



MIRSAC Newsletter

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

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ISRO successfully launches PSLV-C18 carrying Megha-Tropiques satellite (to study patterns & dynamics of monsoon) and other 3 nano satellites into orbit on 12 October 2011.

AND GIS APPLICATIONS OF REMOTE SENSING



Dr. R.K.Lallianthanga

The concept of Remote Sensing lies in its ability to enable us to study physical objects and phenomena on the earth's surface from a remote platform like satellite or air-borne sensors without coming in physical contact with the objects. Information captured through Remote sensing is again processed in a Geographic Information System (GIS) environment, which integrates hardware, software and data to manage, analyse and give an output for the geographically referenced information in a user understandable format. Thus giving value to the data extracted.

Remote Sensing and GIS are two fields that go hand-in-hand to bring out the advantages when compared to conventional practices. To highlight a few, it is a cost-effect technology for mapping and survey of resources, the data generated helps in timely assessments and analysis, the information is accurate and can be produced as per user requirements. Such being the advantages, this technology has many applications in almost all aspects of today's developing world like, Land use / land cover survey, Forest mapping and survey, Water resource inventory and survey, Disaster management, Public Utility mapping and management, etc.

The current issue of this newsletter highlights the various projects taken up by the Centre, some of which have been successfully completed. The project outputs have been prepared in the form of reports and Atlas which are distributed to the user departments for their prospective uses in their line of work. The content of these project outputs have been of valuable information to the user departments as they have been generated from reliable sources using trusted technology of Remote sensing and GIS. The scope for further utilization of this technology in different development activities of the state depends on the innovative approach and actual utilization of the technology by the user. In this aspect, the Centre is taking up a few other projects which are still in the execution stages and some on the verge of completion.

The projects taken up by the Centre focuses on the needs of the developing activities of the state and thus, I would like to encourage the line Departments to widen their knowledge, invest and make more use of this Remote sensing and GIS technology. As mentioned before, the cost incurred for project execution is much more effective compared to conventional means and thus allocating funds in projects based on this technology is worth the investment made, both in terms of time and money. In this endeavour, the Centre is open to take up such innovative projects which are of value and importance to the socio-economic development of the State and will always strive to achieve the level of excellence and satisfaction in executing the projects for line Departments through its competent work force.

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From Editor's desk

Achievement and success are often the outcome of perseverance and sincerity in whatever work we do. In doing so, the development of talents and skills is harnessed progressively. The centre with its backbone of professionals in each thematic field has continuously acquired the skills and technology to move ahead with developments taking place around it. It would be something to be proud of if the momentum is maintained at a steady pace.

Projects are the main constituents of the work culture, however, taking a challenge into new fields of project work boosts the technological skills and confidence of the scientists. With every new challenge taken up by the centre, training and development of manpower becomes essential. In this aspect, there has been a couple of improvements and upgradations made for the work force at the centre. Venturing out of the conventional practices and leaning new skills will ultimately result in better work management and taking up new innovative projects.

Integrated Land Use Planning of Saiha District



The Atlas containing illustrated maps and statistics of Saiha district and its villages was released by Mr.Kunal, I.A.S, Deputy Commissioner of Saiha at a function held at DC's Conference Hall on 14th September 2011. The function was conducted by Pu.K.Lalrammuana, Senior Scientist, MIRSAC. A presentation on the contents and technical reports about the project was given by Pu.H.Lalmachhuana, Scientist, MIRSAC. Copies of the Atlas was distributed to all department officials as well as village representatives attending the release function.

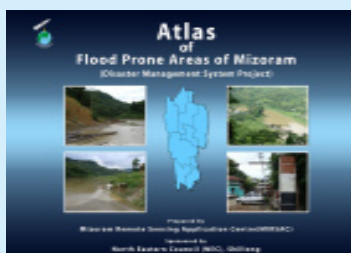
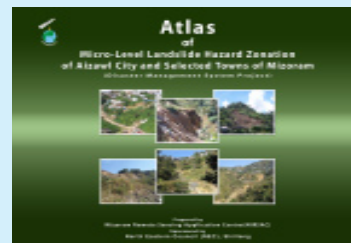
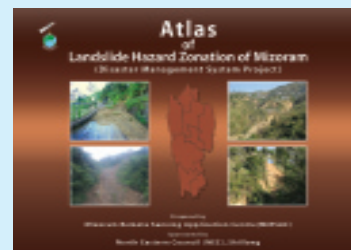
The project was initiated as an in-house project for preparing a comprehensive Land Use Planning guide for NLUP & other development activities in Saiha district. It envisages, scientific planning of the land and water resources present in Saiha district as a whole and also for its 32 villages. The Atlas generated from this project contains Transport, settlement, drainage maps along with Land use planning maps of the district and villages.

Atlas of Landslide Hazard Zonation, Micro-Landslide Hazard Zonation & Flood prone areas of Mizoram



The three Atlas were released by Pu H.Liansailova, Hon'ble Minister of Planning, etc, Govt. of Mizoram, at his office chamber, New Secretariat Complex on 1st August 2011. The release programme was conducted by Pu. Lalmalsawma, the former Commissioner & Secy, Planning Department. Dr.R.K.Lallianthanga, Project Director, MIRSAC gave a brief presentation about the Atlas prior to the release. Copies of the three Atlas along with soft copies of the maps were distributed to Disaster Management & Rehabilitation Dept. officials and representatives of each Deputy Commissioners present at the function.

These three atlas forms the core part of the Disaster Management Project (DMS) funded by NEC. Considering the prevalence of landslides in the state and as a measure to map the hazardous areas, Landslides of major towns in Mizoram has been mapped and zonation prepared at 1:5,000 for 10 towns (Kolasib, Mamit, Saitual, Khawzawl, Champhai, Hnahthial, Serchhip, Lunglei, Lawngtlai & Saiha) & Aizawl city, and at 1:50,000 scale for 8 districts of the state using High resolution satellite data.



Mapping of flood prone areas in all districts of Mizoram at 1:50,000 scale was carried out and prepared as Atlas with illustrated maps and statistics.



NEWS FLASH

Atlas of Earthquake Hazard of Mizoram & Atlas of Wind and Cyclone Hazard of Mizoram

As part of the Disaster Management Project, two Atlas pertaining to mapping of Earthquake, Wind & Cyclone hazard areas in Mizoram prepared by the Centre was released by Pu K.S.Thanga, Hon'ble Parliamentary Secy, Govt. of Mizoram on 7th December 2011 at his office chamber. The release function was chaired by Dr.R.K.Lallianthanga, Project Director, MIRSAC and a short technical report about the project and Atlas was given by Pu.F.Lalramchuana, Scientific Officer and Pu.ZD.Laltanpuia, Scientist, MIRSAC. Copies of both the Atlas was distributed to concerned Department officials and invitees present at the function.



Application of Remote Sensing and GIS for Sericulture Development for the state of Mizoram - A project report.

Sericulture development project covering 6 districts of Mizoram, taken up by the centre is an initiative of Central Silks Board, Ministry of Textiles, Govt. of India and NESAC. A handover programme of the report prepared by MIRSAC was organised on 8th December 2011 at the Centre. The reports were handed over to Pu.D.Engzananga, Director, Sericulture Dept. by Pu.Vanlalzara, Principal Scientific Officer, Science & Technology. Technical report was presented by Pu.Lalnunsiam Colney, Senior Scientist, MIRSAC.



PROJECTS COMPLETED

The following projects were completed during July to December 2011

1. Integrated Land Use Planning of Saiha District

The project taken up as an in-house project released on 14th September 2011. The Atlas prepared for this project contains maps and statistics for Saiha district Land use planning as well as for each of the villages in the district. The information provided will be of value for planning and development of land and water resources in the district.

2. Landslide Hazard Zonation of Mizoram (1:50,000 & 1:5,000)

Landslide Hazard Zonation at 1:50,000 for 8 districts of Mizoram and 1:5,000 (Micro-level) for 10 major towns and Aizawl City has been completed and released. Both these studies are part of the Disaster Management System (DMS) project, funded by NEC.

3. Mapping of Flood Prone Areas of Mizoram

The study is a part of Disaster Management System (DMS) Project, funded by NEC, Shillong. The Atlas containing illustrated maps (toposheet wise) and statistics of the flood prone areas in all districts of the state was also released along with the Landslide Hazard Zonation Atlas.

4. National Urban Information System (Lunglei & Champhai towns)

Under this project, two towns - Lunglei and Champhai has been mapped and reports for these two towns have been prepared. The project envisages town level geospatial database under single national scheme. This is a collaborative project with NESAC and launched by Ministry of Urban Development, Govt. of India.

5. Earthquake Hazard mapping of Mizoram

This study is also a part of Disaster Management System (DMS) Project. Owing to the position of the state on the Earthquake map of the country, a study was executed by the centre to map and divide the state into risk zones. An Atlas has been prepared showing earthquake hazard areas in Mizoram.

6. Wind & Cyclone Hazard Mapping of Mizoram

A study executed by the centre to map areas vulnerable to cyclone and high wind velocities which is also a part of Disaster Management System (DMS) Project. The Atlas prepared under this project was released on 7th December 2011.

7. Sericulture Development Project for Mizoram

A collaborative project with NESAC for mapping the potential areas suitable for sericulture. This project covers 6 districts of Mizoram (excluding Kolasib and Serchhip districts). A report containing statistics and maps entitled- "Application of Remote sensing and GIS for Sericulture development for the state of Mizoram" has been prepared by the centre.

NEWS & ACTIVITIES

* Pu.Edward Lalzuithanga, Scientist was detailed for final data submission and EQC of NUIS Project (Champhai town) at NESAC from 27th-29th June 2011.

* Pu.C.Vanlalengkima, Scientist was detailed for project work at NESAC from 27th June - 1st July 2011, regarding SIS-DP data checking.

* Pu.F.Lalramchuana, Scientific Officer was detailed to Hnahlan to supervise the working conditions of Automatic Weather Station (AWS) installed at Hnahlan.

* Three Atlas - Atlas of Landslide Hazard Zonation of Mizoram (1:50,000), Atlas of Micro-level Landslide Hazard Zonation of Aizawl city and selected towns of Mizoram (1:5,000) and Atlas of Flood prone areas of Mizoram, prepared under Disaster Management System Project (DMS) was released by Pu.H.Liansailova, former Hon'ble Minister for Planning, etc, Govt. of Mizoram on 1st August 2011 at his office chamber, New Secretariat Complex.



Landslide Atlas release function

* Pu.ZD.Laltanpuia, Pu.F.Lalbiakmawia and Pu.R.Lalfamkima, Scientists attended a three weeks training programme for Disaster management project at Wadia Institute of Himalayan Geology, Dehradun from 13th August - 6th September 2011.

* Pu.F.Lalramchuana, Scientific Officer, was invited to give a presentation on Remote Sensing and GIS at Administrative Training Institute (ATI), Aizawl on the occasion of Refresher course for Architect.

* Pu.Edward Lalzuithanga, Scientist attended a workshop on "Rajiv Awaz Yojana (RAY) - Regional Workshop for NE States on capacity building & training for decision makers & nodal officers" At NESAC from 6th-7th September 2011.

* Pu.K.Lalrammuana, Senior Scientist and his team of scientists were detailed to Saiha for the release function of Atlas of Integrated Land Use planning of Saiha District on 14th September 2011. The Atlas was released by Mr.Kunal, I.A.S, Deputy Commissioner, Saiha.



Team of Scientists at Saiha

* Dr. R.K.Lallianthanga, Project Director and three scientists - Pu.Robert Lalchhanhima Sailo, Pu.C.Vanlalengkima and Pi.Rosy Vanlalzarzovi, attended Regional Workshop on "Space Based Information Support for Decentralized Planning" from 20th-21st September 2011 at NESAC.

* Pu.C.Vanlalengkima, Scientists was detailed to Lawngtlai to conduct a three day training programme on GPS handling for forest officials of LADC Forest Department.

* Pu.ZD.Laltanpuia and Pu.R.Lalfamkima, Scientists were detailed to attend a training programme on "Space Enabled Geo-Information for Disaster Management" at NRSC, Hyderabad from 31st October - 4th November 2011.

* Two Atlas under Disaster Management Project - Atlas of Earthquake Hazard of Mizoram and Atlas of Wind and Cyclone mapping of Mizoram was released by Pu.K.S.Thanga, Hon'ble Parliamentary Secy, Govt. of Mizoram on 7th December 2011 at his office chamber, New Secretariat Complex.



* A project report prepared under Sericulture Development project was handed over to Sericulture Dept. officials by Pu.Vanlalzara, Principal Scientific officer, Science & Technology on 8th Dec. 2011 at MIRSAC conference room.

Earthquake, Wind & Cyclone Atlas released