

1. Project Title : Development of an early working system for the outbreak of Japanese Encephalitis (JE) with the help of remote sensing and GIS in conjunction with the epidemiological studies in Assam (Operational phase)

2. Scope and Objectives:

In the pilot phase of the project, it was attempted to develop a spatially explicit classification model in the district of Dibrugarh, Assam capable of identifying, categorizing and ranking JE prone areas by conducting entomological studies in corroboration with remotely sensed data. Attempts have also been made to forecast onset and intensity of JE outbreaks in the study area.

The salient objectives of the operational phase are-

- To forecast disease onset, intensity and the villages having likely outcome at least one month ahead of onset of the disease.
- Disseminate the early warning bulletin of the disease to the concerned health department in Assam along with maps.

3. Centre : North Eastern Space applications Centre, Umiam, Meghalaya
Collaborating Agency : Regional Medical Research Centre (ICMR), Dibrugarh

4. Funding Agency : NESAC, Dept. of Space

5. Study Area : Dibrugarh District, Assam

6. Brief Methodology :

Remote sensing data have been utilized for delineating the potential JE vector habitats in the study area. Methodology developed to forecast development of mosquito build up (especially potential JE vectors) with the study of corresponding weather parameters. Attempt has been made to develop models for forecasting of JE onset by establishing relationship between weather parameters and historical data on occurrence of JE. Study has been made to establish relationship between JE outbreaks and environmental changes like flood, water logging, vegetation etc. Based on the analysis of various factors, different level of categorization has been made such as high, medium and low JE prone areas.

7. Data Used : IRS P6 LISS III (6 scenes)
IRS 1D PAN (2 scenes)

8. Status of the Project : Operationalised in Dibrugarh district, Assam

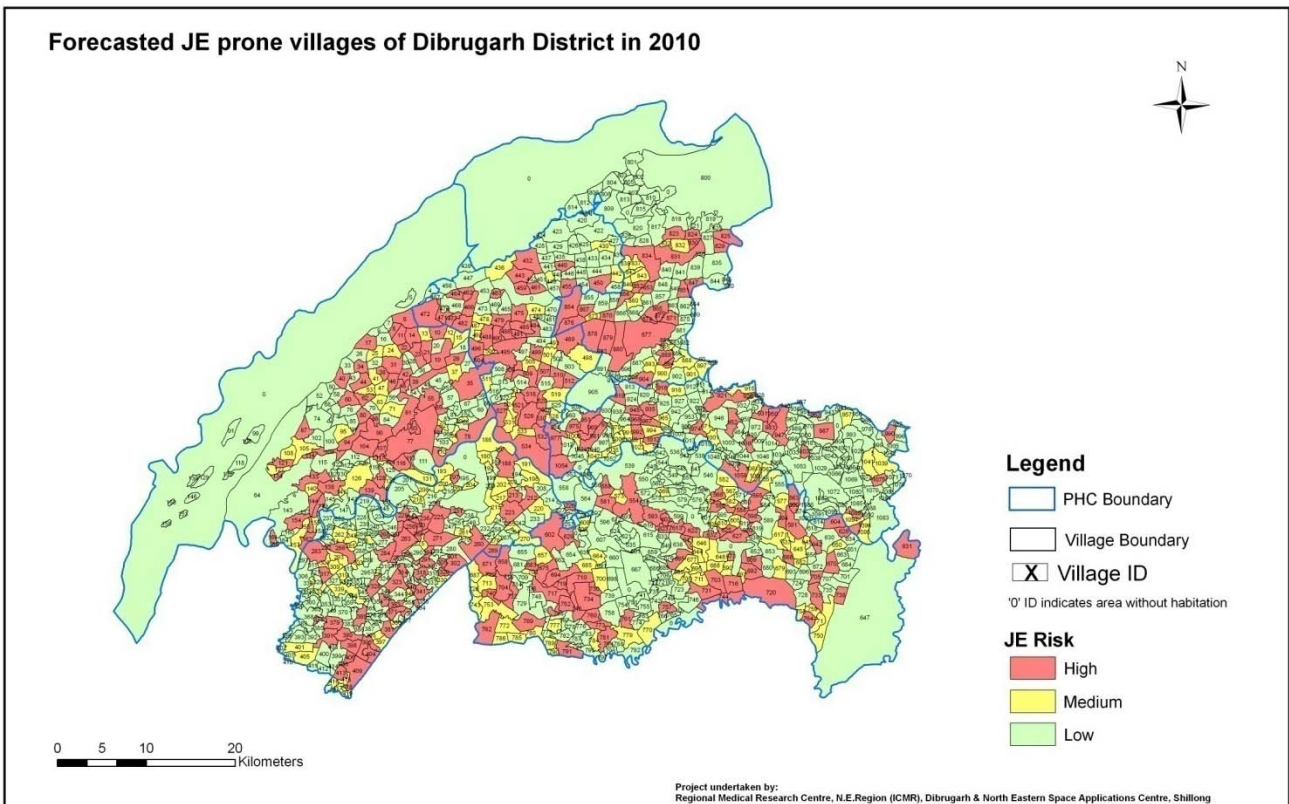
9. Results of the Project :

The study shows that an integrated approach, involving meteorological data, landscape parameters and socio-economic variables, allows early warning of JE at sub-district level.

The tools of remote sensing and GIS have helped in tracking the disease progression over the years across geo-spatial domain.

10. Utilization/Success Stories:

The project is now made operational in the district of Dibrugarh Assam. Every year in the month of March/ April early warning is made and bulletin with list of JE prone villages sent to Health Department of Assam via Regional medical Research Centre, Dibrugarh. These are found to be quite helpful by the Health department in taking timely intervention measures.



11. Extension of scope of the project:

Based on the success of the early warning in Dibrugarh district, the scope of the project has been extended to Sivsagar and Tinsukia districts, the two other JE prone districts of Assam in 2010 disease season. Encouraging results were observed in these districts during 2010 disease season.