



# MIRSAC Newsletter

Mizoram Remote Sensing Application Centre  
(An Autonomous Govt. Institution under Science & Technology, Planning Department, Govt. of Mizoram)

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Chairman, MIRSAC



Vice-Chairman, MIRSAC



## Brief Report of MIRSAC

Dr. R.K.Lallianthanga

Mizoram Remote Sensing Application Centre (MIRSAC) is an Autonomous Government Institution under Science & Technology, Planning Department, Government of Mizoram (Notification No. B.13015/1/2007 – PLG, the 2<sup>nd</sup> September, 2008). The Centre was registered under Mizoram Society Registration Act, 2005 (Reg. No. MSR - 30 of 19.1.2007).

The Governing Body of MIRSAC comprises of Chairman, Vice Chairman, Member Secretary and other 15 members from various line Departments of the State. At present, the total number of Scientists and other employees in the Centre is 21.

MIRSAC had 14 objectives out of which the six main objectives are given below :

- \* To act as a Nodal Agency and an Apex organisation in the State for advising and disseminating Remote Sensing Technology, Geographic Information System and related technologist to various user Departments/ Agencies in the State.
- \* To promote and diffuse knowledge in the area of Remote Sensing Applications and Geographic Information System (GIS) in various field of developmental activities undertaken by the Government of Mizoram/other Agencies.
- \* To co-ordinate, interact and collaborate with other remote sensing organizations in the country and various user Departments/Agencies in the State to identify, formulate, initiate, promote undertake and implement projects related to Remote Sensing Application and GIS in different fields of developmental activity.
- \* To provide useful information on natural resources as an input to the socio-economic development activities in the State.
- \* To provide facilities for interpretation and analysis of Air borne as well as Space borne remotely sensed database to Government, Semi-Government and other organizations in various usable forms.
- \* To provide Consultancy Service for preparation of project report on utilization and harnessing of natural resources using remote sensing technology.

The Centre is executing various Remote Sensing and GIS application projects sponsored by various State and Central organizations/ Departments for the benefit of Mizoram. These projects provide valuable baseline information and data for the execution of allied projects in various streams of developmental activities. The Centre is also equipped with the state-of-the art Remote sensing & GIS Labs handled by experienced scientists and engineers of various discipline.

## Governing Body of MIRSAC

Chairman	: Pu C. Lalsawta Principal Secretary Planning Department
Vice Chairman	: Pu Yograj Chhetry Principal Adviser / Ex-Officio Addl. Secretary, Planning Department
Member Secretary	: Dr. R.K.Lallianthanga Project Director, MIRSAC
Members	: 15 members from various State Departments

## MIRSAC Editors

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## From Editor's desk

It gives me great pleasure to know that the first issue of the **MIRSAC Newsletter** is taking its published form. The Centre has accomplished a number of milestones in its venture on projects and activities related to Remote Sensing and GIS within the State. The information incubated in these projects require an appropriate platform so that the general ideas behind the goals and objectives of these advanced technologies are channelized as valuable informations to the users. Such being the necessity, the use of print media such as newsletters like these provides a window wherein the Centre has an opportunity to highlight the important projects, events and activities to other relevant institutional setups within the state as well as outside.

I hope that this Newsletter and subsequent issues will go a long way in disseminating valuable information to all its readers.

## Important Visitors at MIRSAC



Shri. P.P. Srivastav, Honorable Member of NEC, Shillong visited MIRSAC on 23rd November 2009. He was accompanied by Dr. Vanlalzara, Principal Scientific Officer, Science & Technology Wing, Planning Department, Govt. of Mizoram.

Shri Srivastav appreciated the projects done by MIRSAC particularly "Study of Bamboo Flowering in Mizoram" and the "Study on Cyclone Vulnerability".



Dr. U.K. Mishra, Director Science & Technology, NEC also visited the Centre during the second week of September 2009 and had a preview on the on-going DMS Project sponsored by NEC.

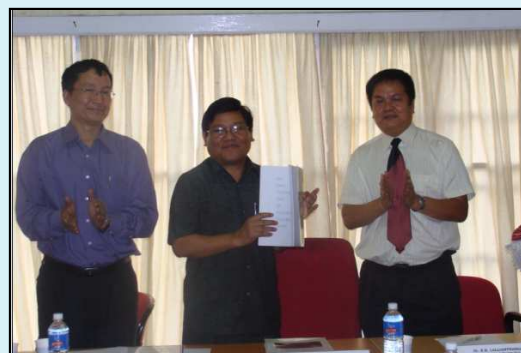
## Study of Bamboo Flowering in Mizoram



The main objective of the project was to map the bamboo flowering areas in Mizoram during April 2005 - April 2008. Project execution was done in co-ordination with NESAC (Northeastern Space Application

Centre), Umiam. IRS P6 Imagery of the flowering periods were utilized to demarcate flowering areas. The project captures the vital phenological cycle of bamboo flowering from the perspective of prominent areas where it occurred. The data collected through ground survey were analysed and projected in a Remote Sensing and GIS environment to prepare maps and generate statistics. Such data would be valuable information for user departments as well as for future reference at the onset of similar phenomenon.

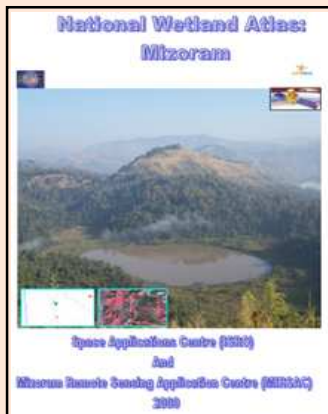
The report also highlights the overall change in bamboo cover due to flowering. Overall statistics shows that the total bamboo flowering area during 2006-2008 is 3675.20 sq.km. accounting to 64.50% of total bamboo area in 2005. The findings thus show that more than half of the bamboo area in the state has experienced this phenomenon of flowering. It has to be further noted that since the mapping of bamboo flowering for the period was done based on Satellite data acquired upto April 2008, and since it has been found that the flowering phenomenon was still prevalent after the end of the study period, the total area of bamboo flowering is estimated to increase further upto 80% of the total bamboo area.



The report was released on 10th September 2009 by Mr.C.Lalsawta, Principal Secretary, Planning Department & Chairman, MIRSAC at the conference room of the centre. Copies of the report were given to all the officers of line departments that attended the report release function.



## *Nation-wide Projects recently completed by MIRSAC*

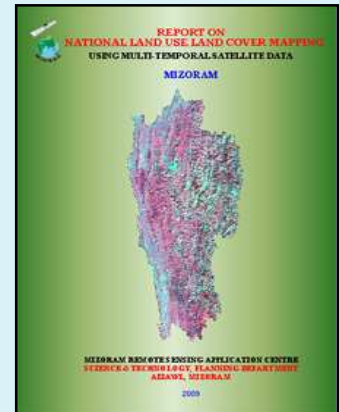


### *National Wetland Atlas: Mizoram*

National Wetland and Inventory Assessment (NWIA) is a nation-wide project and for the state of Mizoram, the Project work was carry out by Mizoram Remote Sensing Application Centre (MIRSAC) in collaboration with Space Application Centre (SAC), Ahmedabad. The main objective of this project is to generate a wetland inventory of the country on 1:50000 scale using latest IRS satellite data, creation of digital database of wetland as per National Natural Resources Management System (NNRMS), and development of a query shell for information retrieval. For this project IRS LISS III data of both pre-monsoon (March 2007) and post-monsoon (December 2006) had been used. The present project gives detailed information about wetland types, numbers and areas of wetlands during pre-monsoon and post monsoon in Mizoram.

### *National Land Use Land Cover Mapping Using Multi-Temporal Satellite data, Mizoram*

Mapping of land use land cover using multi-temporal satellite imagery is a nation-wide project to be incorporate at the National repository of land use land cover. The project was initiated by NRSC (National Remote Sensing Centre), Hyderabad and project work was done by the centre for the state of Mizoram. NESAC (Northeastern Space Applications Centre), Umiyam co-ordinated with the centre in preparation of the necessary layers. The objective of the project is to create a GIS database for the land use land cover information as well as non-spatial data covering entire state. A comprehensive report that includes compilation of the end results for Mizoram in the form of maps, reports and statistics was made by the centre.

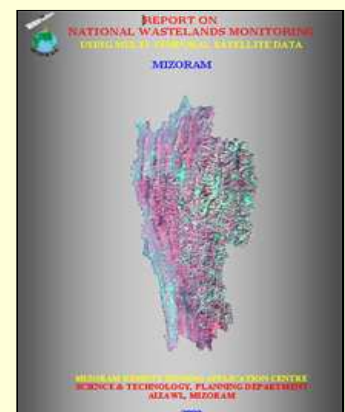


### *National Land Degradation Mapping Using Multi-Temporal Satellite data, Mizoram*

Another nation-wide project done in collaboration with NRSC & NESAC which aims to identify and map the degrading lands of each state. Extent of land degradation in Mizoram and its consequence on land productivity was mapped and analysed for the state. Multi-temporal satellite data of 2005-06 was utilized in the mapping process. Like the previous national projects the capabilities of Remote Sensing and GIS was utilized to generate maps and statistics. Reports for the state was also prepared for archive at the centre and also for reference materials for the users.

### *National Waseteland Monitoring Using Multi-Temporal Sattelite data, Mizoram*

A nation-wide project exected by MIRSAC for the state of Mizoram was completed on October 2009. Wastelands of Mizoram during the period of 2005-2006 were mapped using satellite data of 2005-2006. The project was in itself an updation process of the wastelands prepared during 2003. The project was funded by NRSC, Hyderabad and co-ordinated by NESAC, Umiyam. The statistics and map data were submitted to NRSC for incorporation into the nationwide wasteland repository. A comprehensive report of wastelands in Mizoram was also prepared by the centre for archive.



## MIRSAC AT A GLANCE



MIRSAC Office Building, Chaltlang



Project Director explaining the projects at MIRSAC



RS & GIS Lab I



RS & GIS Lab II



DGPS System acquired by MIRSAC recently



Vibrant employees of MIRSAC



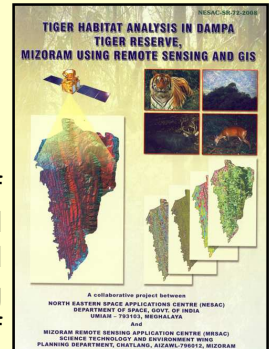
Library



Conference Room

## Recent Released Report

### Tiger Habitat Analysis in Dampa Tiger Reserve, Mizoram using Remote Sensing & GIS



The need for conservation of endangered species and preservation of their natural habitats has been the driving ideas behind the initiation of this project.

This project was carried out in a collaborative effort by scientists of NESAC, Umiam and MIRSAC, Mizoram. The main objectives of the project includes preparation of inventory of vegetation types, forest density and water bodies; detect changes in habitat over a period of 1978-2005; characterizing habitat for tiger; identifying potential tiger habitat and corridor outside the Dampa Tiger Reserve; and creation of digital database for the Tiger Reserve. Ancillary data collected from State Forest department are integrated in the report as well. The report also includes maps and important statistical data that would be of valuable input for management of Dampa Tiger Reserve.



Ms. Suchitra Devi



Dr. K.K. Sarma

The project report was officially handed over to Mr. L.R. Thanga, Chief Wildlife Warden, Environment & Forest Department, Govt. of Mizoram on 25th November 2009 by Mr. C. Lalsawta, Principal Secretary, Planning Department, Govt. of Mizoram & Chairman, MIRSAC at his office chamber. The programme was conducted by Dr. R.K. Lallianthanga, Project Director & Member Secretary, MIRSAC.

Copies of the report were also distributed to the other Forest Officers present at the function. Dr. K.K. Sarma, Scientist SE and Ms. H. Suchitra Devi, Scientist SD, who were the scientists from NESAC involved with the project were also present at the handover programme. A brief presentation about the project was given by Ms. H. Suchitra Devi which was followed by comments and suggestions from the invitees.