Reflection on Localization of Disaster Management Information System

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Nepal Red Cross Society as an auxiliary to the Government
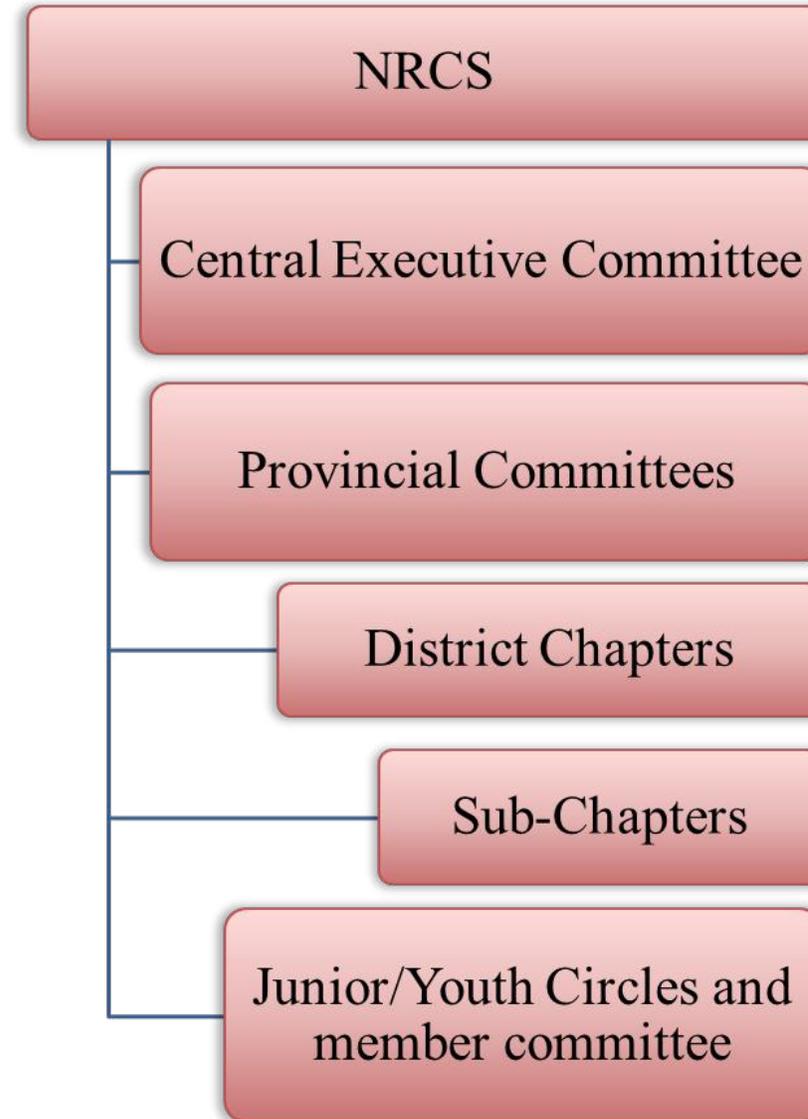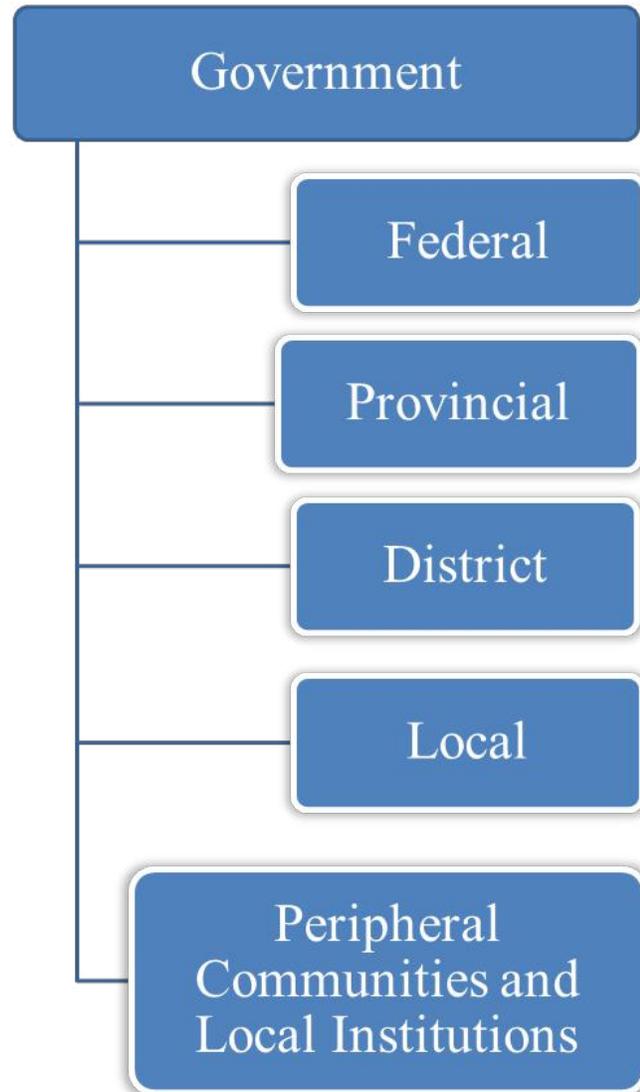
Nepal Red Cross Society: Facts and Figures

Total Membership	**1,126,322**
No of Active Volunteers	90,000
District Chapters	77
Sub-Chapters	1,508
JRC/YRC Circles	5828
Eye Hospital and Eye Care Centers	15
Blood Transfusion Centers	108
Ambulance Service Stations:	77

Information Management System in Disaster Management

- Information Management and it's tools help all agencies to coordinate with one another to carry out disaster management activities faster, easier and in more effective manner.

- It serves as repository of data, information, policies and key decisions on disaster risk reduction and management in the country for fostering partnership on disaster management

- Collect, organize, and preserve reports and other technical or scientific information relating to the emergency or disaster.

- Prepare situation reports (SITREPs) and other technical documents and assist in preparing project proposals/relief planning.

- Coordinate the timely and effective distribution of information.

NRCS Experiences in disaster information management

- Flood Monitoring and Early Warning System

- Open Street Map (OSM) as a base map (VCA, find geo location for search and rescue)

- Hazard and Risk Mapping Tools

- Identification of Anticipatory action \ Forecast based Action

- Volunteer Management

- Warehouse Management

Nepal Red Cross Society

1990s

Early Days

Manual Gauge Based
2000s

Watch and Warn

Flood Station

Real Time Telemetry
2010s
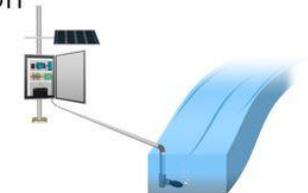
Localization of Information Management System

- Disaster Assessment Guideline, the government has given the responsibility of conducting IRA to the Nepal Red Cross Society. NRCS has prepared and finalized the IRA data collection template and report processing and generation system.

- Based on the IRA report local and national radio, television, print media disseminate resource gap, impact of the disaster and plan for response.

- Capacity building on IRA for Local governments, security forces and other stakeholders is being conducted by NRCS.

- Information Management System is established for Capacity building, Data management system strengthening, building Coordination mechanism with the structure of LEOC - DEOC- MEOC- PEOC.

- 1000 + volunteers, government staff including securing forces are trained in IRA \ Information Management System.

Initial Rapid Assessment (IRA)

Crucial tool to assess impacts for planning immediate response within 24 hours of a disaster.

NRCS led the process of formulating the IRA guideline and mechanism, providing technical assistance in collaboration with NEOC and NDRRMA.

IRA Nepal Mobile Application: time efficient and reduces the risk of data loss.

In 2021, 67 times IRA survey was conducted from 24 districts and 103 R/ Municipality.
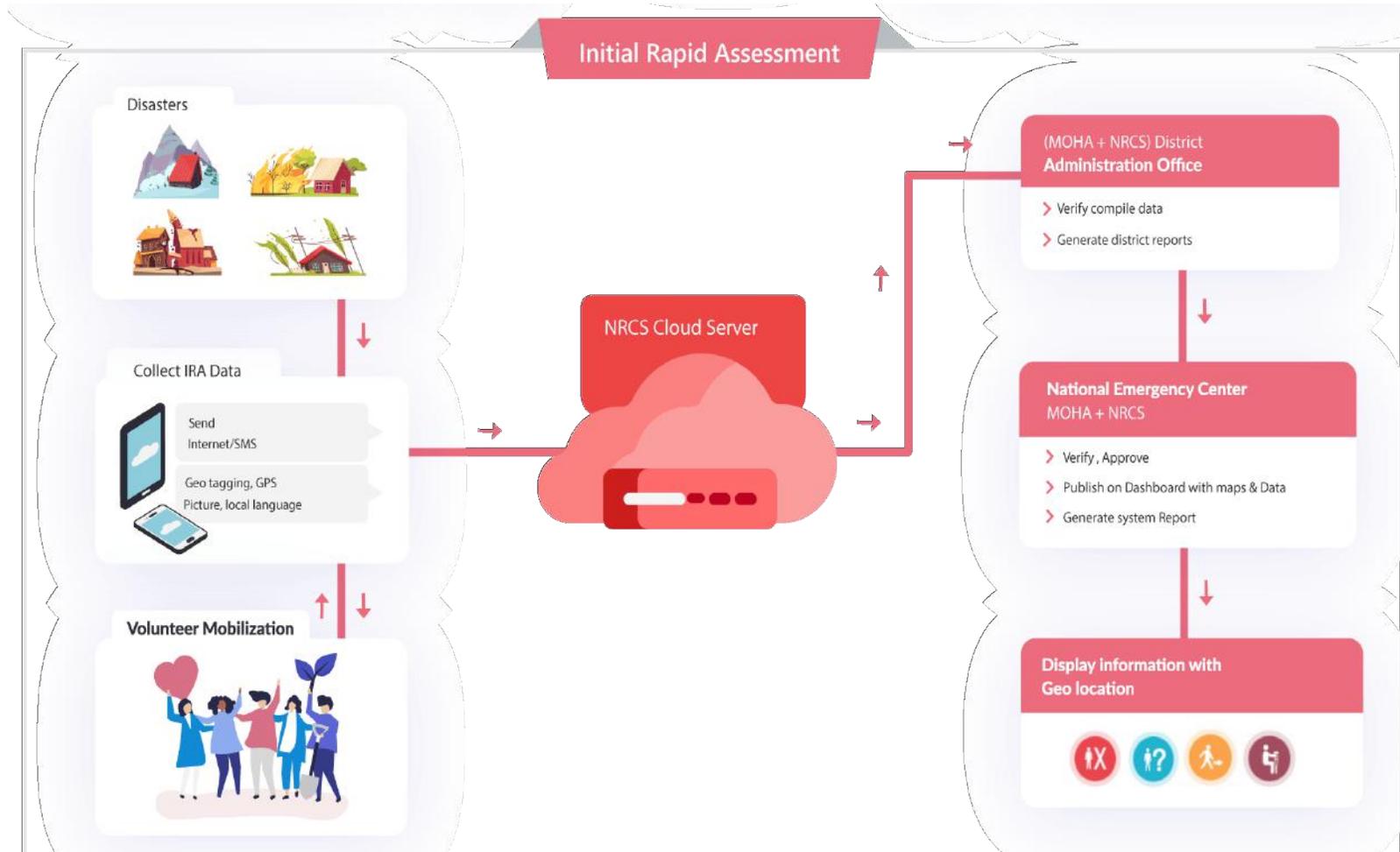
IRA application and system workflow overview

IRA Mobile apps and reporting system

| Technical Working Group | → | Sends IRA Team to field | → | IRA team gather data using Mobile Apps | ⇄ | Data validate @ LBs / District / Province / National | → | Generate comprehensive report @LB's / District / Province / National | → | Publish MAPs web reports, statistics and Dashboard |
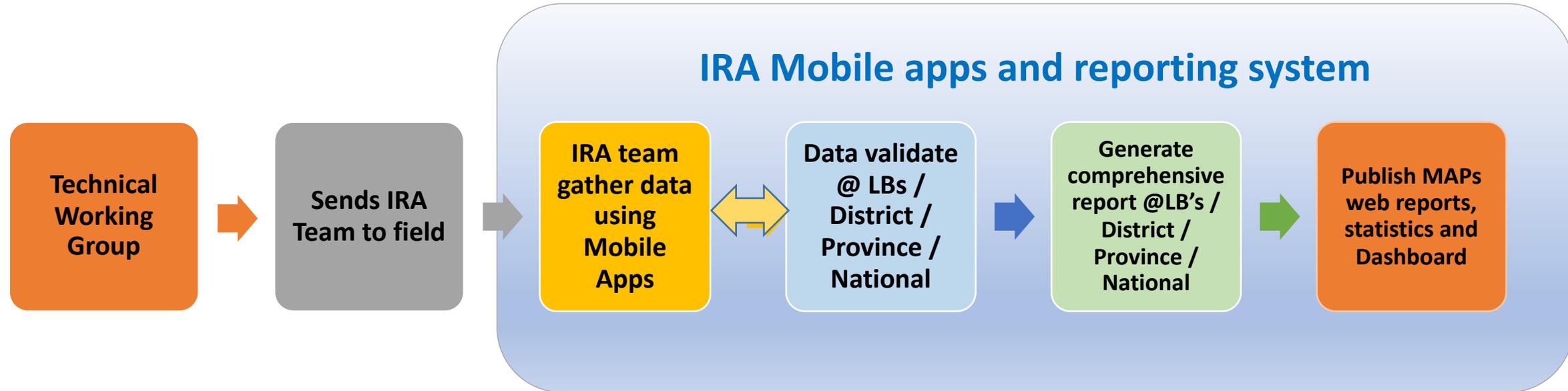
- IRA application and system was first introduced on March 2017.
- Application and system implement on 4 districts *(Udayapur, Sunsari, Dhankuta and Bhojpur)*
- *Training for R/Mun employees, Security forces and NRCS volunteers staff*
- IRA application and system operation training courses introduce in DDRT & NDRT training

IRA Application

- **System used in**
  - **April 2, 2019** *Bara and Parsa* **windstorm**
  - **June 8, 2019** *Kailai and Kanchanpur* **windstorm**
  - **June 12, 2019** *Duduwa, Banke* **fire**
  - **July, 2019** *flood and* **landslide**

- **IRA templates revised on early 2020**
- **New application developed and update in May 2020**

- **New application use in 2021 flood and land slide**
  - *Out of 24 districts (103 R/MUN) incidents 67 were reported from IRA application*

NRCS iniitates to train more people in operation of IRA application from NRCS learning platform *(lms.nrcs.org/$)*
  - **Distance learning mode**
  - **Live classes**
  - **Online pre and post test**
  - **Online Feedback collection**
  - *(More than 300+ people trained from 22 most vulnerable districts via NRCS learning platform)*

Localization of IRA Application

Ownership		Used by		Data Collected by		Validate and process by		Reports, Map and data available in public portal
NDRRMA and NRCS	→	Local Government, Security forces and NRCS DC and SC	→	Local Government, Nepal Police and NRCS DC and SC	→	Joint Team (NRCS HQs, DAO, DEOC)	→	

NRCS approach in localization

- Skill development : More than 1000+ people trained from 22 most vulnerable districts via NRCS learning platform
- Sharing of system accessibility: Separate local level credentials are provided to local government and districts
- Equal participation: Local government, Nepal Police and NRCS are equally responsible for data collection, validation and sharing.

"All local levels have access to IRA. They can update and provide disaster related information from the field, which can be directly fed into the system"

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Localization of IRA Application
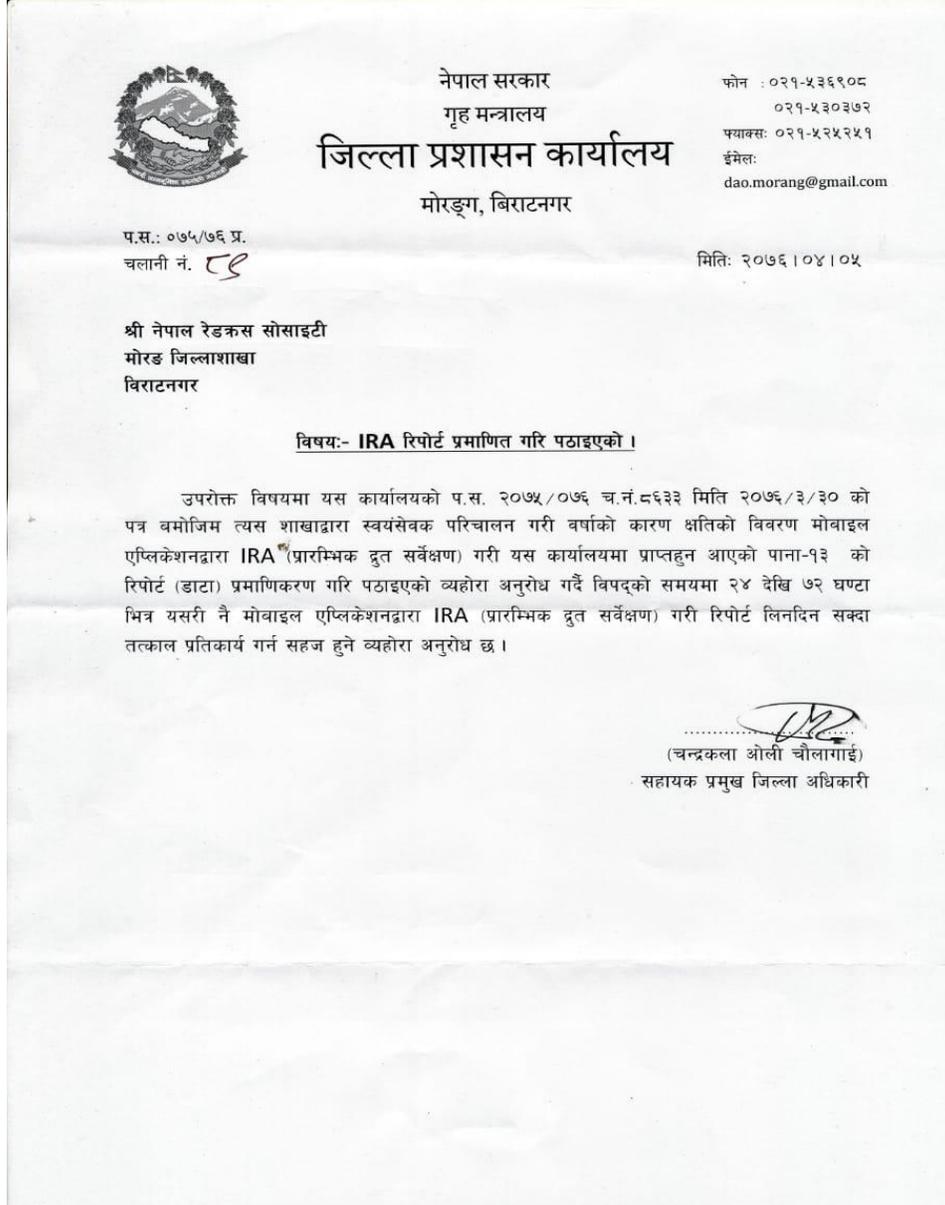
IRA team mobilize at Sindupalchowk flood and landslide 2021

Localization of IRA Application

IRA training at Banke district 2021.

Hybrid IRA simulation exercise at Dang District, 2021

72 hours rapid assessment approach

- A new approach and activates in a large scale disaster

- Aims to provide a good enough snapshot to fill the initial information vacuum

- Identifies geographic targeting area with an initial estimation of affected and priority population in disaggregated groups

- Supports to stakeholders make emergency operational decisions and plans even in extremely challenging and complex situations

- Follows a mechanism to verify, validate and update the information

- Considers the critical time (3 days) of response to the victims

Lessons learnt

- Technological advancement and innovation are creating new opportunities for enhancing disaster resiliency and risk reduction

- Limited technical human resources have been bottleneck to expand and use tool extensively.

- Traditional technologies, though not considered disruptive, continue to play a critical role in disaster management, and are also benefitting from digitization.

- Situational awareness is improving with new tools that provide a community with a clear understanding of the extent of damage and where to prioritize resources.

- Tools has been effective to improve efficiency, productivity and retain critical information for evidence based decision making by the governance to reach the most vulnerable people during the crisis.

Way forward

- **Compare IRA data / report with Local Government's base data / census data.**
- **Interconnection with National (NDRRMA, BIPAD system), province, DCC, LB's and DAO system.**
- **Disaster (Flood) prediction** *(Metrology and Hydrology system to track the major basin's water level and Early Warning System warning with alert features)*

Thank you!