

Generation of National Biomass Resource Atlas

An Overview

ABETS

Combustion, Gasification & Propulsion Laboratory

Department of Aerospace Engineering

The Theme of the Project

Develop an electronic atlas of excess biomass of India to enable obtain local power potential

Partners:

Ministry of Agriculture (MoA) - their data base

RRSSC (Regional remote sensing centers of ISRO)

Consultants and Apex institutions appointed by MNES

Other institutions like coir board, agricultural universities, etc

IISc - National Focal Point for acquiring, assessing and processing the data from various sources into digital maps on a GIS format to be used by industrialialists, planners and others

The Key-Aspects of the Work:

1. The Statistical Data Analysis and Compilation.
2. Graphical vectorisation for the base GIS layers.
3. Integration of remote sensing data into GIS layers.
4. Strategies for crop identification - use of NDVI (vegetation index) and AI (Artificial intelligence) techniques.
5. Create a strategy for stand alone use for a variety of users
6. Provide options for dynamic queries with graphical or tabular outputs.

Normally all designers of such packages use standard software such as Arc-info, Arc-view, etc. These are expensive and require a high end machine to manage the software.

To avoid this problem, a software known as "Geoconcept" was used to manage the data and graphic information in a stand-alone mode.

To help users view the data, visual basic based software interface is provided.

Progress made till now

Statistical data on crop, residue generated, residue used by the society for fodder, domestic use, field combustion have been obtained to estimate the residue.

40 crops all over the country; several crops have more than one residue; 540 million tonnes of residue -> excess ~120 to 140 million tonnes -> Power generation potential of 15000 ± 1000 MWe in a distributed generation mode of 1 - 6 MWe class

Users can obtain the data on the nature of crops, residues, power potential in each district over the country and also in taluks at lower accuracy.



