

Capacity Building for Sentinel Asia Mini-Project 2015 (sponsored by JAXA)

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Content

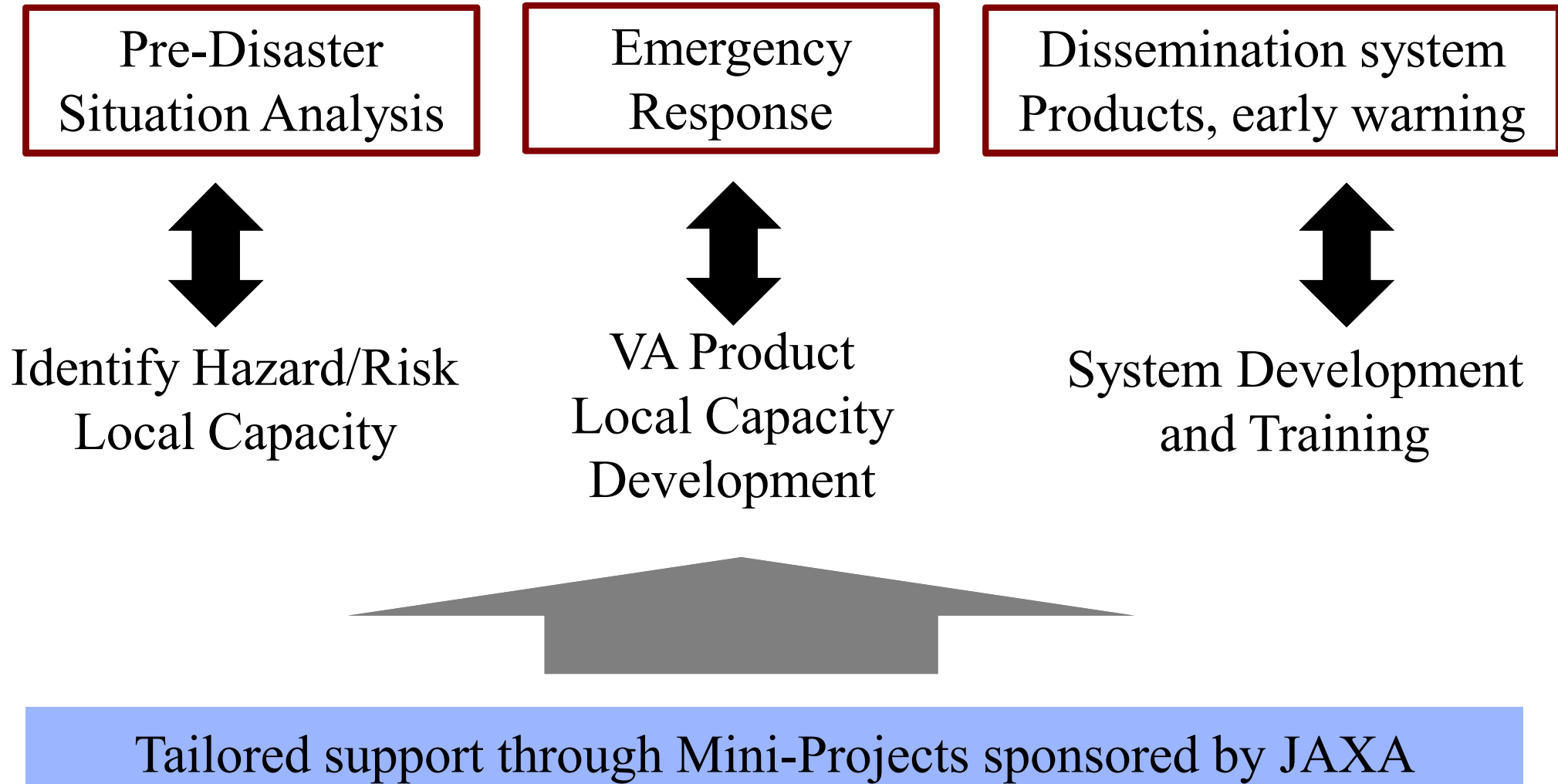
- Geoinformatics Center, Asian Institute of Technology
- Sentinel Asia and Related Activities
- Lessons, Concerns and Future Vision



Geoinformatics Center
Established in 1999 (Self-Funded)



Summary of Training Activities at GIC/AIT for DRR



2. *Pre-Disaster Situation Analysis*

Database Development and Risk Mapping Local Capacity Building Mini-Project (JAXA)

*Sentinel Asia related Mini-Project based training and capacity building. Subject areas and countries are selected with the consultation and recommendation of JAXA and reported to Asia Pacific Remote Sensing Agency Forum (PRSAF). **Implement Mini-Project in 3 Phases***

Target: *Hazard, vulnerability Risk mapping know-how, Comprehensive hazard based databasing, hazard modeling knowledge, software training, local networking*

New Mini-Project Training (JAXA) Since 2013

Subject areas are decided by JAXA considering JAXA main initiatives in the region through Asia Pacific Remote Sensing Agency Forum (PRSAF).

Initiatives are:

- 1. Sentinel Asia (Disaster Related)*
- 2. Space Applications for Environment*

Implementation Process:

- ✓ Countries are decided by JAXA with the discussion with GIC.
- ✓ GIC invites selected countries and agencies for participation.
Correspondence and discussion
- ✓ Implement Mini-Project in 3 Phases

Apr-June

July-Aug

Sep ...

Local Capacity Building Mini-Project (JAXA)

Sentinel Asia related Mini-Project based training and capacity building. Subject areas and countries are selected with the consultation and recommendation of JAXA and reported to Asia Pacific Remote Sensing Agency Forum (PRSAF). Implement Mini-Project in 3 Phases

Phase 1: Initial workshop and project formulation (conducted locally organized by the implementing agency)

Sep-Oct

Phase 2: Conducted at GIC/AIT inviting 2 participants from implementing and other relevant agencies nominated by respective organization attending research/analysis and output generation at GIC/AIT for 4 week with the financial support of JAXA.

Nov-Dec

Phase 3: Carry out accuracy assessment using field verification, meeting stakeholders and users. And Final Workshop conducted locally to disseminate the results to many stakeholders

Jan-Feb

2014 Completed Mini-Projects

1. Flood hazard Mapping Implementation – *Bangladesh*
(*Bangladesh Water Development Board*)
2. Flood Hazard Mapping Implementation – *Myanmar*
(*Dept. of Hydrology and Meteorology*)
3. Volcanic Hazard Mapping Implementation – *Philippines*
(*PHIVOLCS & NAMRIA*)
4. Flood Hazard Mapping Implementation – *Philippines*
(*PAGASA & NAMRIA*)
5. Flood Hazard Mapping Implementation – *Sri Lanka*
(*DMC & Survey Department*)
6. Flood Hazard and exposure mapping – *Indonesia*
(*LAPAN and ??*)
7. Flood Hazard and exposure mapping – *Vietnam*
(*STI and DMC*)
8. Rice Crop Monitoring and Yield Estimation – *Cambodia*
(*Department of Planning and Statistics*)

2015 Mini-Projects (On-going)

1. Flood hazard Mapping & SA Emergency Products Support – *Vietnam*
Space Technology Institute (STI), VAST
Disaster Management Center (DMC), MARD
2. Flood Hazard Mapping & SA Emergency Products Support – *Bhutan*
Dept. of Disaster Management (DDM)
Flood Engineering and Mitigation Division (FEMD)
3. Flood Hazard Mapping & SA Emergency Products Support – *Nepal*
Dept. of Hydrology and Meteorology (DHM)
4. Landslide Mapping & SA Emergency Products Support – *Sri Lanka*
Survey Department (SD)
National Building Research Organization (NBRO)
5. Landslide Mapping & SA Emergency Products Support – *Indonesia*
National Institute of Aeronautics and Space (LAPAN)
National Disaster Management Authority (BNPB)
6. Forest Cover & Biomass Estimation – *Myanmar*
Department of Forestry

Implementation of Mini-Project 2015-16

- **Phase 1:**
 - Workshop and Stakeholder Consultation
 - Sep. – Nov. 2015
- **Phase 2:**
 - Capacity Building Workshop and Training at AIT
 - 16 Nov. – 11 Dec. 2015
- **Phase 3: (on-going)**
 - Field Verification and Workshop for Dissemination of Results
 - Feb – Mar. 2016

Phase 1

Workshop and Stakeholder Consultation

Workshop

- Introduction of Mini-Project
- Applications of Remote Sensing and GIS in DRR

Stakeholder Consultations

- Objectives of the project
- Data requirements
- Expected outputs
- Selection of study area(s)
- Discussions and feedbacks

Bhutan



Nepal



Sri Lanka



Vietnam



Phase 2

Capacity Building Workshop and Training at AIT

Training

- Lecture and hands-on sessions on application of Remote Sensing and GIS on disaster management
- ALOS-2 SAR application training on floods and landslides (conducted by PASCO)

Country-wise project implementation

- Developing methodology
- Processing of Satellite data
- Integration of satellite data with of models
- Validation of data products (outputs) against available secondary information
- Preparation of reports



Phase 3

Field Verifications and Workshop for Dissemination of Results

Field Verifications

- Field visit of study area(s)
- Fine-tune and update the data products

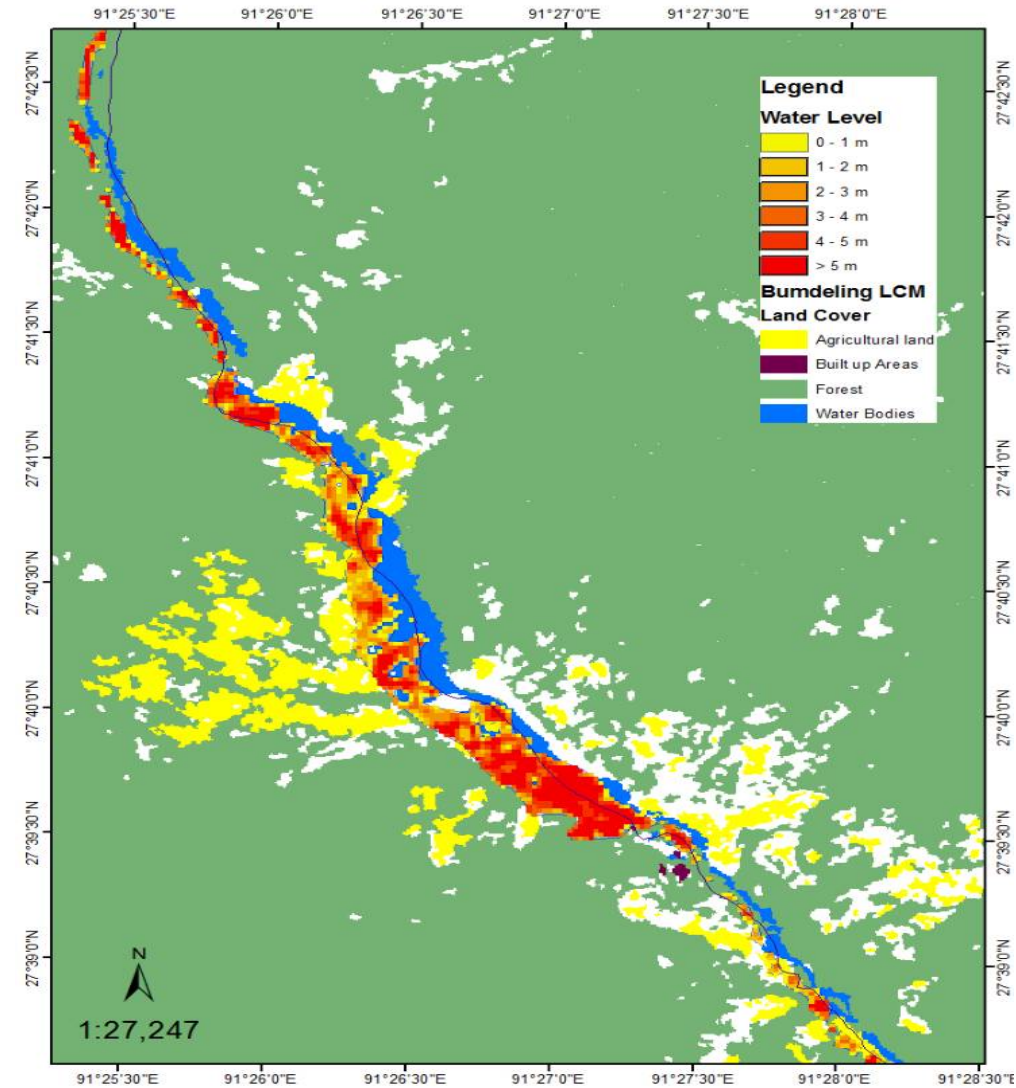
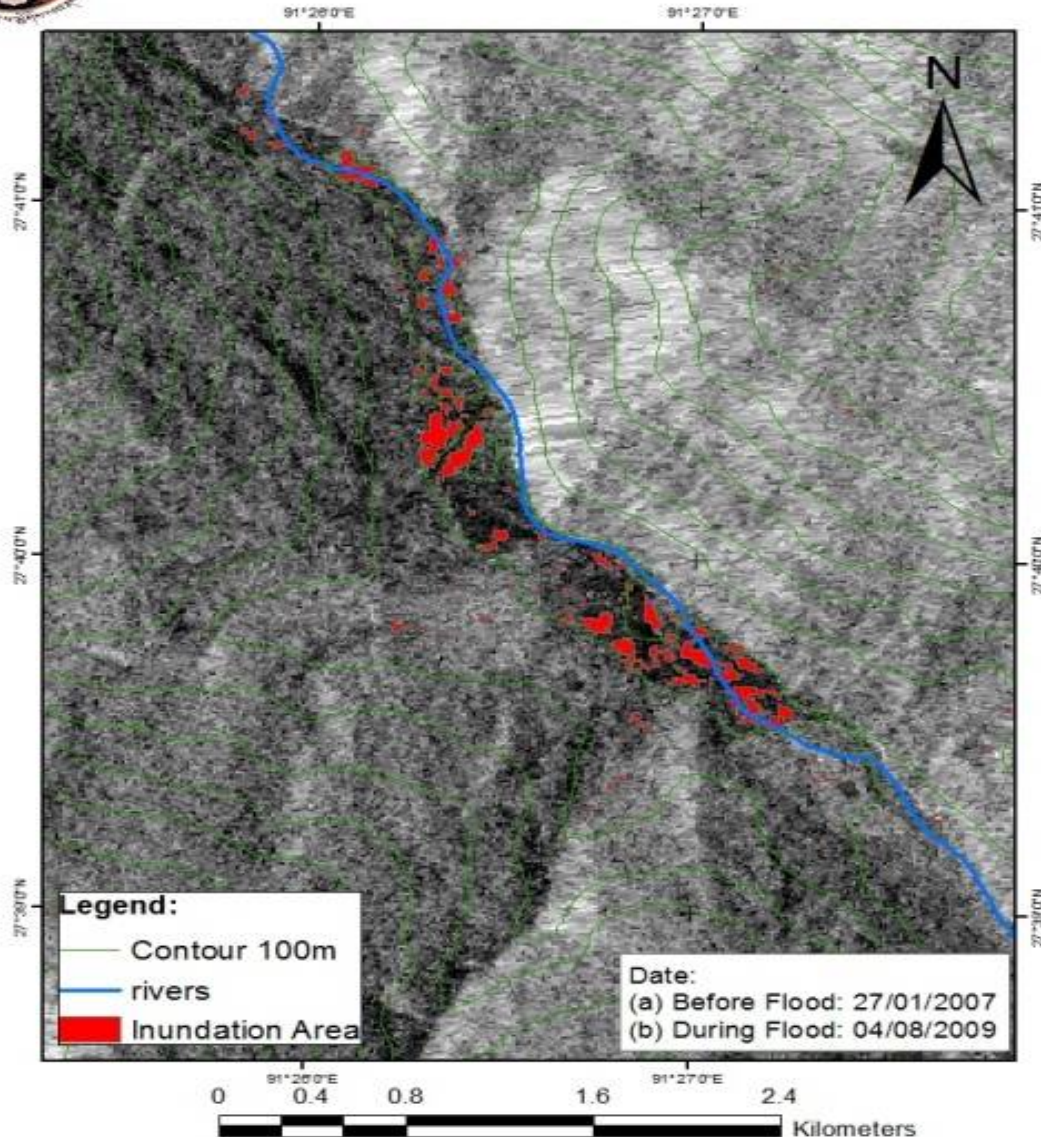
Workshop for Dissemination of Results

- Presentation of findings
- Share the value-added data products to the stakeholders
- Seeking suggestions from all stakeholders
- Lessons learned
- Future plans

Interim Outcomes: Bhutan

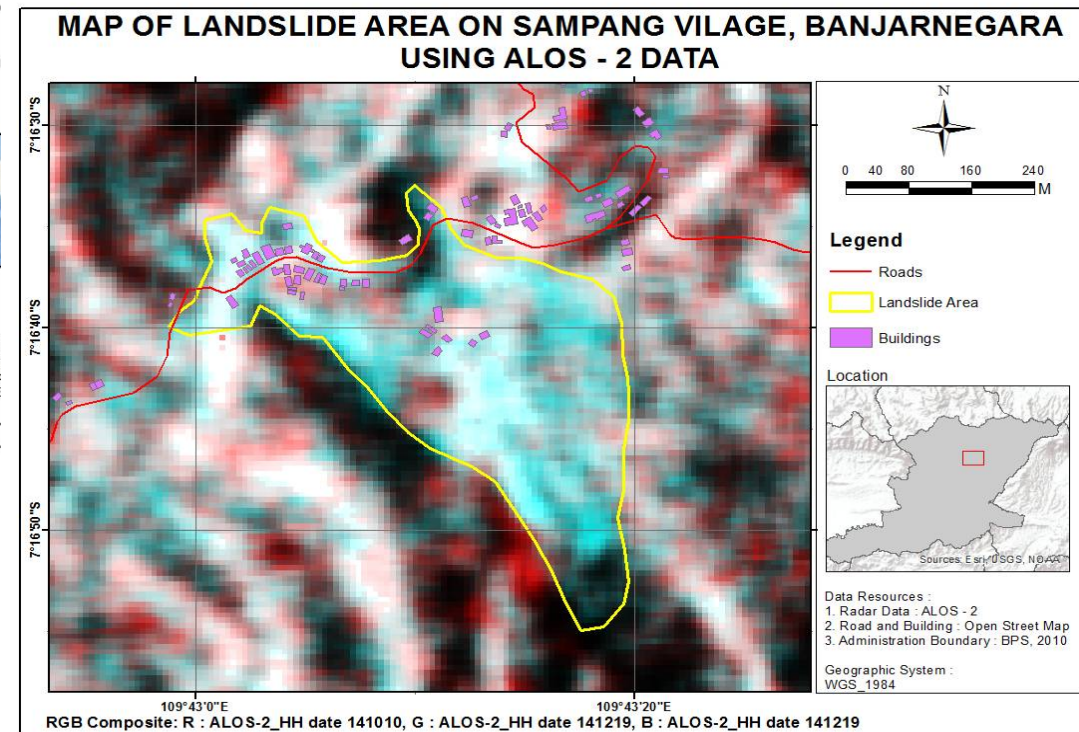
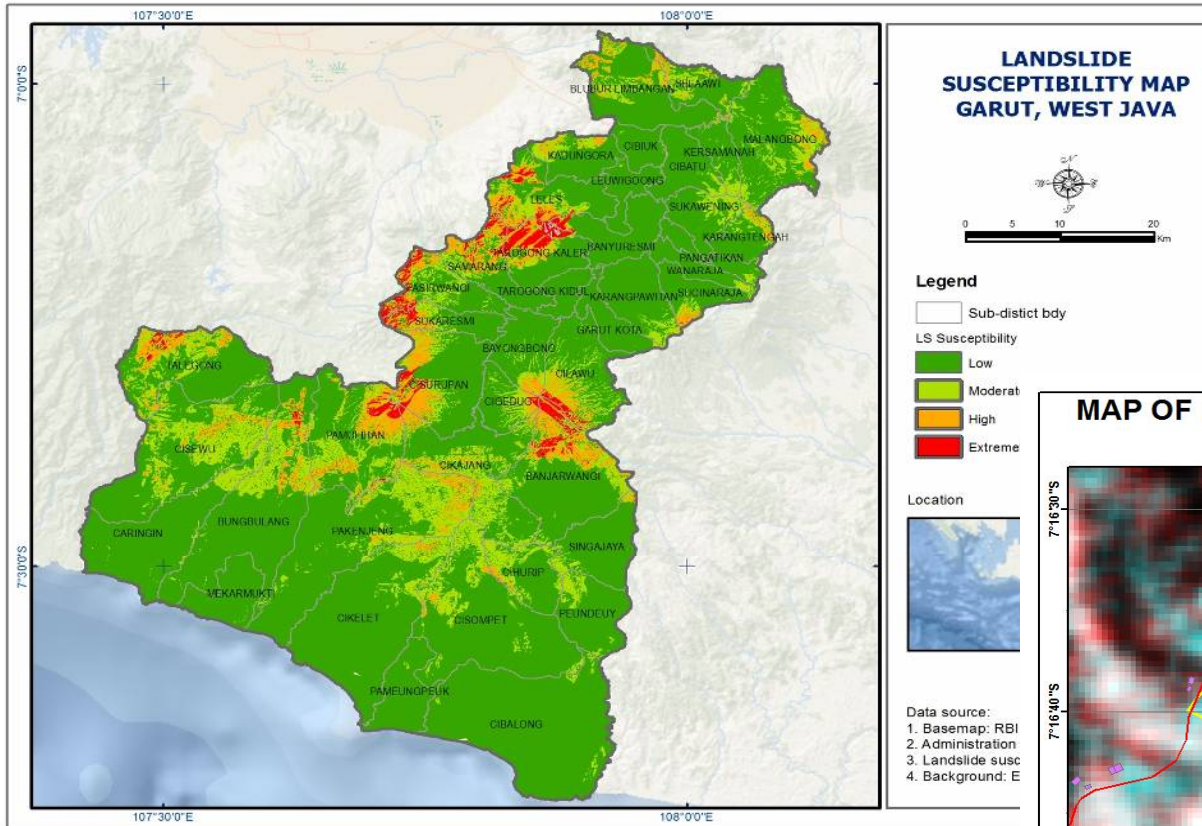


Flood Inundation Map of Kolongchu River BHUTAN



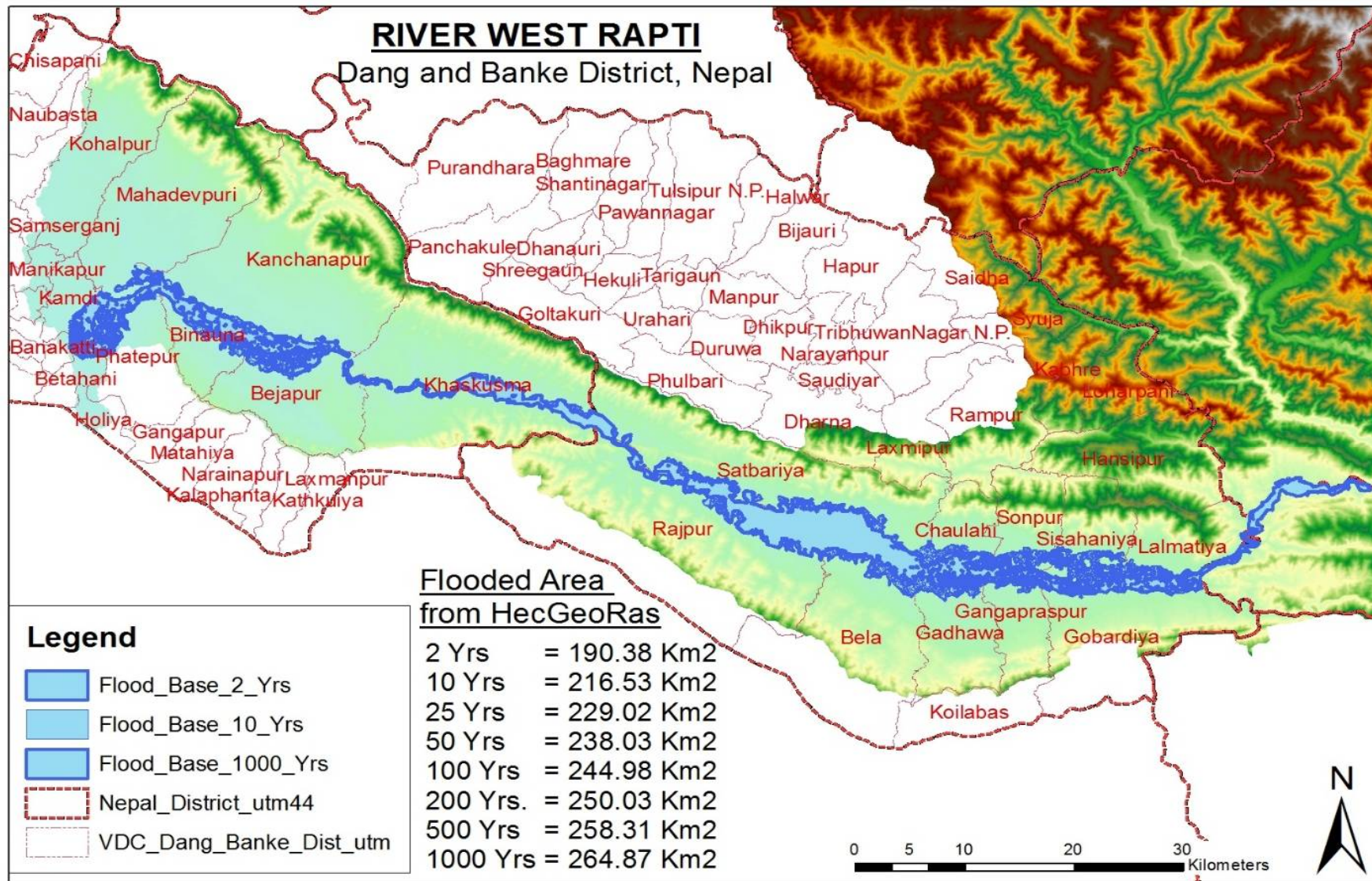
Flood Hazard and Mapping in Kolongchu River Basin, Bhutan

Interim Outcomes: Indonesia



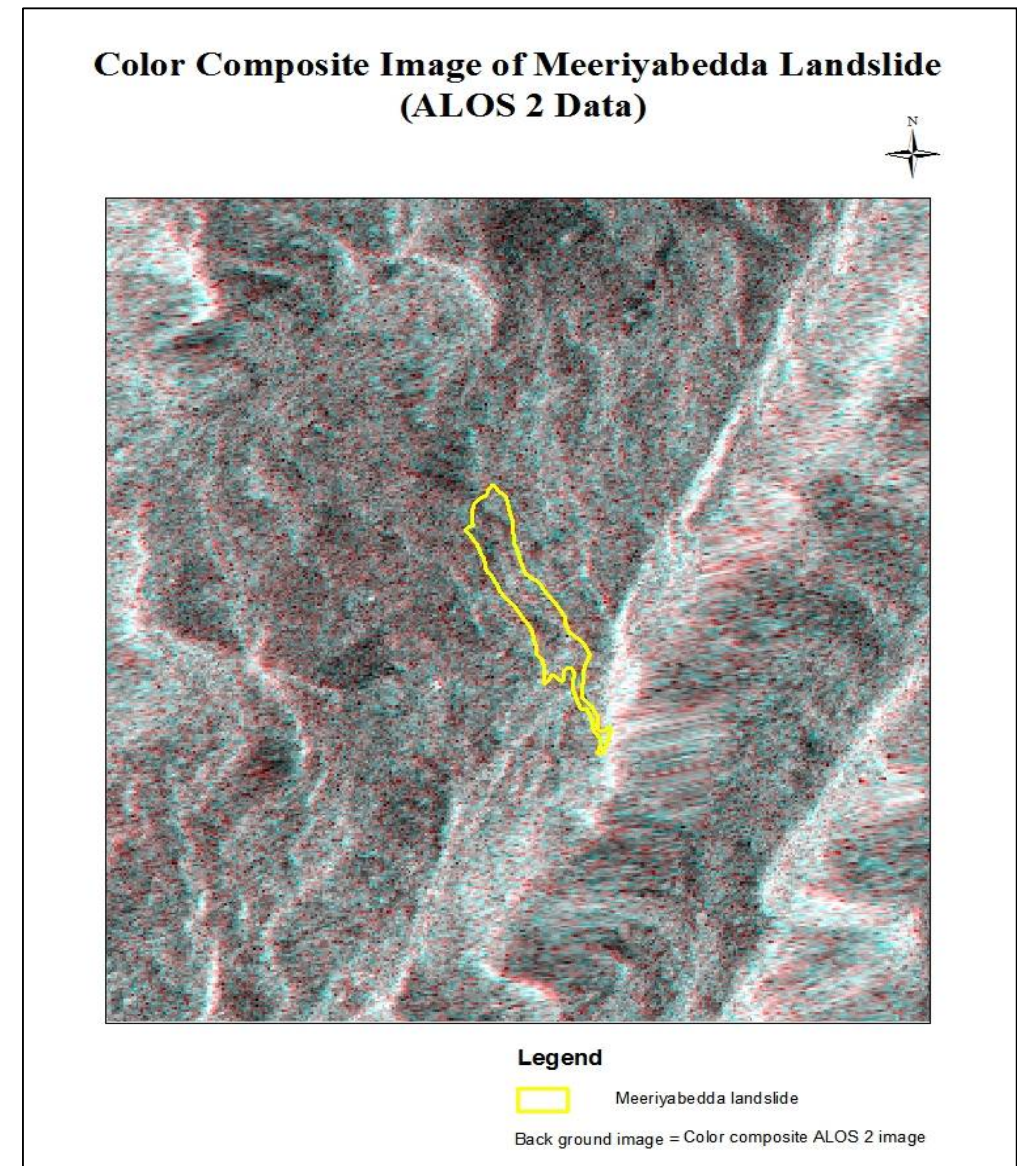
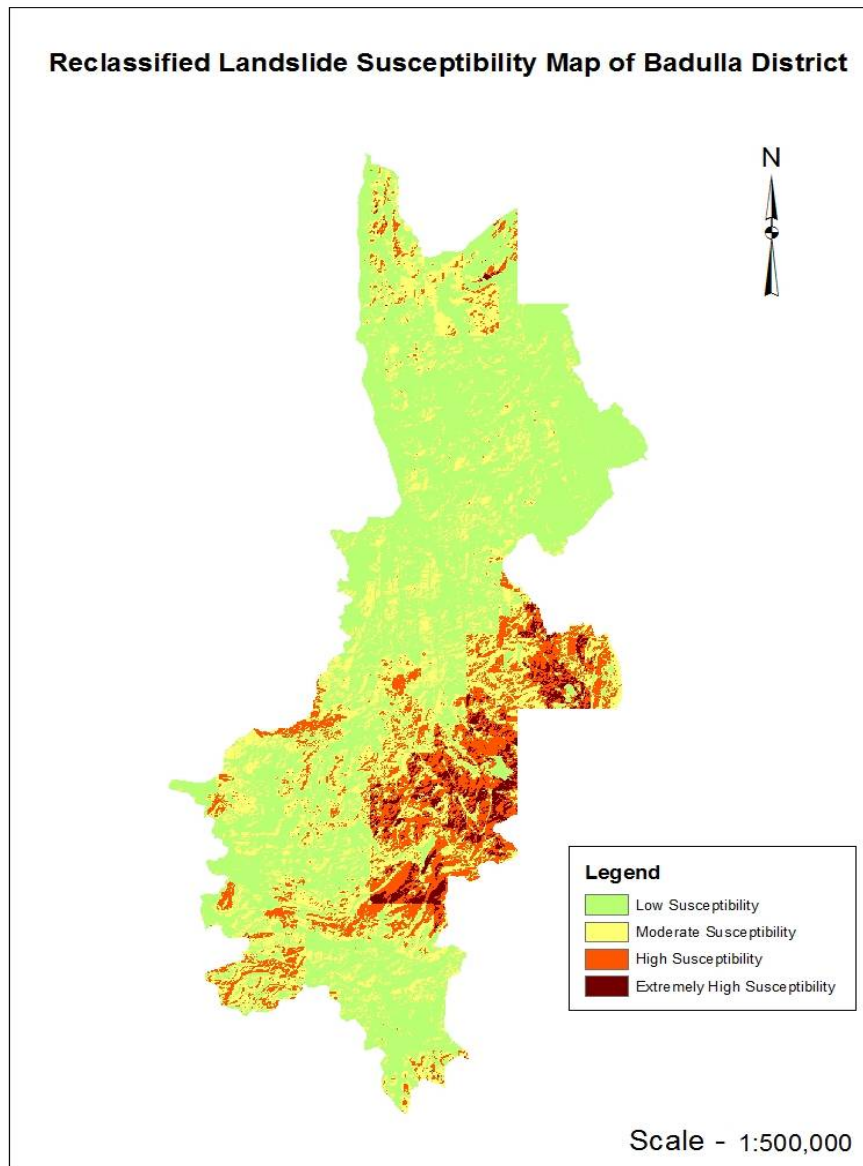
Landslide Susceptibility Mapping and Landslide Detection using SAR data (Case study: Garut and Banjarnegara, Indonesia)

Interim Outcomes: Nepal



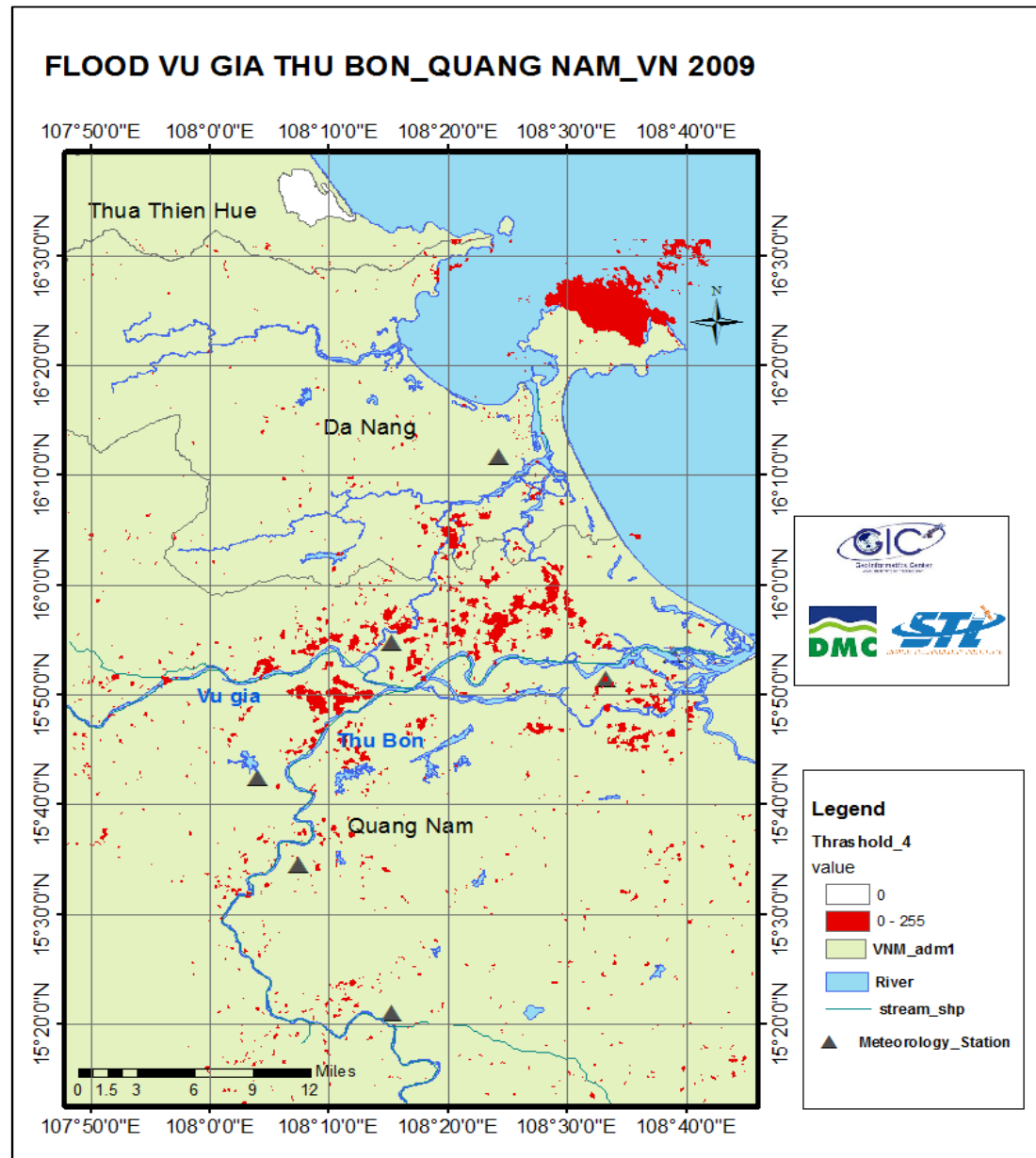
Flood Hazard and Mapping in West Rapti River Basin, Nepal

Interim Outcomes: Sri Lanka

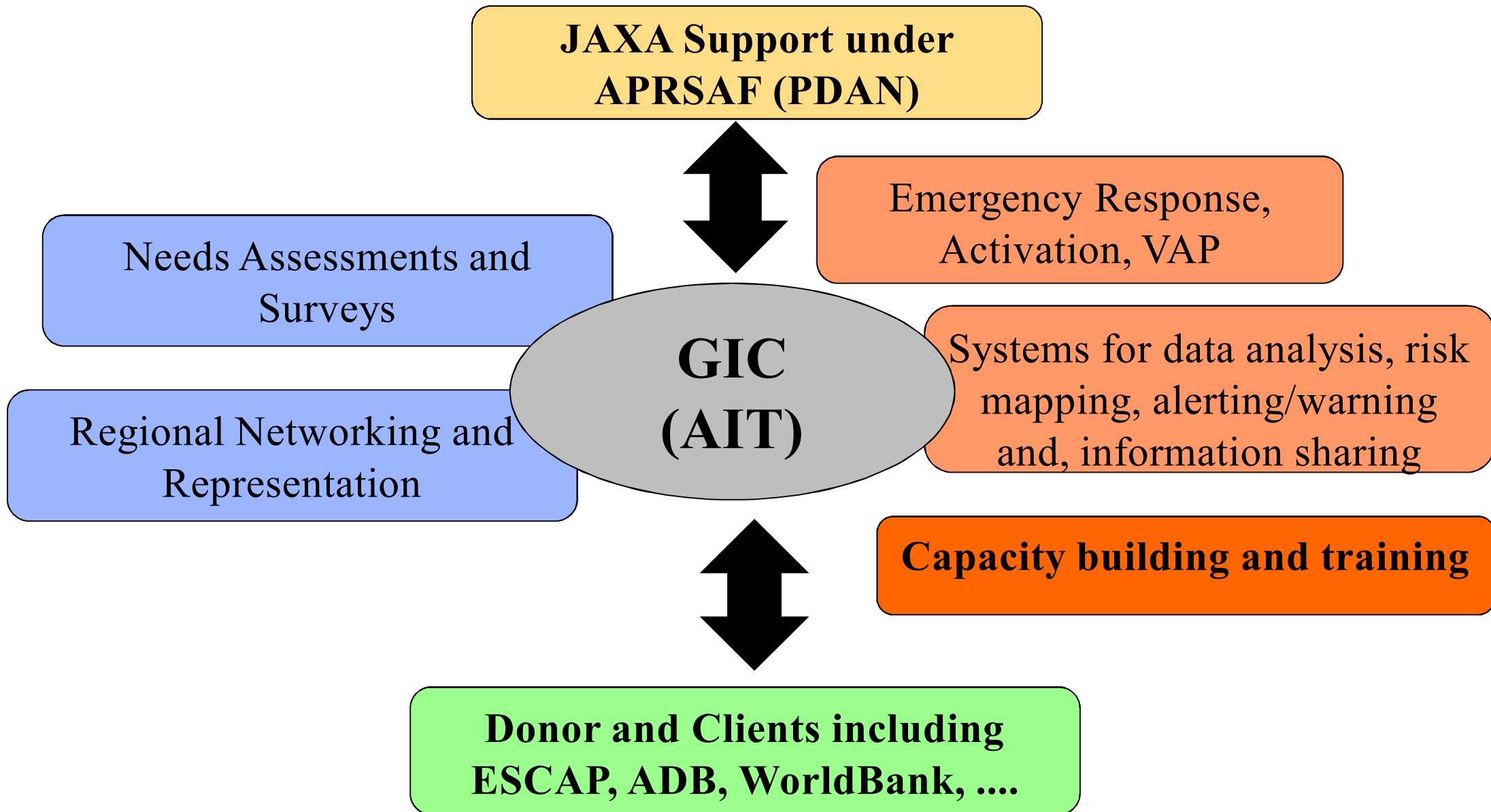


Landslide Susceptibility Mapping and Landslide Detection using SAR data in Badulla District of Sri Lanka

Interim Outcomes: Vietnam



GIC-AIT Role for Space Based DRR in Asia-Pacific



Expectation through 2015 Mini-Project

- ✓ Share the technical know-how of the use of optical/SAR sensors in identifying and mapping landslides,
- ✓ Improvement of the communication between technical agencies with respect to landslide hazard, information content, and local needs,
- ✓ Understand national DRR systems (policies, procedure and cultures) in tailoring effective local technical capacity development and networking to incorporate space based technology in DRR,
- ✓ Sharing case studies and knowledge in the region

THANK YOU

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