1. Project Title: Assessment of silt generation to identify critical sub Watersheds in the catchment area of Kopili Hydro-electric plant.

2. Scope and Objectives: Kopili Hydro-electric plant is one of the leading Hydro electric Power plants of North Eastern Electric Power Corporation Ltd (NEEPCO). Originally the Plant was designed for a silt load of 281 cum/Sq. Km/ year for the entire service life of the project. It is now required to assess the actual silt generation and identify critical sub-watershed if any in the catchments to take preventive measures.

The objectives of the proposed study are:

1) Prepare Land use Land cover and other thematic maps of the study area using 6m spatial resolution and multi-spectral satellite imagery at 1:25000 scales.
2) Estimation of soil loss, using different runoff and soil Loss Models and thematic maps.
3) Prioritization of the sub-watersheds and identify the critical areas in the catchments.
4) Identification of locations of silt monitoring stations to verify the soil loss estimated by the theoretical models and for future soil loss monitoring.

3. Centre **:** North Eastern Space applications Centre (NESAC), Umiam, Meghalaya

4. Funding Agency **:** North Eastern Electric Power Corporation Ltd. (NEEPCO)

5. Study Area **:** Catchment area of Kopili H.E. Plant.

6. Brief Methodology :

Preparation of Land use land cover map: Visual image interpretation technique will be adopted to generate level three classifications.

Soil Loss Estimation: Sediment Production Rate was estimated as per Jose and Das Method.

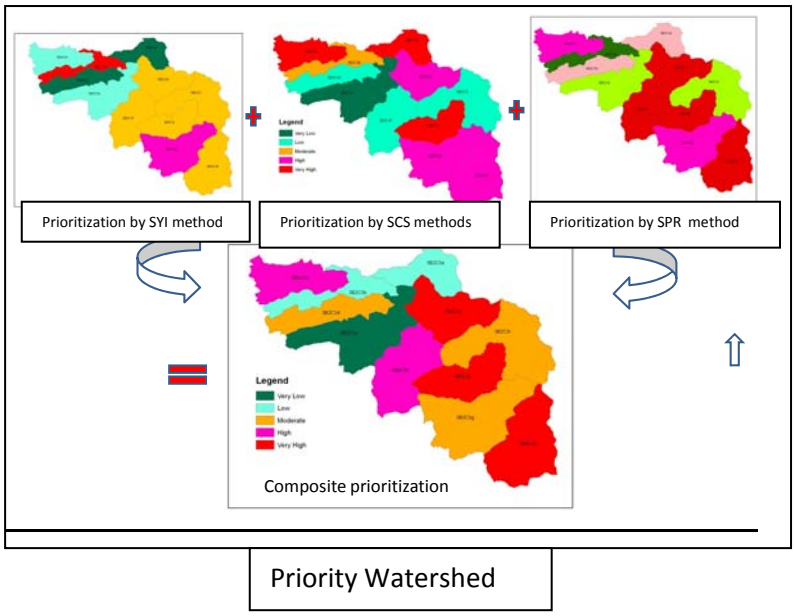
Prioritization of Sub watershed: The method of combined prioritization by giving weightage scores to each method used, is based on the combined effect of each method used for prioritizing the catchment. This procedure ensures that different parameters that could not be emphasized in a single method are all taken into account.

7. Data Used **:** IRS P6 LISS IV (MX)
IRS P5 PAN data

8. Status of the Project: completed.

Results: The table given below shows sub-watershed wise estimated sediment production rate by Jose and Das's formula.

Sub-watershed	Q (mm)	SPR(Ha-m/Sq km/yr)
3B2C3a	4.69	195.54
3B2C3d	4.60	176.62
3B2C3b	1.74	1.30
3B2C23c	5.06	287.30
3B2C3k	5.24	340.43
3B2C3i	3.36	36.23
3B2C23j	5.54	453.74
3B2C3g	5.08	291.52
3B2C3h	5.36	380.95
3B2C3e	3.60	51.08
3B2C3f	5.26	347.35



9. Utilization of the project output: The project output will be submitted to Ministry of Environment and Forests, Government of India for their continous monitoring of silt inflow at the Dam site.

10. Duration : One Year (July 2008- June 2009)