



# MIRSAC Newsletter

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

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The Chief Minister of Mizoram addressing the State Meet at Secretariat Conf. Hall on 8th March 2016.

## HIGHLIGHTS OF MIZORAM STATE MEET ON PROMOTING SPACE TECHNOLOGY BASED TOOLS & APPLICATION IN GOVERNANCE & DEVELOPMENT

A state level meeting for promoting space technology based tools and applications in governance and development was organised on 8th March, 2016 at Secretariat Conference hall, Aizawl. The meeting has been the outcome of the suggestions and directives of the Hon'ble Prime Minister of India while addressing the 'National Meet on Promoting use of Space technology in Governance & Development' held on 7th September, 2015 at New Delhi. The State Meet was organised with the main objectives of sensitising decision makers/line departments for effective use of space technology to enhance functional effectiveness, facilitate better planning and decision making at operational levels. Another important agenda that it aims to address is to understand the space technology requirements of working line departments and to assist them in bridging the application and knowledge gap for adopting space technology based application in their respective lines of developmental activities.

The State Meet was inaugurated by Pu Lalmalsawma, Chief Secretary, Govt. of Mizoram and chaired by Dr. C.Vanlalramsanga, Secretary, Planning & Prog. Implementation Dept., Govt. of Mizoram. A brief introductory speech was given by Dr. R.K.Lallianthanga, Chief Scientific Officer & Member Secretary, MIRSAC. A presentations on Indian Space Programme was given by Shri. PLN Raju, Director NESAC. He was accompanied by Dr. MA Paul, Scientist EOS, ISRO and three other Scientists from NESAC. The State Meet had four sessions based on- Environment & Energy, Agriculture & Allied, Depts., Infrastructure planning, and Health & Welfare. Each session was chaired by Secretaries of line departments and presentations delivered by representatives of each state line departments. A total of 22 presentations were deliberated from the line departments.

### Governing Body of MIRSAC

- Chairman : Chief Secretary  
Govt. of Mizoram
- Vice Chairman : Secretary  
Planning & Prog.  
Implementation Dept.  
Govt. of Mizoram
- Member Secretary : Chief Scientific Officer  
Dte. Science & Technology
- Members : 16 members from various  
Depts. of the State, viz.,  
Planning & Prog.  
Implementation Dept.,  
Finance Department,  
Environment & Forest,  
PWD, PHE, P&E,  
Minor Irrigation,  
Agriculture (Crop Husbandry),  
Horticulture, Geology &  
Mineral Resources,  
Soil & Water Conservation,  
Rural Development,  
Land Revenue & Settlement,  
DM&R, UD&PA, & Sericulture

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The Concluding session was graced by the Hon'ble Chief Minister of Mizoram, Pu Lal Thanhawla, as the Chief Guest. The Chairman (Department Secretaries) of each theme session presented the salient outcomes and important highlights of each of the sessions in the presence of the Chief Minister. The meeting had participants from various Secretaries of State Departments, Head of Line Departments and their representatives within the state, Scientists & officers from Science & Technology.

## From Editor's desk



Timeless contributions of technology to provide better solutions in our never-ending complex real world has gained tremendous momentum which has now trickled down to the level of a layman's knowledge. Most of which have taken the form of ubiquitous technology for the end users and have become a part of daily life's routine.

Geospatial technologies have also reached out to this extent and will continue to do so to be part of our daily lives, rather than just being a unique/complex technology for a small section of the society. The services and solutions have expanded from mere planning tools to decision making platforms and automated solution providers. This has been possible due to its capability to represent a stylized virtual model of a complex real world, which also bridges the gap between scientific & conventional perspectives. The extent of its capability and success in its technological implementation will only be limited on how much we can harness from it and how close we bring the virtual to the real world solutions.

**Project in the pipeline**

The Centre in its continued endeavor to participate in Nationwide projects has collaborated with ISRO, Dept. of Space & its partner institutes NESAC, NRSC & SAC to take up the following projects listed below. The MoUs for all these projects have been signed and initiation from sponsoring agency is awaited.

☛ Land Use / Land Cover mapping Project (3<sup>rd</sup> Cycle)

☛ Land Degradation Mapping Project (2nd Cycle)

☛ Wasteland Change Analysis Project

☛ EPRIS (Empowering Panchayati Raj Institutions Spatially) Project

☛ CHAMAN (Coordinated programme on Horticulture Assessment & Management using geospatial applications) Project

☛ The first three projects are nationwide projects that have been executed on regular cycles, whereas the last two projects are new concepts for meeting specific remote sensing & GIS needs of users/departments.

**CAPACITY BUILDING FOR SIS-DP**

The project on Space based Support for Decentralized Planning has envisaged on the creation of spatial geodatabases of natural resources which would serve the impending needs of users and Government departments in development schemes and projects taken up for the state. The creation of these resource information has been done through a number of other allied projects which mapped natural resources, but the limitations in their use were mostly projected in the scale at which these projects were executed and also the knowledge gap for effective use of spatial data. To overcome this issue, the current project has included the Capacity building component as one of its core objectives. This would not only provide solutions for effective use of spatial data but also for monitoring purposes.

With the finalization of all spatial and GIS layers for SIS-DP, the Centre organised the Capacity Building programme for potential users of the SIS-DP data. The programme was organised on 11th March, 2016 at the Conference room of Planning & Prog. Implementation Dept., Aizawl. The programme was chaired by Pu Saihlira, Principal Adviser, Planning & Prog. Implementation Dept. and a keynote address was given by Dr. Lalnunsiana Colney, Sr. SO & Principal Scientist, MIRSAC, Dte. of Science & Technology. A brief report on SIS-DP project was presented by Pi Hmingthanpuii, Sr. Scientist MIRSAC and followed by a technical presentation about SIS-DP and its deliverables by Pu C. Vanlalengkima, Scientist MIRSAC. In connection with the capacity building section, a live demonstration of the working principles of BHUVAN Panchayat portal was also given to elaborate the practical use of spatial data generated through SIS-DP. The programme was attended by officers & representatives from various line departments of the state. The programme was concluded with an interactive session where the participants shared comments & questions about the further use of the data for various developmental activities taken up by them.



*Glimpses of Capacity building programme at Planning Dept. Conference room, Aizawl*



## RECENT COMPLETED PROJECTS

### 1. *Space based Information Support for Decentralized Planning (SIS-DP)*

A project for mapping and creation of spatial geodatabase of natural resources, inventory of the resources and important base data, and also development of mediums for its dissemination for use in decision making and planning at grassroot level. All data layers have been generated at 1:10,000 scale and submitted to ISRO for incorporation into nationwide repository. Capacity building for effective use of the data has also been completed. The project is a nationwide collaborative venture with ISRO, NRSC & NESAC, Dept. of Space.

### 2. *Desertification Status Mapping - Second cycle (Mizoram & Tripura)*

This is a collaborative project with Space Application Centre (SAC), Ahmedabad, executed for mapping the status of desertification in Mizoram & Tripura. The mapping was initially done at 1:500,000 scale for entire state of Mizoram & Tripura, followed by mapping for selected two districts at 1:50,000, each for the two states. Vulnerability analysis using computer model developed by SAC is completed and the final data have been submitted and cross-checked at SAC, Ahmedabad.

### 3. *Rice Crop Acreage Estimation project (Mizoram)*

A joint project with NESAC, Dept. of Space under the nationwide project of FASAL (Forecasting Agricultural output using Space, Agrometeorology and Land based observations) sponsored by Ministry of Agriculture, where rice cultivation areas in the state are mapped using remote sensing techniques. The project has identified existing areas of rice cultivation in the state at 1:50,000 scale which includes WRC and traditional paddy cultivation areas that fall within the mapable scale of the project. The completed reports, maps and statistics have been submitted to NESAC.

## PROGRESS OF ON-GOING PROJECTS

### 1. *Mizoram Infrastructure Information & Monitoring System (MIIMS)*

The mapping and archiving of various important Government & public infrastructure units in the state has been completed and stored in the Centre's GIS server. A stand-alone system for accessing MIIMS data is also designed at the Centre and is now made operational. Infrastructure Atlas for each districts is also being prepared and is at the final stage of completion. This project is funded by NEC, Shillong.

### 2. *Digital 3D Terrain Mapping & Modeling*

The preliminary stages of satellite data preparation and processing has been completed. DGPS survey, generation of updated ground control points and other necessary data collection in the field is being done for Kolasib, Mamit, Champhai & Serchhip districts. Processing of the collected ground data is being initiated for generation of 3D terrain models.

### 3. *Hazard, Risk & Vulnerability Analysis for 8 district Hqs in Mizoram*

This is a new project of the Centre funded by NEC, Shillong. The project aims to map hazard prone areas covering geological and climatic hazards, and assess extent of vulnerability, exposure of people, infrastructure & economic activities to these hazards. Satellite data procurement and pre-processing has been completed. Mapping of satellite data pertaining to extraction of building footprints is being done.

### 4. *Sericulture Development Project - 2nd Phase (Kolasib & Serchhip Districts)*

The project is the second phase of the previously completed Sericulture Development project executed for 6 districts of Mizoram. The remaining two district - Serchhip and Kolasib will be covered in this phase. Project training has been imparted in NESAC and fresh satellite data has been provided. Preparation of base layers for this project is being carried out.

## Employees Space

\* A hearty congratulations to Pu Lalramdina & Pu R.Lalfamkima, Scientists for having tied the life-long knots with their beloved life partners. Wishing them a life that brings tones of joy and happiness of timeless love.

\* The Centre welcomes a new member into the scientific community, Pu Vanlalnghaka who joins in the capacity of Scientist. We look forward to his contributions towards achieving the endeavor and goals of MIRSAC.

\* The Chief Scientific Officer, Scientists and Staff of MIRSAC convey their heartfelt condolences to Pi Chawngthansiami, LDC & her family, who has lost her father Pu Sangliangnura on 6th June, 2016. May the Lord comfort and be with the bereaved family always.



## NEWS & ACTIVITIES

\* **Pu C.Vanlalengkima, Scientist & Pu David Vanlalfela, Field Assistant** were detailed for DGPS data collection within Mamit district under the Digital 3D Terrain mapping & Modelling project from 7th - 23rd January, 2016.

\* **Pu R.Lalfamkima, Scientist & Pu Lalfakawma Royte, Field Assistant** were detailed for DGPS data collection within Champhai district and Serchhip district under the Digital 3D Terrain mapping & Modelling project during February & March, 2016.

\* **Pi Hmingthanpuii, Sr.Scientist** attended the User Interaction Meet 2016 organised by NRSC, Dept. of Space, at Hyderabad from 3rd - 4th February, 2016.

\* **Pu H.Lalmachhuana & Pu C.Vanlalengkima, Scientists** were detailed for project work under Desertification Status mapping project at SAC, Ahmedabad from 16th - 19th February, 2016

\* A State meet on 'Promoting Space Technology based Tools and Applications in Governance & Development' was organised in collaboration with ISRO & NESAC, Dept. of Space on 8th March, 2016 at Secretariat Conference hall, New Secretariat Complex. The meeting was attended by Secretaries and Officers from various line departments of the State. The concluding session was graced by the Chief Minister, Govt. of Mizoram.

\* A one day Capacity Building programme for Line Departments under SIS-DP project was organised on 11th March, 2016 at Planning Dept. Conference room. The programme was chaired by Pu Saihlira, Principal Adviser, Planning Dept. Keynote address was given by Dr. Lalnunsiana Colney, Sr.SO & Principal Scientist which was followed by project related presentation & BHUVAN Panchayat demonstration by Pi Hmingthanpuii, Sr.Scientist & Pu C.Vanlalengkima, Scientist.

\* **Pu Robert Lalchhanhima Sailo, Scientist & Pi Vanlalmuansangi, Scientist** attended a meeting and training programme for 'Remote Sensing & GIS in Sericulture Development - 2nd Phase' project at NESAC, Umiam during 21st - 22nd March, 2016.

\* **Pu C.Vanlalengkima, Scientist** along with a team of members from Geography Association of Mizoram (GAM) visited outskirts of Mualthuam on 5th April, 2016 to identify and demarcate the passing site of Tropic of Cancer in Mizoram. The IRNSS Rx and associated system was used to locate the site.

\* **Pi Hmingthanpuii, Sr.Scientist** attended the 'Partnership Institution meeting on SIS-DP & EPRIS (Empowering Panchayat Raj Institutions Spatially) at NRSC, Hyderabad on 28th April, 2016.

\* The MIRSAC Governing Body Meeting was held at the Chief Secretary's Conference room on 2nd May, 2016 at 11 am. The meeting was chaired by the Chief Secretary, Govt. of Mizoram & Chairman of MIRSAC Governing body. A total of 14 members from various line Departments were present at the meeting.

\* **Dr. Lalnunsiana Colney, Sr.SO & Principal Scientist** attended a meeting for a new project - CHAMAN (Coordinated programme on Horticulture Assessment and Management using geospatial applications) at NESAC, Umiam on 31st May, 2016.



DGPS survey & data collection at Champhai



Capacity building for SISDP & BHUVAN Panchayat.



Sericulture meeting & training at NESAC, Umiam



Demarcation of Tropic of Cancer passing site at Mualthuam (MIRSAC & Geography Association of Mizoram)