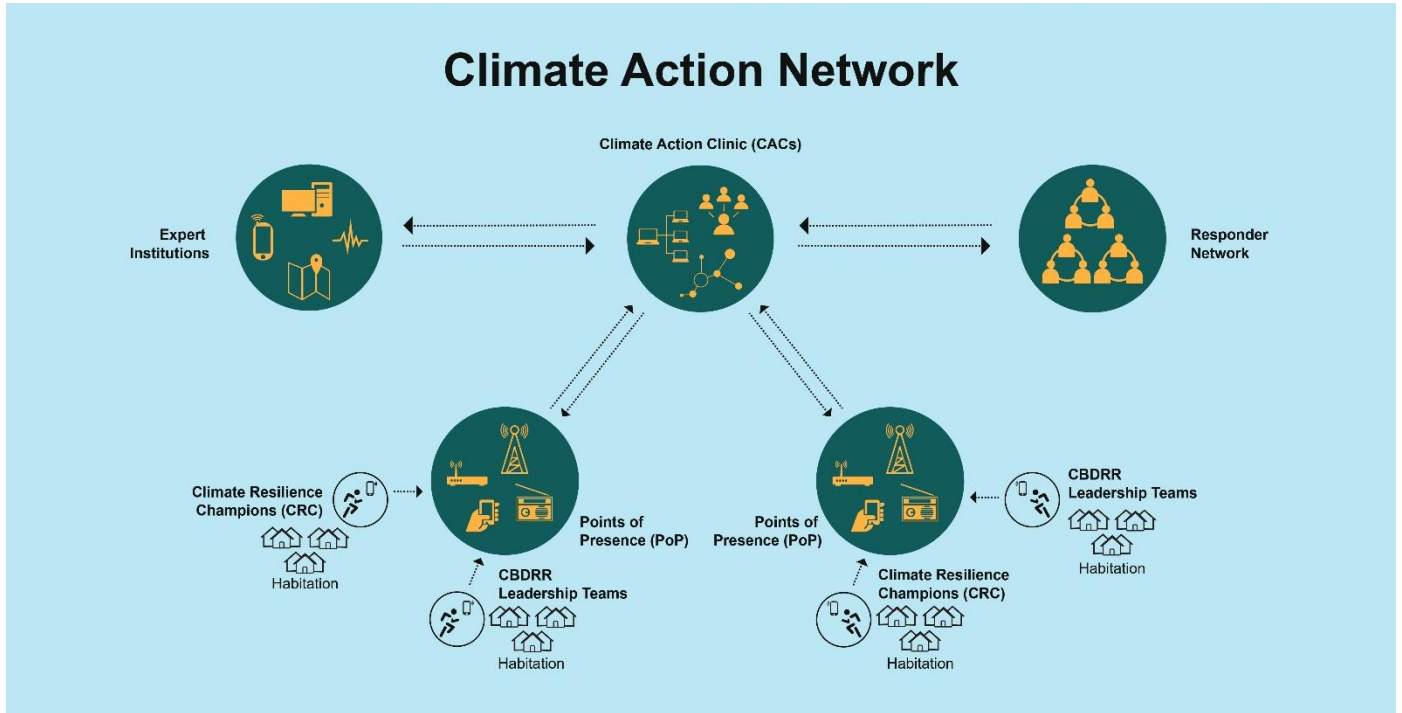
The **RnR-Comm** tool incorporates:



Please refer to **DRRIS TOOLKIT** for more details.

HOW DOES IT WORK?

The image below depicts the **DRRIS Communication Pathway**.



GO-RISK

STEP 1 – PREPARATORY ACTIVITIES

- District and state governments, Upazaila, Panchayat, Block and Union council level officials, local and international NGOs, research institutions and communities are briefed about DRRIS and its benefits.
- Youth are identified for each settlement unit across the entire district for the role of a CRC.
- A designated PoP with relevant facilities is identified for each settlement unit taking into account distance, terrain, etc. In case there are settlement clusters without access to such facilities, we liaise with the government to install a communication facility at a state facility, to be accessed by the cluster.

- Responders (individuals / agencies) are identified for the district.
- CRCs, PoPs, Responders are linked to Disaster Management Units.
- A Resource Directory mapping existing resources, infrastructure and provisions is prepared and made available with Upazila, Panchayat, Block and Union Council level officials, with PoPs and online.
- Govt agencies are liaised with for validating data from “Go-Risk” for issuing timely alerts.
- Local media agencies are liaised with for awareness campaigns and broadcasting timely alerts.

STEP 2 – CAPACITY BUILDING

- Training conducted for PoPs and Responders on DRRIS tools and processes.
- Training conducted for CRCs on DRRIS tools and processes.
- Calendar of hazards prepared through district-level consultations.
- Monitoring and reporting schedules fine-tuned for the CRCs.
- Methods for communicating warnings (using drums, megaphones etc.) are finalized for each settlement.

STEP 3 – REGULAR MONITORING & ENGAGEMENT

- Sites identified, instruments/signage for environmental parameters monitoring set up.
- Baselines and threshold levels of parameter are recorded and demarcated for each site.
- Regular reporting initiated by CRCs with data communicated to Disaster Management Units by PoPs.
- Primary school teachers and community healthcare workers are mobilised to build disaster-awareness in the community.
- Demo-sessions are conducted by Disaster Management Units with CRCs using “Go-Risk” tools and involving all stakeholders including Upazila, Panchayat, Block, Union Council and district level officials/agencies.
- Focus group discussions on Village Disaster Management plans and drills conducted by CRCs involving Disaster Management Units, PoPs, Upazila, Panchayat, Block and Union Council level officials and the communities using “Go-Risk” tools.
- Liaison continued with govt agencies and network institutions for effective functioning of DRRIS.
- Regular events are conducted by Disaster Management Units to inform stakeholders about the process, progress and continued pre-disaster engagement.

STEP 4 – COMMUNICATION & DATA COLLATION

- Awareness-raising programme for the ‘Go-Risk’ tools, Village Disaster Management Plans, emergency evacuation process and safe places are designed.
- A public awareness campaign is conducted by CRCs in all settlements, involving local media.
- Data is collated by Disaster Management Units using unique CRC and PoP location IDs and settlement/monitoring site profiles.
- Data is summarised and shared by Disaster Management Units with Upazilas, Panchayat, Block, Union Council level officials, district level stakeholders, network agencies over online platform and regular e-mail updates, SMS based updates.

STEP 5 – VALIDATION & ISSUING WARNING

- Data is collated and shared by Disaster Management Units with network institutions for validation.
- Data is shared online and with PoPs and Responder Agencies by Disaster Management Units post-validation for alerts and risk warnings.
- Alerts/warnings are communicated to CRCs by the respective PoPs as per Disaster Management Units guidance.
- Alerts/warnings are communicated to communities by the respective CRCs as per Disaster Management

Units guidance, along with reiteration of relevant safety measures / evacuation routes etc.

- Disaster Management Units carry out data collection/evaluation to develop a strong knowledge base on effectiveness of “Go-Risk” tools and implementation process.



RnR-COMM

STEP 1 – PREPARATORY ACTIVITIES

- Disaster Management Authorities and other stakeholders (district and state governments, local and international NGOs, research institutions and, communities) are briefed about DRRIS and its benefits.
- Youth are identified for each settlement unit across the entire district for the role of a CRC in consultation with Upazila, Panchayat, Block and Union Council level officials.
- A designated PoP with relevant facilities is identified for each settlement unit taking into account distance, terrain, etc. In case there are settlement clusters without access to such facilities, liaise with the government to install a communication facility at a state facility, to be accessed by the cluster.
- Responders (individuals / agencies) identified for the district.
- CRCs, PoPs, Responders are linked to Disaster Management Units, as well as Upazila, Panchayat, Block and Union Council level officials.
- A Resource Directory is prepared by mapping existing resources, infrastructure and provisions and made available at Disaster Management Units, with PoPs and online.
- Responder agencies are liaised with for accessing data from “RnR-Comm” for timely response.
- Govt agencies are liaised with for pre-positioning of essential resources.
- Local media agencies are liaised with for raising awareness campaigns and for broadcasting accurate information on needs, access conditions and challenges once disaster strikes.

STEP 2 – CAPACITY BUILDING

- Training conducted for PoPs and Responders on DRRIS tools and processes, emergency search and rescue, evacuation, emergency medical aid and relief.
- Training conducted for CRCs on DRRIS tools and processes, emergency search and rescue, evacuation, emergency medical aid and relief.
- Community members are facilitated by CRCs to carry out village level mapping of vulnerability, safe spaces, evacuation routes etc.

STEP 3 – ASSESSMENTS

- Settlement profiles (gender and age disaggregated population data etc) are recorded for each settlement.
- Regular profile reporting initiated by CRCs with data communicated to Disaster Management Units by PoPs.
- Primary school teachers and community healthcare workers, Upazila, Panchayat, Block and Union Council level officials are mobilised to provide effective emergency support.
- Demo-sessions are conducted by Disaster Management Units with CRCs using “RnR-Comm” tools.
- Evacuation drills conducted by CRCs involving the Disaster Management Units, PoPs, Upazila, Panchayat, Block and Union Council level officials and the communities using “RnR-Comm” tools.
- Liaison continued with govt agencies and network institutions for effective functioning of DRRIS.
- Regular events are conducted by Disaster Management Units to inform stakeholders about the process, progress and continued pre-disaster engagement.
- Post-disaster event – SOS messages from grassroots are communicated by CRCs and PoPs marking the respective settlements safe or in need of support (including the level of emergency).
- In case the Disaster Management Units is alerted of an incident, alerts would also be sent out to CRCs and PoPs to trigger a response to the situation.

- Post-disaster event – Stage 2 communications by CRCs and PoPs provide detailed need and support requirements (disaggregated by age and gender, vulnerable groups), access conditions, infrastructure damage, and available stock supplies/resources for the respective settlements, along with information on changes in disaster context.
- Post-disaster event – Stage 3 communications by CRCs and PoPs provide detailed need and support requirements for the respective settlements regarding emerging needs/concerns in terms of displacement, Gender Based Violence (GBV), Psycho-social Trauma, Disease outbreak, etc.

STEP 4 – COMMUNICATION & DATA COLLATION

- Awareness raising programme for the ‘RnR-Comm’ tools are designed.
- A public awareness campaign is conducted by CRCs in all settlements, involving local media, Panchayat, Block and Tehsil level officials.
- Data is collated by Disaster Management Units using unique CRC and PoP location IDs and settlement/monitoring site profiles.
- Details from Resource Directory, contact details of PoPs, CRCs and Responders are shared online, circulated through emails and SMS.
- Data is summarised and shared by Disaster Management Units with responders, Panchayat, Block, Tehsil level officials, district level stakeholders over online platform and regular e-mail, SMS based updates.
- Updated profile of all settlements and their needs are maintained online along with time of last updation.
- Post-disaster event – SOS messages are collated and communicated to DDMA and responders for necessary action.
- Post-disaster event – Stage 2 communications by CRCs and PoPs are collated, structured by specific sectors (Food, WASH, Shelter etc.) and communicated to DDMA and responders for necessary action.
- Post-disaster event – Stage 3 communications by CRCs and PoPs are collated, structured by specific sectors (GBV, Child Friendly Spaces etc.) and communicated to DDMA and responders for necessary action.

STEP 5 – INFORMATION SHARING & COORDINATION

- Data is collated and shared by Disaster Management Units with PoPs, DMAs, with Upazila, Panchayat, Block, Union Council level officials and Responder Agencies for validation.
- Data is shared online for mobilising support and informing resource allocation.
- Disaster Management Units liaise with Responders to map type and quantity of support provided by location to identify gaps and support needs for unattended settlements and share the data online.
- Disaster Management Units share data on type of support offered by various responders with the PoPs and CRCs, as well as with other responders, Panchayat, Block, Tehsil level officials to facilitate rescue / response operations.
- Regular briefing meetings are conducted by Disaster Management Units to inform stakeholders about the progress and continued post-disaster engagement.
- Disaster Management Units carry out data collection/evaluation to develop a strong knowledge base on effectiveness of ‘RnR-Comm’ tools and implementation process.

ANNEXURE

GLOSSARY OF ABBREVIATIONS USED

- DISASTER MANAGEMENT UNITS– District Disaster Management Support Unit / Local Disaster Management Unit
- DRRIS – Dynamic Risk-reduction & Response Information System
- CRC – Climate Resilience Champions
- GBV – Gender Based Violence
- PoP – Points of Presence

