



# MIRSAC Newsletter

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

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**Pu Vanhela Pachuau**  
Chairman  
MIRSAC Gov. Body



**Pi L. Tochhong**  
Vice Chairman  
MIRSAC Gov. Body

## Governing Body of MIRSAC

- Chairman : Pu Vanhela Pachuau  
Chief Secretary,  
Govt. of Mizoram
- Vice Chairman : Pi L. Tochhong  
Addl. Chief Secretary  
Govt. of Mizoram
- Member Secretary: Dr. R.K.Lallianthanga  
Project Director,  
MIRSAC
- Members : 16 members from various  
Depts. of the State, viz.,  
Science & Technology,  
State Planning Board,  
Finance Department,  
Environment & Forest,  
PWD, PHE, P&E,  
Minor Irrigation,  
Agriculture (Crop Husbandry),  
Horticulture,  
Soil & Water Conservation,  
Rural Development,  
Land Revenue & Settlement,  
DM&R, UD&PA, & Sericulture

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## CONTRIBUTION OF MIRSAC FOR THE DEVELOPMENT OF MIZORAM

*Dr. R.K.Lallianthanga*

Good governance requires effective and efficient policies. Policies, in turn, require information to assess the need and urgency to develop policy, to mobilize instruments for implementation, to control and enforce proper execution, and to monitor and evaluate policy effects. MIRSAC has contributed through the use of its technological implementation of remote sensing and GIS at different stages of policy implementation. Use of this technology has been rendered during the initial stages of the Flagship programme of the Government - NLUP. Lack of information, which previously may have hampered the efficiency and effectiveness of the policy, is rapidly overcome to considerable extent. The changing technical arena and our ambition to better understand the relation between advanced techniques and its implications in policy making, becomes factual if we consider the contribution of Remote sensing and GIS from a functional perspective; in other words, remote sensing contribution towards enhancing the effectiveness and efficiency of government policies and activities.

The advantages of the technology available at MIRSAC has upgraded the capacities and the scope for processing of spatial information. In this prospect, the government has also become aware of the needs to obtain and simplify the access to geographic information. During the last ten years different planning strategies have been developed, with the intention to support the process of decision-making at different spheres of development in the state. The Centre has also made valuable contributions by carrying out specific need-based projects for a collective number of line departments and agencies.

Different types of applications of Remote sensing and GIS have been realized in agricultural and forestry sector, precision agriculture, land productivity explorations, water resources, cartography, planning at regional and communal levels; besides studies of environment, natural disasters and in several other areas where its application is solicited. Use of this technology as a sophisticated, economically sustainable and technologically innovative sector has been realised in the state and will continue to widen its area of application. The recent development of Decision Support System (DSS) software by the Centre for use in disaster management has proved another stronghold of Remote sensing and GIS in a field where its application is highly valued. Another contribution in the context of Mizoram, is in the forestry sector. The Centre is involved in the preparation of Forest working plans for the state in collaboration with the concerned department and NESAC.

The economic development of the state requires management of its assets, based on the knowledge of a complex relation between economic and social factors that needs geospatial information which are reliable. Co-operation with government and agencies is required to further enhance the utilization of remote sensing data and applications, which can in turn improve the quality of the data available for management and decision making at all levels of government.

## From Editor's desk

Geospatial technologies are creating new innovations and challenges to solve everyday problems and planning of resources. Data is converted into maps, maps into information and complex knowledge into simplified solutions for our myriad problems and needs. Geospatial intelligence is now creating understanding in the local masses with extensive use in its indirect forms, even at the lay-man's level.

The focus has always been to use the technology to assist in different issues of planning and development. The Geospatial world forum of 2012 also had such views in mind by having one of its topic as 'Geospatial Industry: Empowering Billion + people'. The Centre has also taken a step ahead in this concept with the design and creation of DSS which will serve the purpose of disaster management in the state.

As professionals in this technology, we owe ourselves in contributing innovative ideas and methods for the advancement of Geospatial technology.

## Visitors at MIRSAC



8 Feb. 2012: Dr.J.S.Parihar, Dy Dir. EPFA & Dr..B.K.Battacharya, Scientist E 'SF' of SAC, Ahmedabad visits the Centre.



23 May 2012: Shri. P.P. Srivastav, Honorable Member of NEC, Shillong visited MIRSAC. He was accompanied by Dr.S.Sudhakar, Director NESAC.

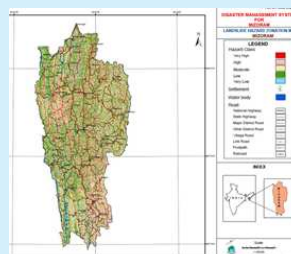
## Decision Support System (Disaster Management System Project)



The Decision Support System (DSS) is an integral part of the DMS Project and has been designed by Scientists of MIRSAC using ARC GIS software as its backbone operating environment and Microsoft Visual Studio as its front-end to serve as an effective tool for decision-making and display of disaster related geospatial data-sets from a centralized data server.

The DSS is a software system to enable decision making during the first two stages of disaster management namely, mitigation and preparedness. Users can easily access the enormous data generated for the DMS project using a simple user-friendly interface. The system has brought all the 4 natural disasters studied during the course of this project to a central hub, facilitating the maps to be displayed and queried along its corresponding statistics upto village level.

The system has been demonstrated at the Governing Body meeting on 10th May 2012 and also at the State level meeting on Disaster Risk & Reduction at Aizawl on 25th May 2012. The system and its functions were well appreciated.





## PROJECTS COMPLETED

*The following projects were completed during January to June 2012*

### **1. Energy & Mass Exchange in Vegetative System project**

This is a project initiated by SAC, Ahmedabad. The Centre is participating in this project in the installation of AgroMet Station (AMS) at Hnahlan, Champhai District. The AMS station was recently dismantled and re-installed at Khawzawl, Champhai District.

### **2. Village Supply and Safety Reserve Mapping**

The project involves digitization and demarcation of Village supply and safety reserves in Mizoram. Some of the data were also incorporated during map preparation of Forest working plan inputs. This project is funded by Environment & Forest Dept., Government of Mizoram.

### **3. Disaster Management System**

One of the major project taken up by the Centre and funded by NEC, was completed recently with the integration of the data in a Decision Support System (DSS) designed by scientists of MIRSAC. The DSS is a compilation of all the disaster layers prepared in this project and brought together on a platform where they can be displayed and queried. As of now, the system is stand-alone and backed-up by a server system.

## ON-GOING PROJECTS

### **1. Forest Working Plan inputs of Mizoram State**

A collaborative project with NESAC and Environment & Forest Dept., Government of Mizoram, where the Centre is taking part in mapping, thematic data and map preparations etc. The project work is done Division wise with most of the Divisions covered and final maps generated. The project is at the final stage of completion.

### **2. Watershed Management Model**

This management model is prepared due to additional data requirement in Forest Working Plan project. Forest Division-wise Watershed management models are prepared from thematic data layers available at the Centre. Map are generated at 1:50,000 scale. The additional project work is funded by Environment & Forest Dept., Government of Mizoram.

### **3. Space Based Information Support for Decentralized Planning (SIS-DP)**

A nationwide project funded by ISRO under NNRMS. Preliminary database creation, image processing and 3D Terrain editing is going on for the state with guidance from NESAC and NRSC. Base data prepared from this project will be instrumental for various development projects to be implemented in the state.

### **4. Hazard Risk and Vulnerability Analysis of Aizawl District**

The various parameters of Disaster management are studied for Aizawl District in this project. A total of 4 natural hazards in Aizawl district are analyzed and hazard zones are prepared with corresponding analysis for risk and vulnerability factors. The project is funded by DM&R Dept., Government of Mizoram.

Besides these, the Centre is involved in other projects at State and National level as well as Data generation for other user Depts. viz., Groundwater Prospect Mapping under RGNDWM, Forest Type and Density Mapping outside RF & RRF, Land Use / Land Cover Mapping (LULC 50 K - Second Cycle), Forest Fire Vulnerability mapping, etc.

## Employees Space





## NEWS &amp; ACTIVITIES

\* Pu F.Lalramchuana, Scientific Officer attended a progress review meeting of Rajiv Gandhi Drinking Water Mission project at NRSC, Hyderabad from 10th-11th January 2012.

\* Pu.C.Vanlalengkima, Scientist was detailed for project work at NESAC on 16th January 2012, regarding SIS-DP data checking.

\* Dr. J.S.Parihar, Dy. Dir. EPFA and Dr. B.K.Battacharya, Scientist E 'SF' of SAC, Ahmedabad visited the Centre on 8th February 2012 in connection with re-installation of Agro-Met Station (AMS) at Khawzawl. A presentation on 'Energy & Mass Exchange in Vegetative Systems in Mizoram' was given by Dr. B.K.Battacharya on the same day at a meeting organised in the Conference room of the Centre. Dr. K.A.Pathak, Jt. Director, ICAR Kolasib also gave a brief presentation on projects executed at ICAR Kolasib.



Meeting with SAC, Ahmedabad.

\* Pu F.Lalramchuana, Scientific Officer and Pu David Vanlalafela Pachuau, Field Assistant of the Centre were detailed for field work from 9th February 2012, at Hnahlan and Khawzawl regarding dismantling of AMS at Hnahlan and its re-installation at Khawzawl. They were also accompanied by the Scientists from SAC, Ahmedabad.

\* Pu ZD.Laltanpuia and Pu F.Lalbiakmawia Scientists attended a three days demonstration/hands on training for data handling of RGDWM project at NRSC, Hyderabad from 5th March - 7th March 2012.

\* The General body meeting of Science & Technology Staff Welfare was organised on 27th March 2012 at KP Resort Sihmui. The meeting was followed by Election of Staff welfare office bearers.

\* The Governing Body of MIRSAC had its annual meeting on 10th May 2012 at Chief Secretary's conference room. The meeting was chaired by Pu Vanhela Pachuau, Chief Secretary, Govt. of Mizoram and Chairman of MIRSAC Governing body. The meeting was attended by members from 14 line Departments of the state.



MIRSAC Governing Body meeting at CS Conference Room

\* Pu Lalnunsiana Colney, Senior Scientist attended a National level Workshop on Sericulture development at NESAC, Barapani on 11th May 2012. 'SILKS' software prepared by NESAC was distributed to concerned Departments attending the workshop.

\* Shri. P.P. Srivastav, Honourable member, NEC and Dr. S.Sudhakar, Director NESAC visited the Centre on 23rd May 2012. A short presentation of the Decision Support System prepared by the Centre under Disaster Management System project was made at a meeting organised on their behalf at the Centre. Both officials appreciated the DSS designed and offered their valuable comments.

\* Dr. RK Lallianthanga, Project Director attended a meeting on Disaster Risk & Reduction at State Guest House, Aizawl on 25th May 2012. He also gave a presentation and demonstration of the Decision Support System designed by MIRSAC under Disaster Management System project. The meeting was chaired by Pu Lal Thanhawla, Chief Minister of Mizoram. The meeting was also attended by MLAs and officials from NDMA, NESAC, NEC, GSI and DM&R depts of the state.



LULC 50K (II cycle) workshop at NESAC, Barapani.

\* Pu Robert Lalchhanhima Sailo and Pu H.Lalmachhuana, Scientists attended a two day Regional Workshop on LULC (Second Cycle) organised by NRSC, Hyderabad and NESAC at Barapani from 11th - 12th April 2012.