

1. Project Title: Applications of Remote Sensing and GIS System in the preparation of Forest Working Plan for the States of North Eastern Region

2. Scope and Objectives: The Remote Sensing and GIS based working plan surveys are efficient and cost effective. Using this technology, forest working plans can be drafted in about two years. They cut down on cost by 2-3 times. Repeat surveys would cost nearly 50% of the first survey and ground inventory can be cut down by nearly 15 – 50 times depending on the forest type. Information is unbiased and of higher quality compared to traditional methods. Entire data will be in digital mode and can be handled much easier and efficient ways.

The objectives of the proposed study are:

- Preparation of forest canopy density map on 1:12,500 scale using IRS-P5 sensor data and type map on 1:25,000 scale using LISS-III sensor data.
- Designing Forest Inventory Procedures through sampling.
- Preparation of area statistics through GIS for various levels of forest management.
- Preparation of quantitative forest growing stock details at forest Compartment level.
- Estimation of compartment wise Growth and Yield statistics.
- To supply remote sensing based inputs for the Working Plan for all North Eastern States' Forest Departments.

3. Centre : North Eastern Space applications Centre (NESAC), Umiam, Meghalaya, State Remote Sensing Applications Centres and State Forest Departments.

4. Funding Agency : North Eastern Council, State Forest Departments.

5. Study Area : 8 North eastern States.

6. Brief Methodology :

The forest type and canopy density maps are being prepared using IRS LISS III (for type map) and IRS P5 (for canopy density map) imagery. Both layers (type and density) along with other available layer like soil, altitude are being used to distribute sample points in a stratified sampling method. Field data to be collected from the identified location which includes details of individual tree within 0.1 ha plot. The stock map of the forest is prepared based on the field data each plot, stratum and extrapolating the same into the entire forest areas.

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

8. Status of the Project: Ongoing. Work already in progress in Mizoram, initiated in Arunachal Pradesh, Assam and Meghalaya.

9. Utilization of the project output: Output of the project will be used by the respective forest department in preparing their forest management plans.

10. Duration: Five Years (2010 to 2014)