

Inundation Problems near Indo- Nepalese Boarder:

(Case study: Mahalisagar)

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Water Related Agreements Between Nepal & India:

- 1874 agreement on Jamuar Siswa and Murthi-Subba Mohan lal and Kuelles
- 1920 letter exchange on Sarda Barrage
- 1954 Kosi agreement (Amendment 1966)
- 1959 Gandak agreement (amendment 1964)
- 1996 Integrated Mahakali agreement
- Other agreements yet to be collected

Institutions Involved in Flood and Inundation Issues:

a) Policy Level

1. National Water Resources Development Council (NWRDC)
2. National Planning Commission (NPC)
3. Water and Energy Commission (WEC)
4. Ministry of Water Resources (MOWR)
5. Ministry of Forest and Soil Conservation (MFSC)
6. Ministry of Population and Environment (MOPE)
7. Ministry of Home Affairs (MOHA)
8. Ministry of Science and Technology (MOST)

b) Implementation Level

1. Dept. of Water Induced Disaster Prevention (DWIDP)
2. Dept. of Soil Conservation and Watershed Management (DSCWM)
3. Dept. of Irrigation (DOI)
4. Dept. of Hydrology and Meteorology (DHM)
5. Dept. of Narcotics Control and Disaster Management (DNCDM)

c) Local government Institutions

1. District Development committee (DDC)
2. Village Development Committee (VDC)
3. Municipalities
4. Chief District Officer (Coordinator)
5. District Irrigation and River Training Committee(DIRTC)

d) *Bilateral Organization (Nepal-India)*

1. Standing Committee on Inundation Problems (SCIP)
2. Joint Committee on Water Resources (JCWR)
3. Joint Committee for Koshi and Gandak Project (JCKGP)
4. Joint Committee on Flood Forecasting
5. Karnali Coordination committee
6. Joint Committee on Pancheswor Multipurpose Project
7. Joint Committee on Saptakoshi & Sunkoshi HDP

e) *External Organization*

1. Japan International Cooperation Agency (JICA)
2. Asian Disaster Preparedness Center (ADPE)
3. United Nations Development Program (UNDP)
4. Intl. Center for Integrated Mountain Development (ICIMOD)
5. International Red Cross Society (IRCS)
6. United States Agency for Int. Dev. (USAID)
7. United Mission to Nepal (UMN)
8. Cooperation for American Relief Everywhere (CARE)
9. World Food Program (WFP)
10. Save the Children Fund (SCF)
11. Technical Cooperation of Germany (GTZ)
12. Lutheran World Service
13. European Union (EU)
14. Danish International Development Agency (DANIDA)
15. World Bank (WB)
16. Asian Development Bank (ADB)
17. OPEC Fund, and others

Flood Management:

1. Preventive Measures: Responsible- DWIDP, DOI, DSCWM

2. Regulatory Measures:

- i. Land use Managements: (not existing)
Responsible: ? MFSC ? DNCMD
- ii. Housing Codes: No flood management program
- iii. Flood Insurance (not started)
- iv. Research activities (very limited)

3. Preparedness

- i. Hazard mapping:
? DNCMD ? DWIDP ? DSCWM
- ii. Awareness Training:
Responsible: DWIDP, DNCMD, DSCWM
- iii. Emergency Supplies + Flood Fighting
? DNCMD ? DWIDP

4. Rescue and Relief

Responsible: DNCMD, CNDRC

5. Rehabilitation

- Related Government Line Agencies
NGOs, INGOs and others

Issues Raised in SCIP:

a) Nepal

Along the terai border about 55 locations

Major ones are:

- Gaur Bazaar- Due to Bairgania Protection
- Laxmanpur Bund, Banke
- Rusiawal Khurdlottan Bund, Rupandehi
- Mahali Sagar Bund, Kapilvastu
- Koilabas, Dang
- Others

b) India

Issues raised, by India:

- Maharajgunj Tahasil, WB
- Naxalbari, WB
- D/S of Gandak Barrage, Left Bank –Bihar
- Maharajgunj, UP
- Sonali Bund & Sarada Sagar Bund (d/s of Dodhara – Chandani)
- Avulsion of Banganga

c) Basic Reasons for the Problems

- Construction of several large east-west canals, roads, railways along the border
- Bunds, embankments, Barrages and other structures

Jointly Agreed Preventive Measures:

Extension on embankment on Nepalese side:

- Lalbakiya (Rs. 40 million)
- Bagmati (Rs. 210 million)
- Kamala (Rs. 400 million)
- Khando (To be studied)
- Sunsari (Under Study)

Basic principles agreed in 1991 was to be completed in 3 yrs with full Indian funding

Inundation by Different Sagar

SN	Name of Sagar	Area inundated in Nepal, ha	Area inundated in India, ha	Total inundated area, ha	Area inundated in Nepal (%)
1	Mahali Sagar	179.9	10.8	190.7	94.3
2	Marthi Sagar	136.5	34.4	170.9	79.9
3	Siswa Sagar	42	86.4	128.4	32.7
4	Bajha Sagar	300	300.8	600.8	49.9
	TOTAL	658.4	432.4	1090.8	60.4

Recommended Measures:

- Proper documentation should be carried out
- So called historical agreement copies have to be acquired
- Have common national approach
(Professional, Politician, Press & Public)
- Follow international conventions
Helsinki-1996, UN- 1997
(Implement after Joint Agreement)
- Detail study of all the inundation issues define
- Responsible Institution and responsibility
- Strengthen district level organization
- Preventive measures near the border region should be mutually agree
- Mitigation of the adverse effect should be part of the program
- National policy and strategy should be formatted in a priority basis
- How to handle the agreements without time limits
- Be proactive rather than reactive
- Search alternative ways to resolve the issue