

1. Project Title : Comparative study on selected forest sampling techniques with satellite remote sensing inputs

2. Scope and Objectives:

Preparation of forest working plan is mandatory for scientific management of forest resources. This has to be prepared as per National Forest Working plan code which emphasizes on use of modern scientific tools like remote sensing and geographic information system with appropriate sampling design. With different sampling techniques and estimation procedures available, it is of interest to see the relative efficiencies of different sampling techniques in terms of error in the estimate and cost of sampling exercises.

Objectives

- i) To make a comparative study of selected sampling techniques for estimation of forest parameters with remote sensing inputs
- ii) To find out the most appropriate sampling technique which suits given field and financial conditions best.
- iii) To suggest an operational sampling design for providing forest working plan inputs suitable to different terrain conditions of north eastern region.

3. Centre : North Eastern Space applications Centre, Umiam , Meghalaya

Collaborating Agency : Dept. of Statistics, North Eastern Hill University

:Forest Department, N.C. Hills Autonomous District Council

4. Funding Agency : EOAM/ Dept. of Space

5. Study Area : Selected sample sites in North Cachar Hills in Assam.

6. Brief Methodology

Different field condition and forest composition is being evaluated in terms of cost and accuracy of sampling exercises. This is being ascertained by employing different sampling techniques in different field situation (e.g. forest in plain and hilly areas) and thereby estimating the error and cost of sampling exercises. Using of satellite data of different spatial resolution and different spectral band helps in better stratification and choice of sampling unit. As there are large number of sampling methods available, a choice will be made as to which method suits given field and financial circumstances best.

7. Data Used : IRS P6 LISS-III

IRS P6 LISS-IV (MX)

Cartosat-1

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8. Status of the Project: Under this project, four different sampling designs have been employed in two different sites, one in relatively plain area in other in steep hills having different forest compositions to suggest optimum sampling design for generating forest working plan inputs in north eastern region. Four different sampling designs were evaluated in two different sample sites, one in relatively plain and other with high slope and elevation to suggest optimum sampling design for generating forest working plan inputs in north eastern region. Optimal techniques and estimation procedure determined by-Sampling variance/ standard error and cost of sampling exercise. The project work has been completed and recommendations have been made for different alternative estimation options.

9. Time Schedule:

Total Duration: 3 years (2007-2010)