

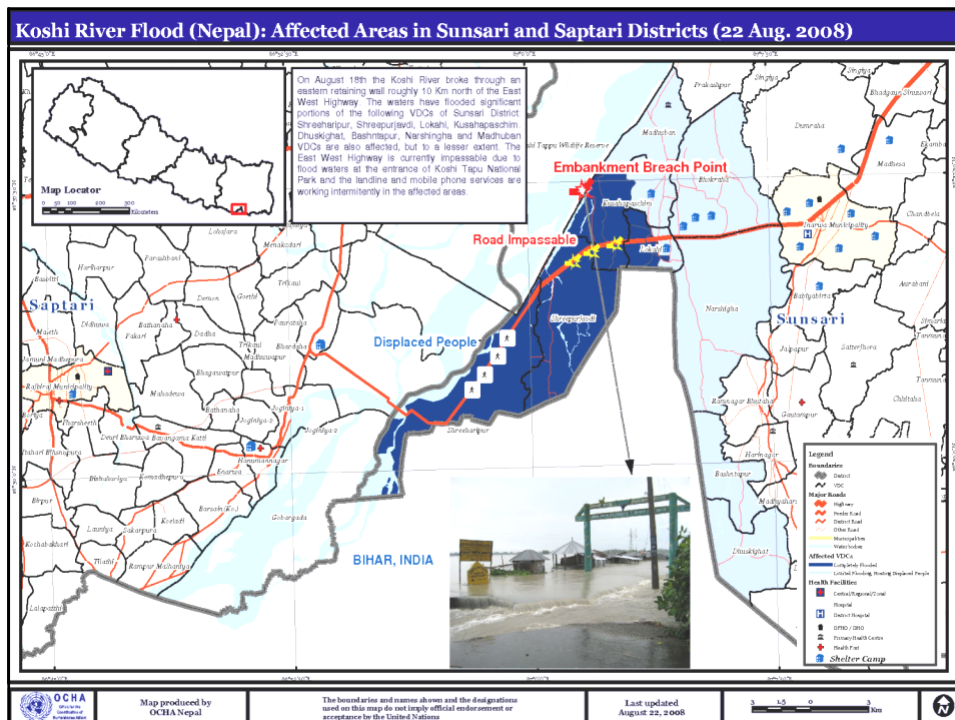
Use of Satellite Data in Saptakoshi Basin of Nepal:

Assessment of Situation, Response Needs and Future Actions

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Situation Overview





-  Breaching of Spur No. 12.10 and 12.90 of Saptakoshi dam since August 18 triggered diversion of Koshi river to east and causing massive flood in different Village Development Committees (VDC) of Sunsari district.
-  4 VDCs: Shreepur, Haripur, Laukahi and Western Kusaha have been totally smashed along with substantial damage to other villages.
-  Lack of compliance to timely technical supervision and maintenance caused breaching.
-  The precipitation in the Saptakoshi catchment areas remain below normal and not the cause for recent flooding.
-  Extensive assessment of loss and damage is on going in a collaborative way.

Consequences and Impacts

Multidimensional Impact on human security



-  Economic security
-  Food security
-  Health security
-  Environmental security
-  Human development
-  Psycho-social strain

According to preliminary assessment

-  Total families affected: 10,000
-  Total population affected: 107,000
-  Total families displaced: 7,000
-  Total VDCs affected: 9

Loss of Life and Property





Loss of Human Life:

-  Reported case 1 person dead (No other official report about human casualties and missing persons)
-  Reports presume numbers of missing

Loss of Lifeline Infrastructures:

-  Highway: 12 km in different parts of Sunsari district
-  Culverts, irrigation channels, water supply system
-  Rural road network
-  Communication network

Loss of Livelihood:


-  Livestock – 30000 cattle affected. 391 perished
-  Cultivated land (preliminary assessment says around 5300 hectares of land totally damaged)
-  Damaged crops worth Rs 300 million
-  Income generation and productive opportunities

Loss....







Public Property:

-  School buildings
-  Community-owned land and property

Personal Property:

-  Houses damaged
-  Cattle sheds
-  Personal amenities
-  Houses damaged around 10000
-  Enterprises
-  Foodstuffs

Rescue Operations

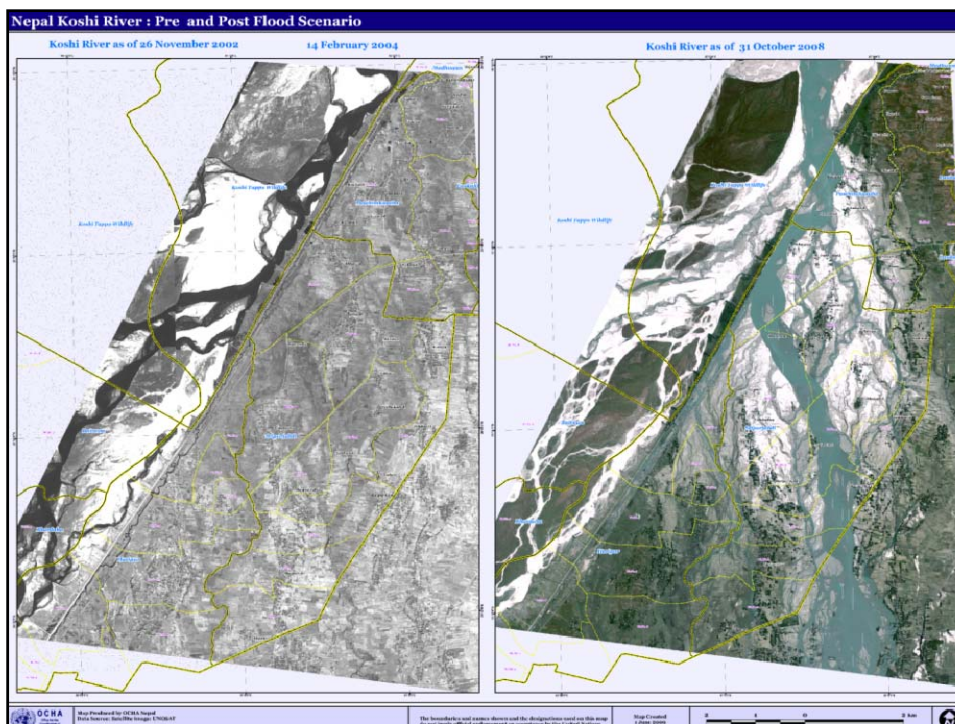
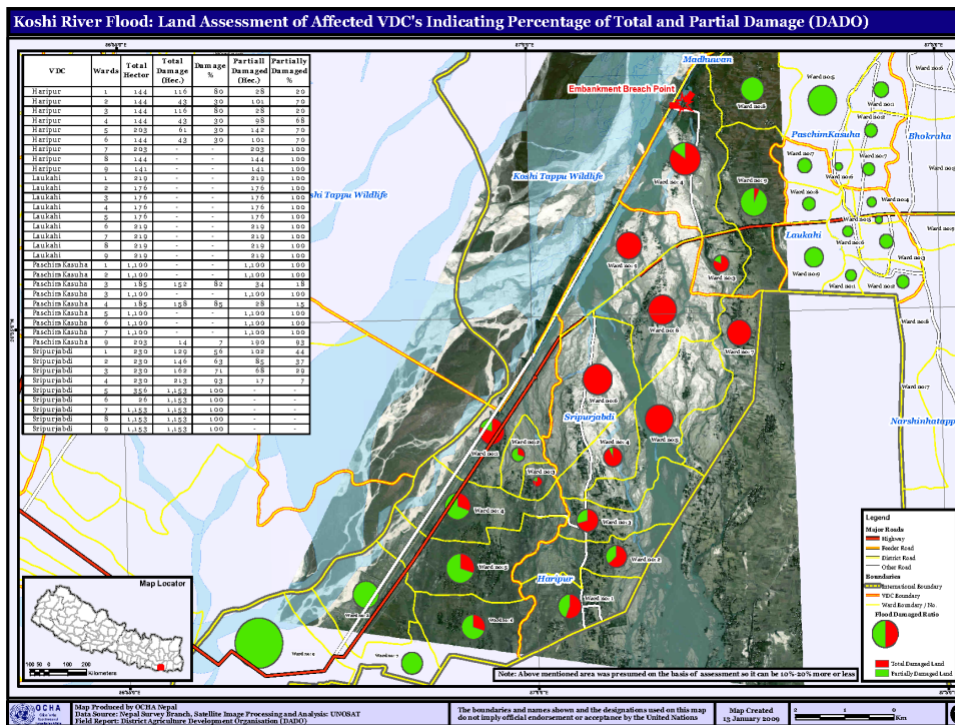
-  District Disaster Relief Committee, Sunsari immediately started rescue operations by mobilizing security personnel, Redcross, I/NGOs and local community.
-  Local security personnel and the local alliance evacuated the risk population to the safer place in an intensive way.
-  Army 145, Nepal Police and Armed Police Force 300 directly mobilized.
-  Helicopters provided by Ministry of Home Affairs (3 Nepal Army helicopters) and 10 rafting boats (MOHA, Nepal Army), 3 ordinary boats (MOHA), 4 elephants mobilized for rescue and distribution of relief materials.
-  Search and rescue operations still on going in different parts of the affected VDCs.
-  Multi-stakeholder coordination and monitoring meetings under the convenorship of DDRC conducted.

Koshi Floods - 2008

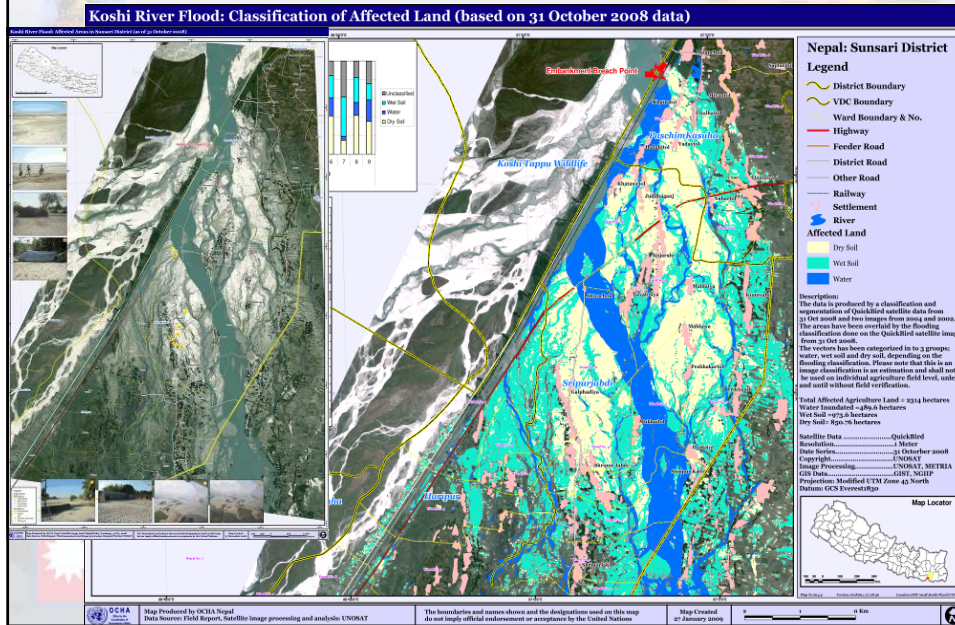
Some observations:

- Maps produced by OCHA, ICIMOD, Survey Dept., NRCS and other agencies
- Good Spatial datasets
 - Boundaries, place names, Pcode
 - No schools and hospital location, no cadastral information available
- Under International Charter “Space and Major Disasters” and SentinelAsia
 - Satellite imagery and products
- Weak Socio-Economic Data
 - No latest population figure of affected areas
- Weak data sharing practices

Satellite Image of flood affected areas



Satellite image classification to identify affected agricultural land



Way Forward and Future Actions



Identification of Future Needs

- Facilitated shelters for more than 7000 families.
- FRI and NFRI for the sheltered families for upto 3 months for stabilization.
- Standardized medical services for the prevention and cure of water famine and other vector borne diseases.
- Reproductive services and nutrition for women and children.
- Special care for senior citizens.
- Adequate stock of medicines and availabilities of medical doctors and medical personnel.
- Health education and sensitization.
- Security of shelters and distribution items.
- Revival of lifeline infrastructures.

Strategic interventions

Realizing the need of a concerted, planned and strategic efforts to respond and mitigate risks and vulnerabilities, the following strategic interventions need to be carried out:

- Continuous supply and delivery of adequate food and non-food relief materials for stabilization and survival of more than 7000+3260 displaced families with effective coordination and monitoring;
- Providing immediate and medium-term medical services for the prevention and cure of epidemics of water famine most likely to happen;
- Psychosocial and medical counselling services for the victimized population;
- Coordinated and harmonized mobilization of local emergency management capacities and the capacities of international and national institutions;

Strategic interventions....

- Construction of temporary and portable shades for meeting the immediate housing needs;
- Immediate actions at diplomatic and technical levels to manage cross-border water management issues;
- Need of designing the strategic plan and a comprehensive package for effective recovery and rehabilitation of flood affected area and population;
- Providing adequate compensation for the families who have lost their cultivated land, properties and income generation opportunities;
- Significant financial resources to be managed for recovery, rehabilitation and reconstruction for which the annual budget has not covered.

Strategic interventions....

- The exact resource and systemic needs for materializing the future actions and execution of the set plan of action for relocation, recovery and rehabilitation will be possible only after the submission of detailed report by respective DDRC;
- As the cross-cutting responsibility, all the line ministries have to integrate the identified disaster response into programmes and budget as immediate, medium-term/long-term planned responses; and
- As the priority issue of human development, the assistance from governments and international development communities across the globe should be mobilized accordingly.

