



# MIRSAC Newsletter

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

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The Governing Body Meeting of MIRSAC on 22nd May 2013 at Chief Secretary's Conference room, New Secretariat Complex.

## Governing Body of MIRSAC

Chairman	: Chief Secretary Govt. of Mizoram
Vice Chairman	: Secretary Planning & Prog. Implementation Dept. Govt. of Mizoram
Member Secretary:	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 in Disaster Management.

*Dr. R.K.Lallianthanga*

Mizoram has experienced an increasing impact of disasters recently and during the past decades. While the causes can be attributed to nature, a considerable impact has been contributed by man-made interventions in nature's normal functions. As it is an inherent part of the changing environmental system, the management of these disasters becomes an important task to ensure that the damage and risk it causes to life is kept at bay. To reduce disaster losses, more efforts have to be applied towards Disaster risk management, with a focus on hazard assessment, elements at risk and vulnerability, all of which have an important spatial component. The inclusion of today's advanced technologies for analysing many of the complex decision making processes involved in Disaster management can tremendously help in finding solutions at the grassroot level. In this context, use of Remote sensing and GIS technology has become an integrated approach in disaster management. The ability to capture, store, analyse and produce strategic results and reliable outputs at multiple scales (regional to community level) are one of the many advantages that Remote sensing and GIS have in disaster management processes.

Moving a step ahead, the Centre has accomplished a number of noteworthy projects related to disaster management at various scales of analysis. The NEC funded Disaster Management system project is one of the major step taken by the centre to study the various natural disasters occurring in the state like landslide, earthquake, flood and cyclone. The stand-alone system generated in this project enables decision making during the first two stages of disaster management i.e, mitigation and preparedness. Similarly, in-depth studies on other aspects of natural disasters in the state has been carried out and produced in the form of a fully illustrated atlas containing data for further studies. At an operational scale, micro-level landslide hazard zonation of 10 selected town and Aizawl city has been studied which provides data at a more detailed level for carrying out mitigation measures at town/city administration level. Landslide hazard zonation has also been carried out at district level (1:50,000) highlighting prominent hazard zones on a wider perspective view.

The recent accomplishment in preparation of State level Disaster Management Plan and the project on Hazard, Risk and Vulnerability analysis of Aizawl district (Sponsored by DM&R Dept.) has etched another noteworthy contribution of the Centre towards Disaster management in the state. As a nodal agency in the state for Remote Sensing and GIS activities, the Centre was also involved in tracking and studying (with sources from IMD) the phenomenal event of Cyclone Mahasen which was forecasted to hit the state as well as adjoining countries on 17th May 2013. Prior to this, studies on Vulnerability analysis of cyclone in Mizoram had been taken up way back in 2004, which has made an extensive survey of areas vulnerable in an event of wind storms and cyclone.

The application of Remote Sensing and GIS has become and will continue to be realised as a well developed, systematic tool for disaster management and also an important requisite platform for various stages of hazard mitigation and monitoring.



## ✍ From Editor's desk

MIRSAC in its endeavour to set timelines in the field of Remote Sensing and GIS technology in the state has accomplished a number of set goals to serve the users with their requirements. Each task has been milestones in the path for technological advances and in its own way have been creating awareness about the potentials of these technologies. The challenge for providing better knowledge and services to user departments and the public still occupies an important place in the work culture of the Centre.

Our contributions to the all-round development of the state may not be in the limelight but our inputs and services have always been an integral part for various development plans and allied decision making where Remote sensing and GIS technological intervention is required. The visions of keeping our goals alive is reflected in the nature of work we do and the kind of services we provide. Innovative strides will be the focus because with the realization of new technological know-how comes the need to implement it to solve our issues.

## Major projects to be initiated during current financial year

### 1) Mizoram Infrastructure Information and Monitoring system (MIIMS)

This is a project funded by NEC, Shillong to map existing infrastructure in the state and develop a concise database system where it can be easily accessed and monitored in a GIS environment. Hardware and software components for this project has been procured and work will commence once satellite data is processed.

### 2) Base map preparation for Aizawl city and Lunglei town under Rajiv Awas Yojana (RAY) project

As requested by the Director, Urban Development & Poverty Alleviation Dept. (UD&PA), Govt. of Mizoram, this project will be taken up to prepare base maps for Aizawl city and Lunglei town at 1:2000 scale incorporating important detailed base information.

### MIRSAC Data users

During the period January to June, data has been provided to different user/line departments/institutes of the state, viz., - Environment & Forest Dept., Minor Irrigation Dept., Disaster Management & Rehabilitation Dept., Agriculture Dept., PWD, PHED, Transport Dept., Power & Electricity Dept., DRDA, Election Commission, GSI Aizawl, Mizoram State Co-operative Union, Mizoram University, Traffic/Police Dept., Horticulture Dept., Central YMA, Godrej Agrovet Pvt., Rural Development Dept., etc.

## Visitors at MIRSAC



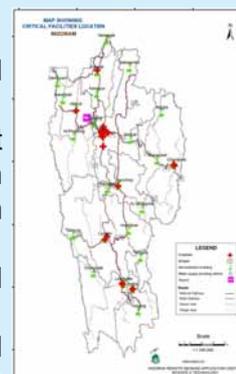
24 Jan. 2013: Dr. S.Sudhakar, Dir. NESAC, Dr. S.Srinivasa Rao, Scientist/Engineer 'SG', NRSC, Mr. Prasad Kumar Gupta, Scientist 'SD', IIRS Dehradun and Ms. Suchitra Devi, Scientist 'SD', NESAC visits the Centre.

## State Disaster Management Plan : Brief Highlights

The impending need for a proper management plan for natural disasters occurring in the state has necessitated the preparation of this plan. A lot of research, analysis and GIS input has gone into the preparation of this plan. The main objective of the State Disaster Management Plan is to facilitate the execution of activities for preparedness, prevention, mitigation, response and coordination for all stakeholders upto community level and their involvement in all phases of disaster management.

The plan has included many aspects of data that clearly identifies roles of stakeholders in events of natural disasters referring to national level guidelines. In addition to these, the plan also consist of the following information:

- \* Demographic, Social and Economic profile of the State.
- \* Vulnerability and Risk assessment of the state base on the natural hazards.
- \* Mainstreaming of Disaster management into development plans/projects.
- \* Resource inventory.
- \* Prevention, mitigation and preparedness measures.
- \* Response plan - Incident response system, Incident action plan and Response mechanism of various Departments.
- \* Financial arrangement and contingency plan.
- \* Coordination among all stakeholders involved in disaster management activities and coordination among neighboring states.





## PROJECTS COMPLETED

The following projects were completed during January to June 2013

### 1. State Disaster Management Plan (SDMP)

The State Disaster Management Plan represents a thoroughly researched document prepared for state level disaster management, and to facilitate proper planning for rehabilitation measures during the event of natural disasters. This important document was prepared for Disaster Management & Rehabilitation (DM&R) Dept. and necessary parameters required for disaster management in the State has been incorporated. The completed 214 paged report/document has been submitted to DM&R Dept.

### 2. Hazard Risk & Vulnerability Analysis of Aizawl District

The project was initiated upon the request made by Disaster Management & Rehabilitation Dept., Government of Mizoram and was also funded by the same. Four natural disasters comprising of Landslide, Cyclone, Earthquake and flood were studied for Aizawl district. Hazard zonation and other analysis for these natural disasters were systematically studied and the results presented in map and statistical form. The completed report has been submitted to DM&R Dept.

## PROGRESS OF ON-GOING PROJECTS

### 1. Groundwater Prospect and Quality Mapping under RGNDWM

The project work involving groundwater prospecting for the entire state has been completed and has been subjected for EQC at NRSC, Hyderabad. Data will be generated at 1:50,000 scale and will represent groundwater potential zones in the state. With the groundwater prospecting part of the project now completed, Quality mapping is yet to be done as the next phase of the project.

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

The project is progressing in full swing with majority of the work concentrated on land use/land cover interpretation and preparation of base layers - road, drainage, settlements, etc. Land use/ land cover interpretation for three districts, viz. Kolasib, Aizawl and Serchhip districts have been completed, with neighboring districts of Mamit and Champhai at the verge of completion. Internal quality check (IQC) for the completed layers are also subsequently done and corrections are made if necessary. Legacy and other ancillary data are yet to be incorporated to finalize the data for further use.

### 3. Land Use / Land Cover Mapping (LULC50K) 2nd Cycle

The project is at its final stage of completion with change mapping and interpretations completed for all the districts. Ground truth survey has also been done for all the districts. The data is presented for final EQC, after which any corrections will be incorporated and submitted to NRSC for uploading into their repository. The mapping was done at 1:50,000 scale and the final data represents change in land use/land cover during 2011-2012.

### 4. Desertification Status Mapping (Second cycle)

This project has been recently initiated in collaboration with SAC, Ahmedabad. The mapping exercise is being carried out for two districts in Mizoram and Tripura by the Centre. Mapping for degraded areas in these states is done at 1:500,000 scale using AWIFS satellite data. The project is at its initial stage of execution.

## Employees Space

### Congratulations to our colleagues

A heartfelt congratulations to our colleagues - Pi Hmingthanpuii, Senior Scientist; Pu Edward Lalzuihanga, Senior Scientist; Pu F.Lalramchuana, Senior Scientific Officer (Mizoram S&T Council); Pu K.Lalrammuana, Senior Scientific Officer (Mizoram S&T Council); Pi Vanlalremruati, Stenographer-II and Pi Ngurliantluangi, Cartographer-II, on their promotions. We wish them all the best in their endeavour towards bringing the best in Science and technology services in the State. As they embark on a higher path of responsibility, may their talents and ideas always be a driving force for achieving the visions and aspirations of MIRSAC.





## NEWS & ACTIVITIES

\* A State level workshop on SIS-DP project was organised by the Centre on 24th January 2013 at New Secretariat Conference Hall. The workshop was chaired by Pi. L.Tochhong, Chief Secretary, Govt. of Mizoram. Dr.R.K.Lallianthanga, Project Director, MIRSAC delivered a keynote address at the workshop. Guest speakers from NESAC, NRSC, IIRS and representatives from line Departments of the state attended the workshop.

\* Pu F.Lalramchuana, Sr. Scientific Officer was detailed for ground data collection of Aizawl district for HRVA project from 11th to 15th February 2013.

\* Pi Hmingthanpuii, Sr. Scientist was detailed for ground truth collection at different places in Aizawl district from 19th February to 8th March 2013 under the on-going SIS-DP project.

\* Pu Edward Lalzuithanga, Senior Scientist attended a two day Interaction meeting of State Remote Sensing Centres at NRSC, Hyderabad from 21st to 22nd February 2013.

\* Pu H.Lalmachhuana, Scientist attended the stakeholder workshop of NUIS on 5th March 2013 at Shillong.

\* Pu F.Lalramchuana, Sr. Scientific Officer and Pu Z.D.Laltanpuia, Scientist were detailed for ground data collection of Aizawl district for HRVA project from 6th to 9th March 2013.

\* Dr. RK Lallianthanga, Project Director attended the 6th meeting of North East Space Application Centre society on 19th March 2013 at New Delhi.

\* Pu H.Lalmachhuana, Scientists was detailed to attend the LULC 2nd Cycle review meeting and EQC at NESAC, Barapani on 23rd March 2013.

\* The Executive meeting of MIRSAC was convened at Chief Secretary's Conference room, New Secretariat complex on 10th April 2013.

\* Pi Hmingthanpuii, Sr. Scientist attended a 2 day workshop and project initiation programme of Desertification status mapping of India (2nd Cycle) organised at NEHU campus, Shillong from 8th - 9th May 2013.

\* The Governing Body meeting of MIRSAC was held on 22nd May 2013 at Chief Secretary's Conference room, New Secretariat complex. Seventeen members/representatives attended the meeting.

\* Pu F.Lalramchuana, Senior Scientific Officer and Pu Z.D.Laltanpuia were detailed to attend the EQC programme under RGNDWM project at NRSC, Hyderabad from 5th - 9th June 2013.

\* Dr. RK Lallianthanga, Project Director attended NEC meeting at Shillong on 11th June 2013.

\* Pu H.Lalmachhuana, Scientists was detailed to attend the LULC 2nd Cycle EQC at NESAC, Barapani from 19th - 21st June 2013.

\* A three day software training session on ArcGIS Server for MIIMS project was held at the Centre from 19th - 21st June 2013.



SIS-DP workshop at New Secretariat Conference Hall.



Governing Body Meeting of MIRSAC at Chief Secretary's Conference room



ArcGIS Server training at MIRSAC under MIIMS project