



# MIRSAC Newsletter

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

Volume: 10

January - June 2018

Issue: 1



Shri. Arvind Ray  
Chairman  
MIRSAC Gov. Body



Dr. C. Vanlalramsanga  
Vice Chairman  
MIRSAC Gov. Body

## 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, Finance,  
Environment & Forest,  
PWD, P&E, UD&PA, DM&R,  
Irrigation & Water Resources,  
Agriculture (Crop Husbandry),  
Horticulture, PHED, Geology  
& Mineral Resources, Land  
Resources, Soil & Water  
Conservation, Rural Dev.,  
Land Revenue & Settlement,  
& Sericulture.

## MIRSAC Editors

Editor : Robert Lalchhanhima Sailo  
Jt. Editor : R. Lalfamkima

Contact Address:  
Mizoram Remote Sensing Application Centre  
Science & Technology, Planning Dept.  
Mizoram Secretariat Complex, Aizawl,  
Mizoram. Pin- 796001

Office : 0389-2333240  
Fax : 0389-2336139  
Email : mirsac\_aizawl@yahoo.com

## 30 YEARS OF SPACE TECHNOLOGY SERVICE TO MIZORAM

The Indian Space programme with its visions and aspirations to use space technology in all-round national development of the country has made a number of achievements out of which establishment of remote sensing centres and institutes has been physical enablers to bring the visions into reality. The Mizoram Remote Sensing Application Centre (MIRSAC) was one of the Centres, among the other State Remote Sensing Centres set up across the country, way back in 1988 under the name of Mizoram State Remote Sensing Centre (MSRSC). With the need for better execution and management of remote sensing & GIS related services, it was re-established as an autonomous Government Institution under Dte. of Science & Technology, Govt. of Mizoram and registered as an organization under the Mizoram Society Registration Act. Since then, it has been providing every aspect of support and services to Government departments, institutes and the general users where inputs of space based information is vital and for the development of the state.

What started out as a humble beginning in a rented office infrastructure with limited human resources has now become one of the competent space application centre in the country, offering a range of remote sensing & GIS application based services and a vital organisation that represents the backbone of a majority of development activities that have been executed and will be executed in the future. The challenges and problems faced during this 30 years long of existence has been valuable indicators for the need to adapt and evolve in the way space technology is used and this has been keenly looked into for the development of the Centre in a more pragmatic way. This is where upgradation in infrastructure and knowledge in remote sensing & GIS has always played an important role when considering the all-round development of MIRSAC.



The shift from a simple yet indispensable mapping agency to a solution-provider and GIS trend-setter in the state has also empowered the Centre to take up varied application prospects of space technology in mainstream development activities, reaching down to the grassroot levels. This has also enabled the Centre to expand into various thematic aspects of technology-driven innovative platforms for management of disasters, monitoring of infrastructures, change analysis in various natural resources, groundwater prospecting, spatial analytics, capacity building and UAV technology. To assist in these areas of development, the workforce at the Centre is backed by a team of Scientists from different background of thematic expertise. Let it be also noted that the enthusiasm and support rendered from the State Government & the administrators of the Centre has a huge contribution in the overall development of MIRSAC and projecting it to heights that it has reached after these 30 years of existence.



From Editor's desk



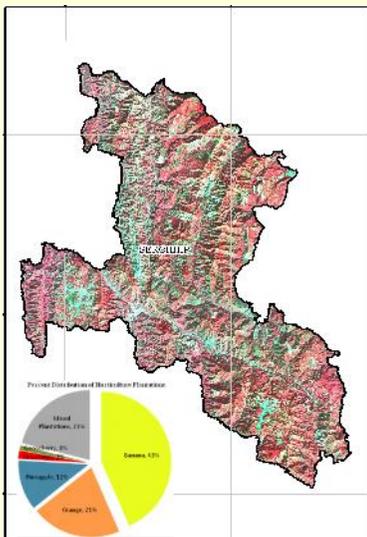
Looking back at all the achievements and milestones etched right from the time where Remote sensing was still in its exploration stage and where the technology itself was so far-fetched, we have come a long way in bringing tangible & intangible benefits towards development of the state. As we continue to realize & adapt to the importance of harnessing space technology in our work execution, there is still a lot to accomplish to narrow the digital divide between governance and society as well as space technology and mainstream science. The knowledge gained through all these years of experiences and hardwork has brought us to a stage where our capacities and skills are continuously evolving to bring better change in the way we deliver our services and support to governance and society. The inclusive growth that brings in knowledge development and its implications on better -faster solutions are also recognized in this fast-paced era where the demand for such is inevitable. Knowledge is power and that is what we strive to achieve in the following years to come using the tech-tools at hand.

**CHAMAN project reports released at Guwahati**

The first phase of CHAMAN project in Northeast region culminated with the completion of Site suitability studies conducted for selected crops in 8 NER states. A review meeting in this context was organized by Mahalanobis National Crop Forecast Centre (MNCFC), Dept. of Agriculture, Cooperation & Farmers Welfare, Govt. of India at Assam Administrative Staff Collge, Guwahati on 12<sup>th</sup> march, 2018 which was attended by officials from State Horticulture depts., NESAC, SAC, NRSC, SRSCs, IMD, NEC, and stakeholders involved in this project. Individual state report prepared under the project was also released by Dr.S.K.Pattanayak, Secretary, Dept. of Agriculture, Cooperation & Farmers Welfare, Govt. of India.



**Horticulture area mapping for Serchhip district (CHAMAN Project)**



The project on Horticulture mapping of Serchhip district is the outcome of the Review meeting held at Space Application Centre (SAC), Ahmedabad on 23<sup>rd</sup> Sept. 2017 wherein the need for spatial information with regards to horticulture plantation sites and area estimation of these sites were discussed. As an extension of the study done under CHAMAN (1st Phase) project for Champhai district, it was decided to carry out this mapping and assessment activity for Serchhip district. The mapping exercise was conducted with funds received from SAC and mapable horticulture plantation areas were focused for area assessment.

The mapping was done following the spatial framework of SIS-DP project on 1:10,000 scale. Existing ancillary data of the district like land use, road, drainage, etc, from previous project of SIS-DP was used as reference base data and subsequently updated on recent satellite imagery of IRS P6 LISS IV & Cartosat-1. Prominent horticulture plantation crops were identified from previous records and also from inventory records of state Horticulture Department. Ground based observations and verification of plantation sites were also carried out after the mapping exercise to ascertain the accuracy of location and identification of correct plantation crops.



The mapping has shown that the district has a considerable area under horticulture plantation (fruit crops) with the majority of it being Banana plantations (43% of total horticulture plantation area) and followed by Orange (21%). A number of plantation sites are also found wherein more than one horticulture crops are planted such as banana & pineapple, orange & pineapple, etc. Such areas were also included in the mapping and grouped into a common category of Mixed horticulture plantation sites. These sites also constitute a larger fraction of the horticulture plantation distribution (21%) in Serchhip district. It was also noted that a few horticulture fruit crops were introduced in the district such as strawberry and gooseberry. It is further expected that this may further increase the area coverage of horticulture fruit crops in the district within a few years. A brief report highlighting the area distribution and statistics of the mapped horticulture areas was prepared and submitted to SAC, Ahmedabad, along with the GIS data.



## MIZO VERSION OF ISRO FLYER - 'UTILIZATION OF SPACE TECHNOLOGY' RELEASED

With the main focus to promote use of space technology for effective governance in the state, the Centre has taken a step forward to achieve this with the translation of ISRO flyers on 'Utilization of Space Technology' into Mizo dialect. The compilation contains varied scopes for using space technology in mainstream development schemes as well as its potential in a wide spectrum of governance applications which are yet to be tapped. This compilation was released by the former Chief Secretary & Chairman, MIRSAC on 23<sup>rd</sup> February, 2018 at the Governing body meeting of MIRSAC at the Chief Secretary's Conference room, Mizoram Secretariat Complex, Aizawl. Copies of this compilation was distributed to officials present at the meeting.



*ISRO Flyer (Mizo version) released by Pu Lalmalsawma, Former Chief Secretary & Chairman, MIRSAC*

### ON-GOING PROJECTS

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

Compilation and preparation of data in 3D format for the entire state has been completed, along with software customization for visually browsing the 3D terrain models. A report is being prepared for the project & is at final stage of completion.

#### **2. Hazard, Risk & Vulnerability Analysis for 8 district Hqrs in Mizoram**

Map compositions and preparation of HRVA Atlas for three District hqrs. i.e, Aizawl, Mamit & Serchhip has been taken up and completed for Aizawl. Data collection and analysis for Kolasib, Lawngtlai & Lunglei towns has also been done.

#### **3. Land Use / Land Cover Mapping - 3rd Cycle**

External Quality check for spatial data prepared under this project is completed and final data has been submitted to NRSC, Hyderabad for incorporation into national repository.

#### **4. Monitoring of IWMP activities using Geospatial tools**

The project is progressing smoothly with preparation of reports on observations made in Kolasib district. Land use changes have also been monitored using online BHUVAN services and included in the report.

#### **5. CHAMAN Project - Site suitability study for Dragon fruit in Aizawl District**

This project is funded by Mahanalobis National Crop Forecast Centre (MNCFC), Dept. of Agriculture, Cooperation & Farmers Welfare, Govt. of India. In continuation of the 1st phase of CHAMAN, the present project will focus on site suitability analysis for Dragon fruit in Aizawl district which has been selected by the Horticulture Dept., Govt. of Mizoram.

#### **6. Village Profile mapping**

The project aims to map and provide location based information of all villages in Mizoram, including their demographic and necessary attributes that will assist in planning and development activities. The project is funded by Directorate of Economic & Statistic, Govt. of Mizoram. Preparation of spatial database and mapping is in progress.

#### **7. North East Spatial Data Repository (NeSDR)**

The project is funded and executed in collaboration with NESAC, Dept. of Space & Ministry of DONER with an objective to bring spatial data on a unified platform to promote the use of space technology and to be used for various developmental activities in the northeast. Spatial data has been shared and state node/portal for Mizoram is being prepared.

#### **8. Election e-Atlas**

The project is funded by Department of Election, Govt. of Mizoram and executed in collaboration with NESAC, Dept. of Space. Initial process of data collection and standardization of geospatial database is being done.

### Brief Orbuary

\* Our deepest condolences to Dr. Lalnunsiamia Colney, Principal Scientific Officer on the demise of his mother Pi Sanghluni on 19<sup>th</sup> April, 2018, and also to Dr. R.K.Lallianthanga, Chief Scientific Officer on the passing of his mother Pi Suakthuami on 24<sup>th</sup> June, 2018. May the Lord console and comfort the bereaved family members.



## NEWS & ACTIVITIES

MIRSAC AT A GLANCE

*\* Pu Robert Lalchhanhima Sailo, Scientist & Pi Rosy Lalremruati Pachuau, UDC attended a Workshop on New Pension Scheme (NPS) for State Autonomous Bodies in North Eastern States organized by PFRDA, Govt. of India & NSDL, Mumbai at Assam Administrative Staff College, Guwahati on 8<sup>th</sup> January, 2018.*

*\* A demonstration of ERDAS Software was jointly organized with Hexagon Geospatial Co. at the Conference room of Dte. of Science & Technology, Govt. of Mizoram on 8<sup>th</sup> February, 2018.*

*\* The translated version of ISRO Flyer “Utilization of Space Technology” (Mizo version) prepared by the Centre was released by Pu Lalmalsawma, Chief Secretary & Chairman, MIRSAC at the Governing Body Meeting at the CS Conference room, Mizoram Secretariat Complex, Aizawl on 23<sup>rd</sup> February, 2018.*

*\* Pu H.Lalhmachhuana, Scientist and Pu Lalfakawma Royte, Field Assistant were detailed for ground data collection under the CHAMAN project of Horticulture area mapping in Serchhip district from 28<sup>th</sup> - 30<sup>th</sup> March, 2018.*

*\* Pi Hmingthanpuii, Sr.Scientist & the project team of “Resource mapping for Bamboo management” were detailed for ground data collection & UAV mapping of Kawnpui/Zanlawn village area in Kolasib district from 5<sup>th</sup> - 6<sup>th</sup> April, 2018.*

*\* Pu Lalramdina, Scientist & Pu Lalhriatpuia, Field Assistant were detailed for ground truthing at Kolasib town under HRVA project from 9<sup>th</sup> - 17<sup>th</sup> April, 2018.*

*\* Pi Rosy Vanlalarzovi, Scientist & Pu Lalfakawma Royte, Field Assistant were detailed for ground data collection at Champhai town under HRVA project from 9<sup>th</sup> - 21<sup>st</sup> April, 2018.*

*\* Pu H. Lalhmachhuana, Scientist and Pi Vanlalmuansangi, Scientist were detailed for EQC programme under National Land Use/ Land Cover mapping project at NESAC Umiam from 9<sup>th</sup> - 12<sup>th</sup> April, 2018.*

*\* Pu Robert Lalchhanhima Sailo, Scientist attended the CHAMAN Workshop and Review Meeting organized by MNCFC, Dept. of Agriculture, Cooperation & Farmers Welfare, Govt. of India at Assam Administrative Staff College, Guwahati from 11<sup>th</sup> - 12<sup>th</sup> March, 2018.*

*\* Pu Vanlalnghaka, Scientist and Pu C.Lalzawngliana, Field Assistant were detailed for ground truthing and data collection at Lawngtlai town under HRVA project from 16<sup>th</sup> - 21<sup>st</sup> April, 2018.*

*\* Pu C.Vanlalengkima, Scientist attended the conference on ‘Drone Acharya - 2018’ organized by Security Watch India(SWI) at New Delhi on 3<sup>rd</sup> May, 2018.*

*\* Pi Hmingthanpuii, Sr.Scientist and Pu C.Vanlalengkima, Scientist attended a meeting for NESDR Project review at NESAC, Umiam on 8<sup>th</sup> May, 2018.*

*\* A joint meeting to initiate CHAMAN project (2nd Phase) was held at the office of Horticulture Department, Govt. of Mizoram on 8<sup>th</sup> May, 2018.*



Workshop on Implementation of NPS at Guwahati.



Ground truthing at Kawnpui area for Bamboo resource mapping project



Ground data collection at Lawngtlai under HRVA project



Meeting with Horticulture Dept. for CHAMAN (2nd Phase) project