

Flood Early Warning Systems Institutionalization process in Nepal

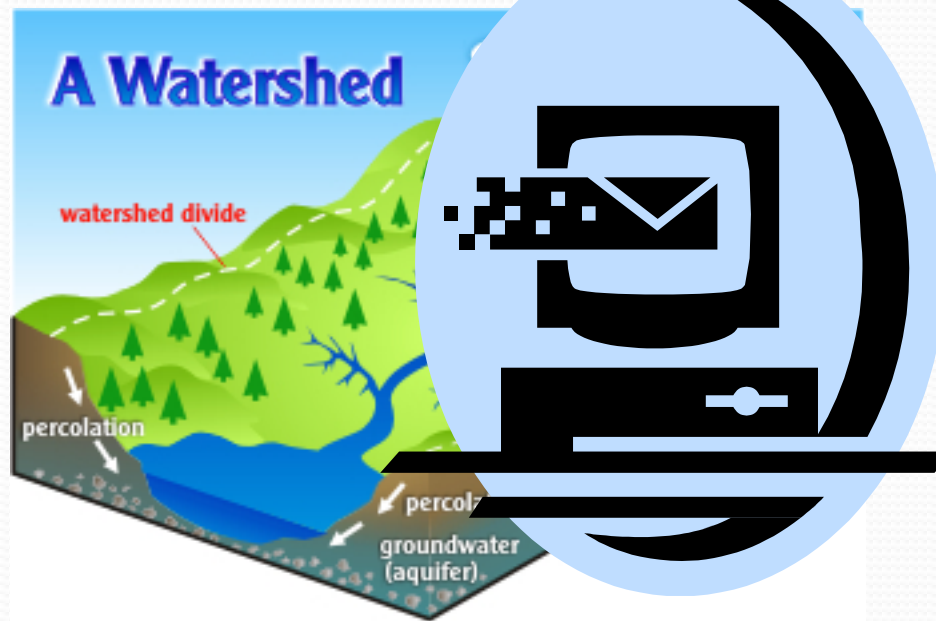
Deputy Director General Department of Hydrology and Meteorology
Ministry of Science and Technology

Nepal Context

- Flood is an annual phenomenon.
- Average annual rainfall of Nepal is 1500 to 2500 mm
- 80% of the rainfall occurs with June to September.
- Average human deaths per year due to flood is more than 80.
- Economic loss is equivalent to 1.5 Million USD

Flood Management Approach

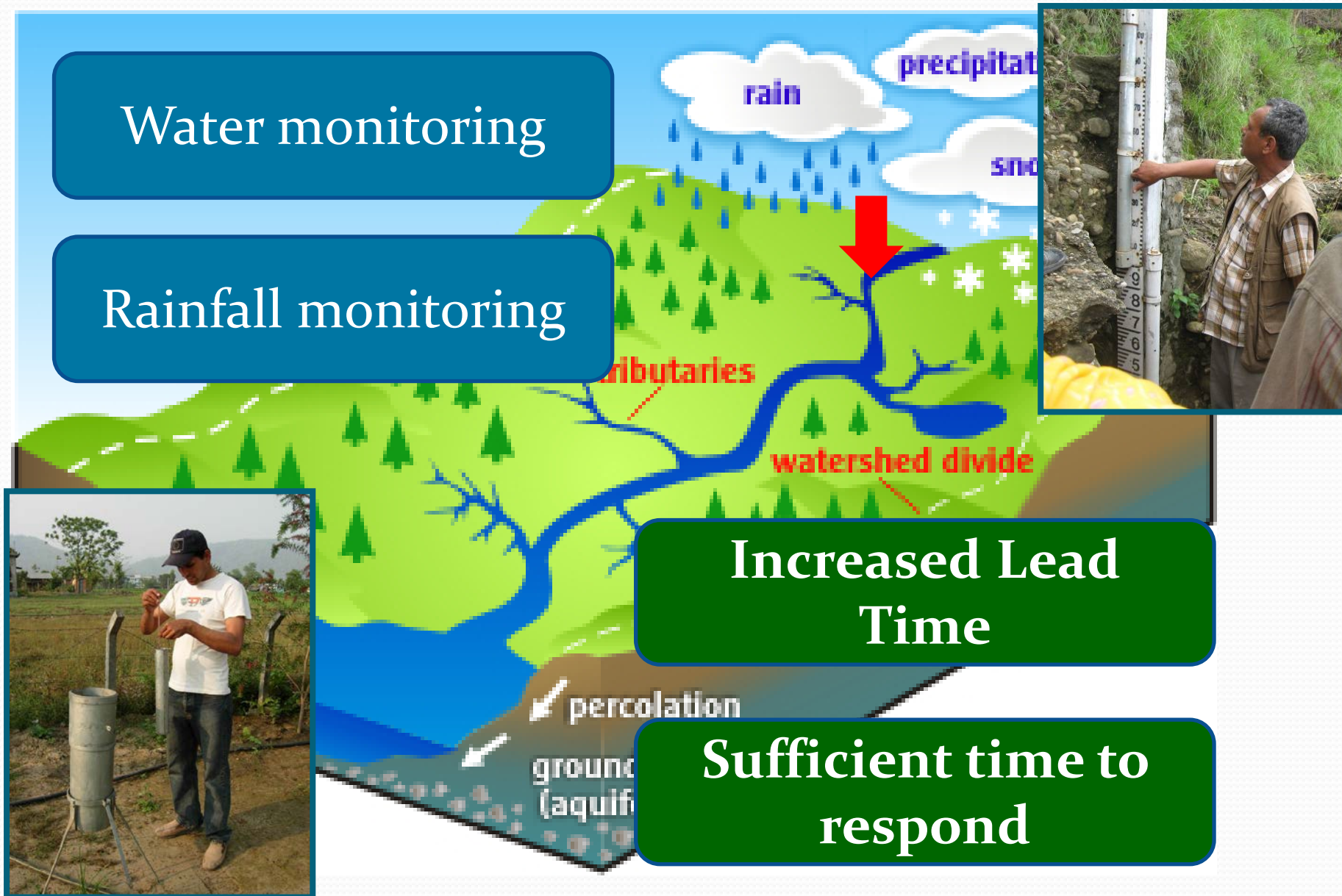
- River Basin Approach
 - Upstream monitoring
- Real Time Telemetric
 - Taking Advantage of Mobile technology



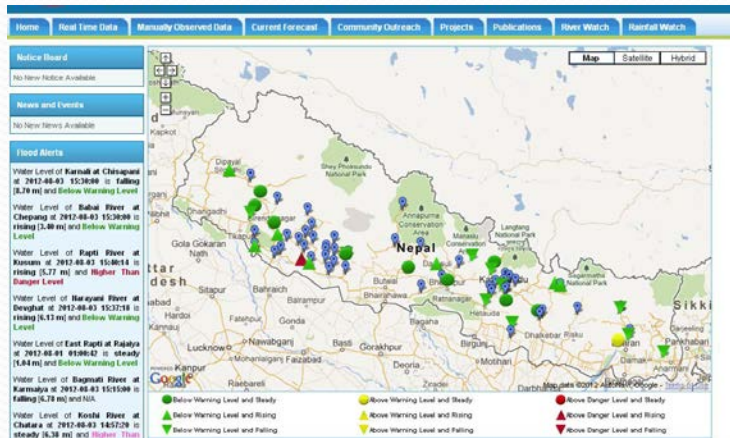
River Basin Approach

Water monitoring

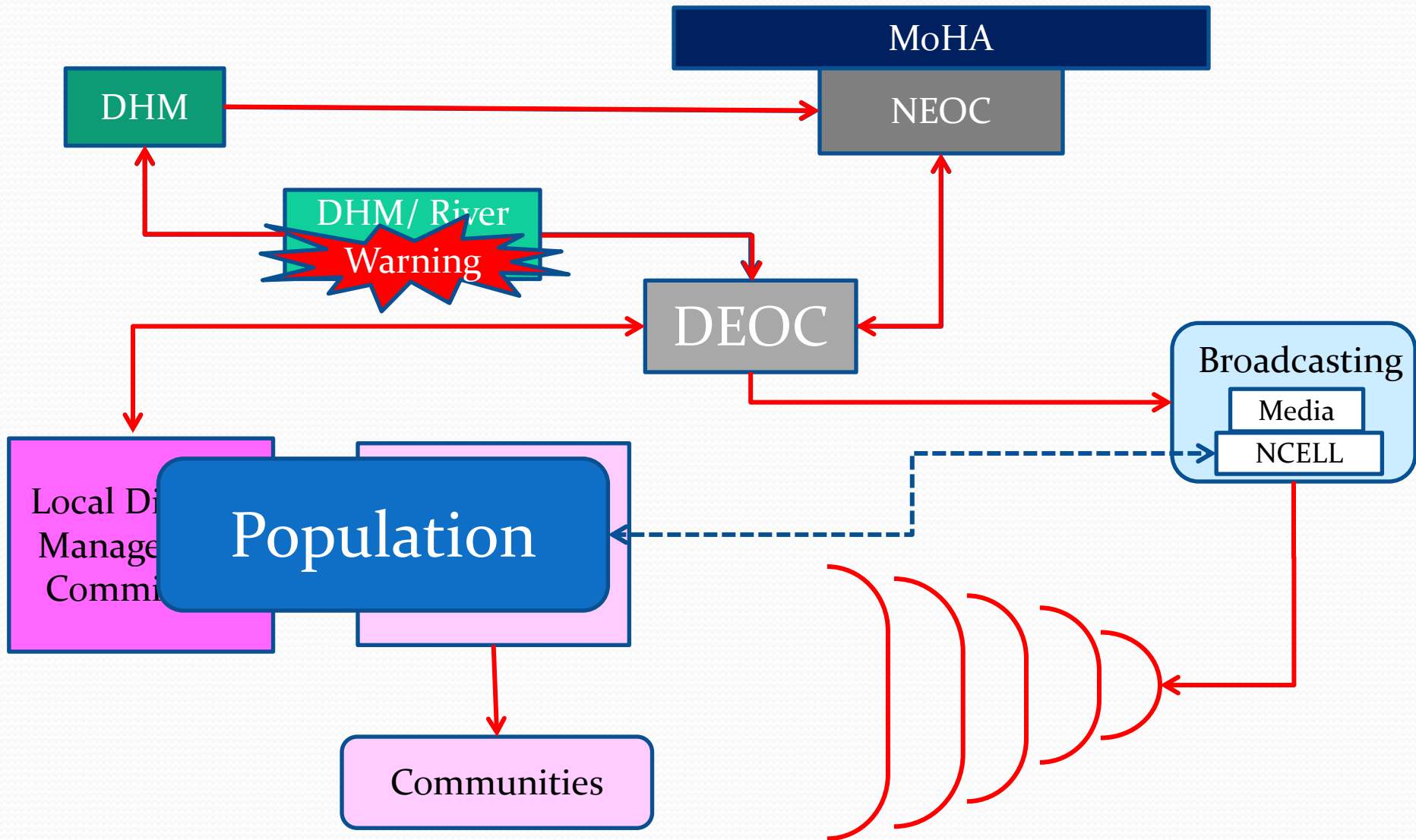
Rainfall monitoring



Real Time Telemetry



Monitoring and Dissemination

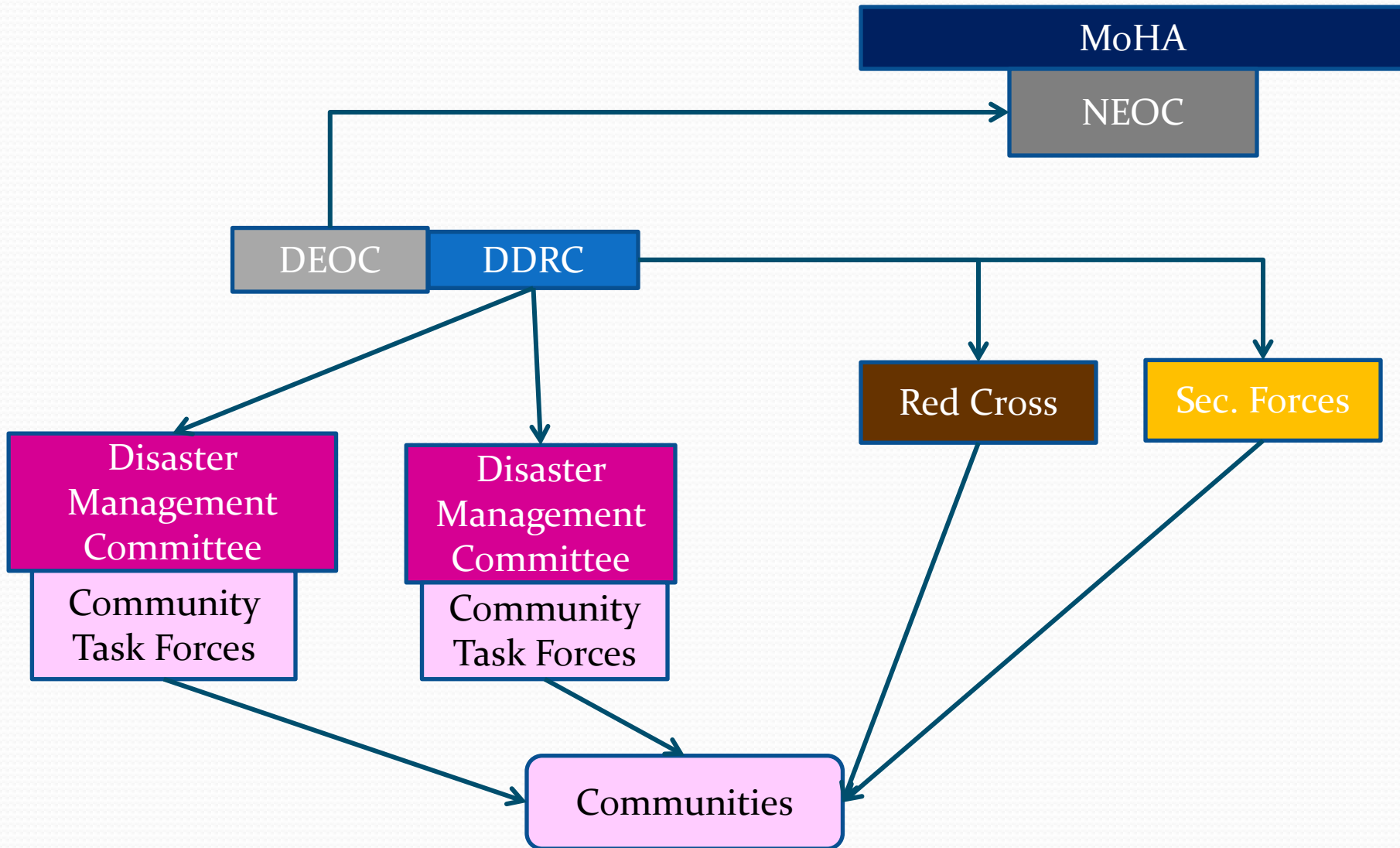


Achievements from this component

- Multiple communication paths linking from Community to national Level

Increase Time for Response before Disaster Strikes

Coordination for Response

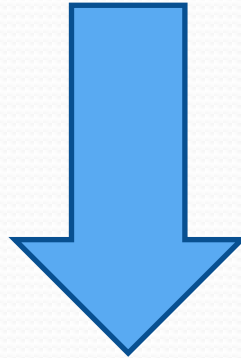


Achievements from this component

Increase Human and Non-Human Emergency Resources mobilised (Community task Forces and Security Forces)

Tangible Results

2008 - Establishment of Early Warning Systems

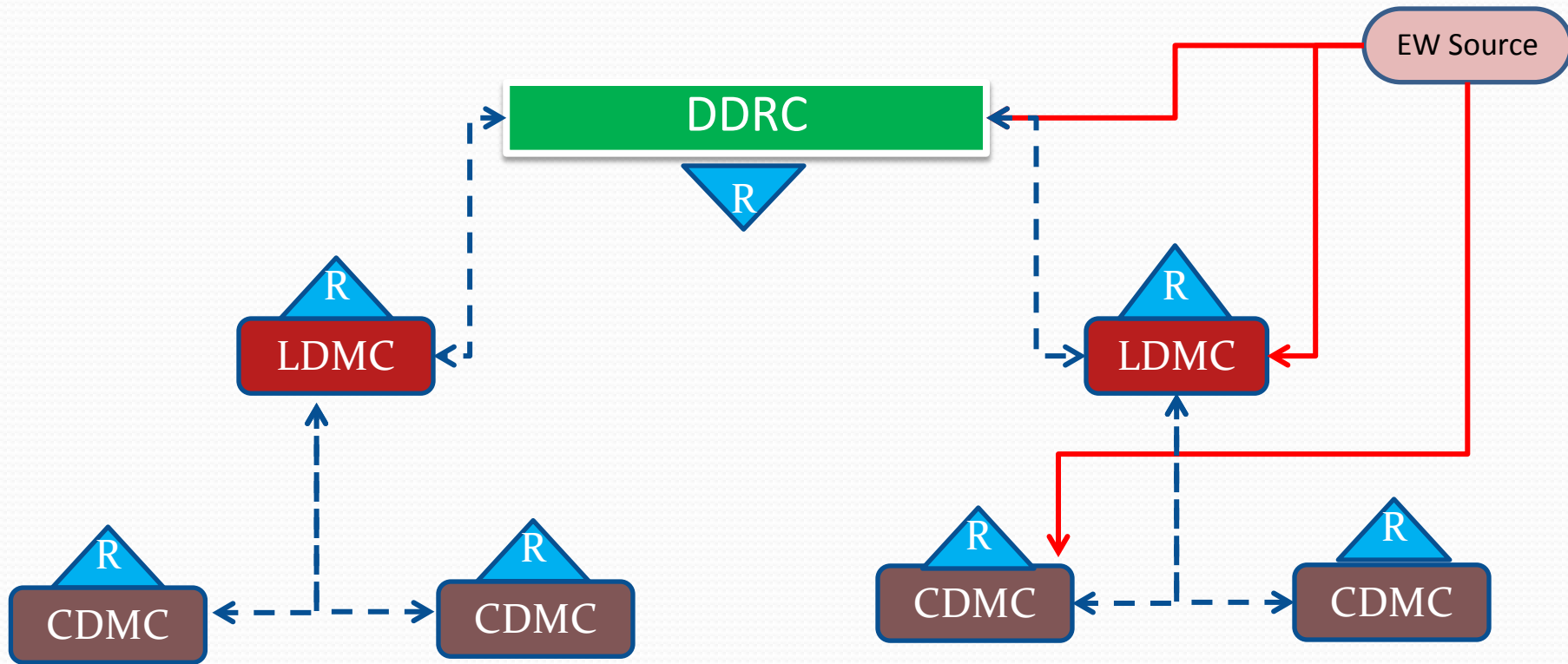


Zero Casualties – Kailali, Banke, Kanchanpur

West Rapti have reached a historical level

Karnali river reached a 100 years record

Emergency Scenario



Community

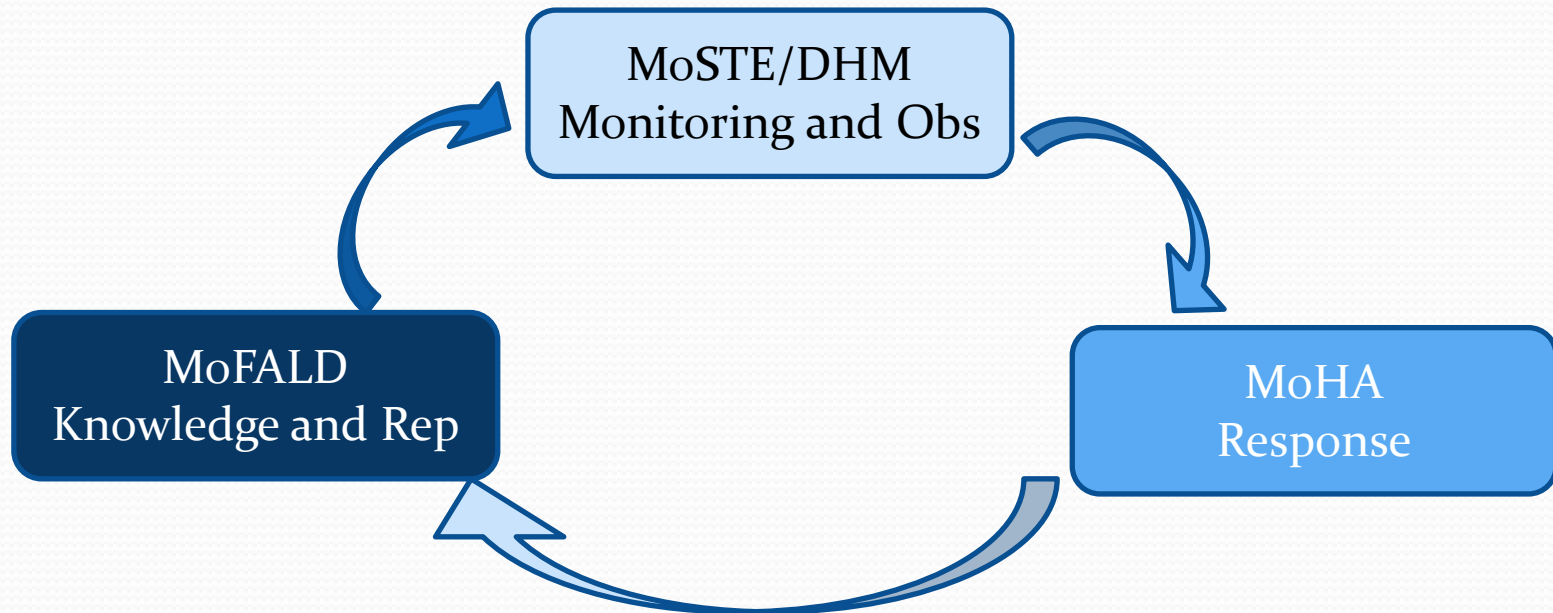
Community

Community

Community

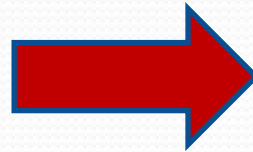
Institutionalization Implementation Framework

- Inter-Ministerial Initiative:
 - MoSTE/DHM - Monitoring and Observation lead
 - MoHA - Response lead
 - MoFALD - Knowledge Management & Replication lead



Institutionalization Capacity Building

National EWS Master Trainers



District EWS Experts



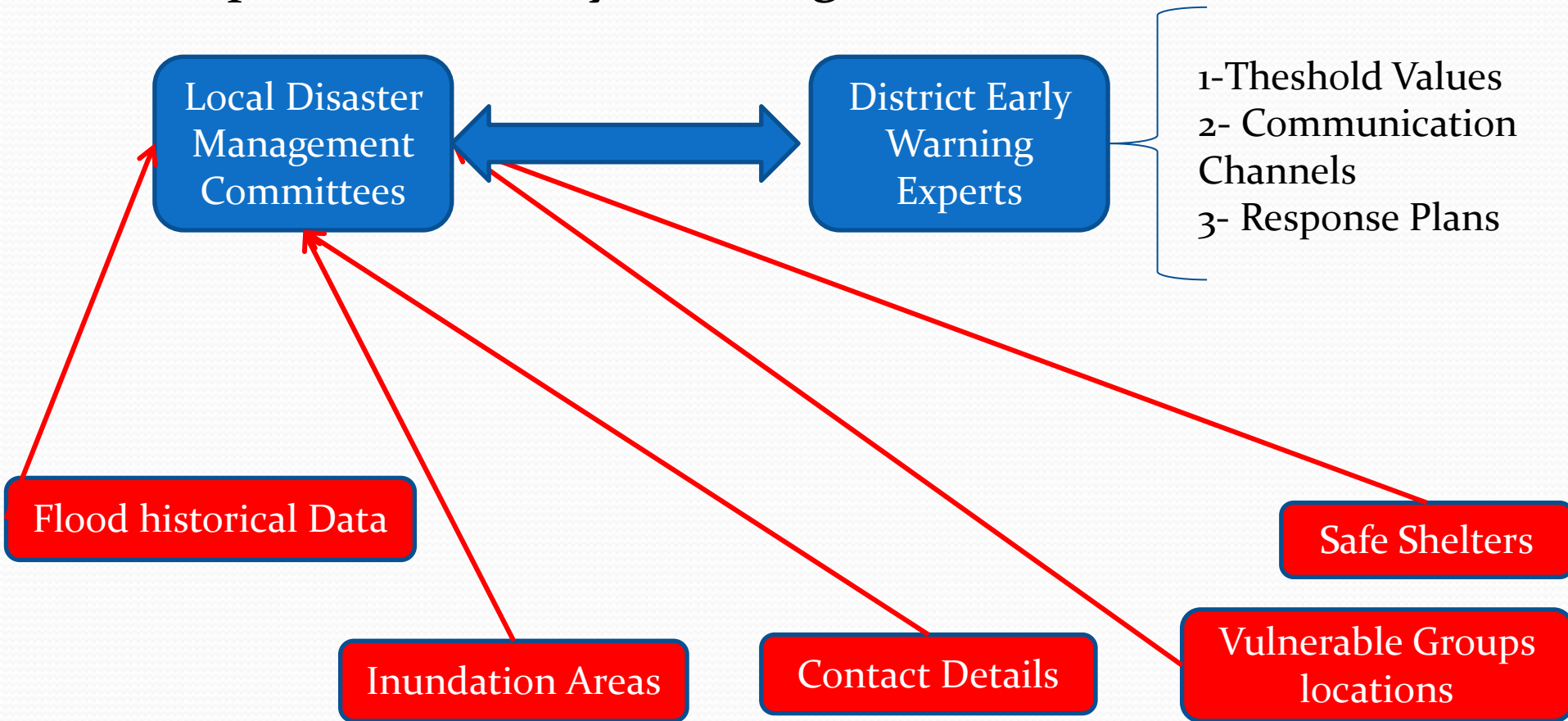
Community
Task Forces



Local Disaster
Management
Committees

Institutionalization System Establishment

- Data Collection
- Response and Early Warning Mechanisms



Conclusions

- The Flood Early Warning System provides enough time to evacuate the communities
- An inexpensive System easily replicable
- The Communities are trained as first Responders
- The Government Response Mechanisms coordinate:
 - Security Forces
 - Red Cross & Disaster Management Stakeholders
 - Community Task Forces
- **A System that has proven to save lives**