



MIRSAC Newsletter

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

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We are proud of the successful launch of "Mangalyaan" - India's first Mars Mission using PSLV-C25 on 5th November 2013 at Sriharikota, Andhra Pradesh.

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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Geospatial Land use planning for Mizoram

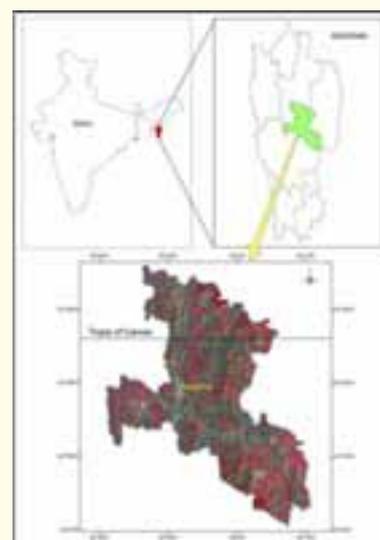
Dr. R.K.Lallianthanga

Planning for development of land resources requires a thorough understanding of all aspects of natural resources, socio-economic, demographic and physiographical components of the area. An In-depth knowledge about these components can assist planners to look into suitable measures to be taken up for sustainable plan development and utilization of the resources.

Mizoram has witnessed the implementation of several Government plans and policies. The on-going flagship programme of the Government - New Land Use Policy (NLUP), has been formulated to eradicate the age old land use practice of shifting cultivation by providing the practicing farmers alternative solutions and amenities. These policies also had basic objectives for improving the rural economy and upliftment of the rural poor population. At the initial stage of this programme, the available geospatial data generated by MIRSAC have been provided to line Departments as guidance for implementation of their respective schemes. However, there is still need for in-depth utilization and practical application of geospatial data.

Hilly areas like Mizoram and other northeastern states require effective and pragmatic land use planning which considers all parameters for bio-physical and socio-economic development without compromising on the inherent traditions and practices of the population. Thus, there is urgent need for research and evolution of proper strategical plans and policies based on reliable and sound technologies to find new alternatives.

Geospatial planning has emerged as an effective and reliable platform to assist in this process of developmental planning even at the grassroot level. Advancement in space technology has brought various improvements in mapping of earth's resources and has helped in evolving improved techniques of geospatial planning. In the context of land use planning, geospatial techniques and models have been researched and developed for its effective use in sustainable development of land and water resources by integration of various GIS layers, which further demonstrates that geospatial techniques help in generation of a reliable spatial and non-spatial information database. The Centre has done a number of studies in this context of land use planning for proper utilization and conservation of natural resources. One of which has been for Serchhip District where Remote Sensing and GIS techniques were effectively used in the preparation of plans which considers bio-physical and socio-economic parameters of the district.



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From Editor's desk

As we approach another new beginning in 2014 and looking back at what all has been accomplished, it gives me a sense of pride as to where we are now - serving the nation and our community with our talents and technology know-hows. We might not be at the epitome of the science and technological innovations but our services to user departments and scientific community in the state as well as the nation has been noteworthy for the developments in-vogue.

Our scope of operations has reached a level of acceptance by not only the Government departments but even to the lay man. This can be reflected in the number of services/data provided to private and NGOs in the state. Reliability and accurate has always been a driving force in the field of remote sensing and GIS. This is where our data products stand out when compared to data generated from conventional means. In this race for quicker, reliable and cost-effective information, there is a need on our side to keep up with the race and stay at par with recent technological developments.

Christmas and New Year Wishes



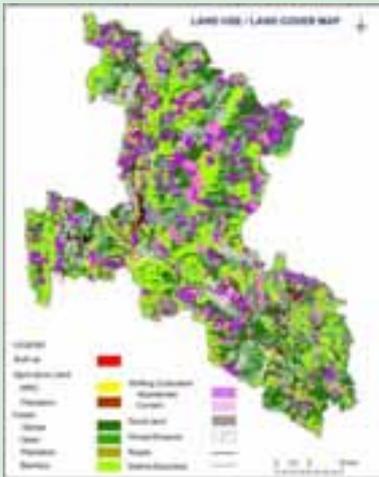
The Project Director, Officers and Staff of MIRSAC wishes all its readers a very Happy Christmas and a prosperous New Year - 2014.

Congratulations



MIRSAC congratulates all the elected MLAs in the Mizoram Legislative Assembly Election 2013, and wishes the Chief Minister Pu Lal Thanhawla and his colleagues success in all the developmental works to be taken up by the new ministry.

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The incorporation of data derived from public participatory programmes was an added advantage to the formulation of a strategic land and water resource development plan for the district and has also been effective for planning at the village-level.

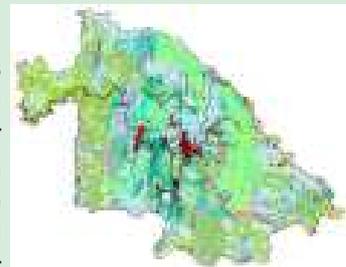
An integrated approach of Remote Sensing & GIS techniques with ground based data collection and active community level participation was the main foundation for the successful completion of this project. Data collected from participating village representatives were considered during preparation of village level plan maps.



Village level participation



The geospatial plan maps also considered the feasibility for implementation of the various sustainable land use practices that were proposed for the district, keeping in mind the need for alternative land use practice to shifting cultivation as well as conservation of natural resources. The available water resources were also considered during the planning process and additional water development related structures were proposed to



Village level Land Use Plan map

assist the successful implementation of proposed land use systems. The methodology used in this project highlights that mapping of spatial patterns of land use, slope, drainage and other related natural landforms and features based on fine resolution Indian satellite data provides relevant, reliable and timely information as shown during the course of this project. Besides facilitating the creation of a comprehensive geo-database, spatial analysis in GIS has enabled the generation of an environmentally and economically sound land-water resource plan for implementation in the district.



PROJECTS COMPLETED

The following projects were completed during July to December 2013

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

A nationwide Land use / Land cover mapping project taken up by the Centre for the state of Mizoram has been completed. The final database has gone through EQC at NRSC, Hyderabad and will be uploaded to the national level Land use / Land cover thematic data repository of ISRO. The 2nd cycle of mapping exercise under this project is a continuation of what has been carried out in 2005-2006 to identify changes in land use / land cover that has occurred during a gap of 5 years. Reports and statistics were also prepared for the state and submitted to the co-ordinating agencies.

2. Mapping of Rubber plantation potential areas in Mizoram

This mapping was taken up as a project sponsored by Soil & Water Conservation Dept. Potential areas for rubber plantation in Mizoram was mapped with two levels of considerations for suitability (categorised as Class I & II), depending on the topography and other land features. District wise maps showing these potential areas as well as statistics were handed over to the sponsoring Department at a short function organised on 27th September 2013. The work done for this mapping exercise was appreciated by officials of the Dept. attending the function.

PROGRESS OF ON-GOING PROJECTS

1. Groundwater Prospect and Quality Mapping under RGNDWM

A project under Ministry of Drinking Water & Sanitation and co-ordinated by NRSC, Hyderabad. The project work involving mapping of groundwater potential zones in the state (prospecting) has been completed and maps generated at 1:50,000 scale. A workshop on the utilization of the data generated from this project was convened on 17th December 2013 at Imphal, Manipur for all participating agencies of the project. Quality mapping is currently being taken up.

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

The nationwide project for mapping of land use / land cover at 1:10,000 scale is proceeding with interpretation completed for 5 districts of the state (Kolasib, Mamit, Aizawl, Champhai & Serchhip). At the same time internal quality check (IQC) has also been done for the completed districts and corrections made wherever necessary. Ground data collection and its incorporation into the final database is also carried out, as well as integration of legacy data for the completed districts. The interpretation of remaining 3 districts is being carried out grid-wise at present.

3. Geo-Referenced Base Map preparation for Aizawl City & Lunglei town under Rajiv Awas Yojana (RAY) project

The project involves the preparation of urban land use and base data for Aizawl city and Lunglei town at 1:2000 scale. Funded by Urban Development & Poverty Alleviation Dept., Govt. of Mizoram, the mapping for Aizawl City has been completed and data handed over to the funding Department for evaluation. Mapping is being started for Lunglei town .

4. Desertification Status Mapping (Second cycle)

This is a collaborative project taken up with SAC, Ahmedabad for mapping the status of desertification in two states i.e, Mizoram and Tripura. The first phase of mapping using AWIFS data at 1:500,000 scale is over for the two states and data has been submitted to SAC, Ahmedabad where quality check and change matrix will be generated.

Employees Space

A special programme of Advance Christmas was organised at the Centre's Conference room on 19th December 2013 at 4 P.M. The programme included gift exchanges amongst the employees followed by high tea.



It was indeed an evening well spent to bring in the festival spirit of Christmas under one roof at MIRSAC. The Centre currently has a strength of 1 Project Director & Member Secy., 1 Sr. Scientific Officer, 3 Sr. Scientists, 7 Scientists, 4 Field Assistants cum Computer operators, 2 Cartographers and 13 Administrative staff including peons and drivers.

NEWS & ACTIVITIES

* Pu F.Lalbiakmawia, Scientist attended a one week training programme on "Application of GeoInformatics for Chemical Disaster Management" organized by NIDM, New Delhi from 8th - 10th July 2013.

* Pu Edward Lalzuthanga, Sr. Scientist and Robert Lalchhanhima, Scientist attended the one week training programme on "Recent Trends in Geospatial Technology" jointly organised by NESAC, Umiam & IIRS, Dehradun at NESAC campus, Umiam from 5th to 9th August 2013.



Training on Recent trends in Geospatial Technology at NESAC, Umiam.

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

* Pu F.Lalbiakmawia, Scientist was detailed to accompany the team of Scientists from SAC, Ahmedabad during their project related field visits at Champhai, Hnahlan and Sihphir from 5th - 9th September 2013.

* Pu Edward Lalzuthanga, Sr. Scientist, Pu Z.D.Laltanpuia, Pu F.Lalbiakmawia, Pu R.Lalfamkima and Pu C.Vanlalengkima, Scientists were detailed for ground data collection around Aizawl City for RAY project during September 2013.

* A short handover programme of maps prepared for Rubber plantation potential areas in Mizoram, prepared for Soil & Water Conservation Dept. was organized at the office chamber of Dr.Jerome Rokima, Director, Soil & Water Conservation Dept. on 27th September 2013.



Handover programme on Rubber Plantation potential areas in Mizoram

* Pu H.Lalmachhuana & Pu C.Vanlalengkima, Scientist were detailed for ground data collection in Aizawl, Kolasib, Champhai & Mamit districts under the on-going SIS-DP Project.

* A short demonstration programme on Remote sensing & GIS applications for Officers & Scientists of Agriculture Dept. & other allied departments was organized at the Conference room of the Centre on 9th October 2013. Pu Lalnunsiama Colney, Sr. Scientific Officer was the resource person and gave a presentation on "Remote Sensing Applications & GIS Services in Mizoram".

* Pu ZD Laltanpuia, Scientist was detailed to attend the External Quality Check programme under RGNDWM project at NRSC, Hyderabad from 21st - 25th October 2013.

* Pu Robert Lalchhanhima Sallo, Scientist was detailed for project work & data checking of Desertification status maps at SAC, Ahmedabad from 21st - 22nd October 2013.

* Pu H.Lalmachhuana, Scientist was detailed for collecting ground data around Lunglei district under on-going SIS-DP project during November 2013.

* The State Disaster Management Plan 2012 & a report on Hazard, Risk & Vulnerability Analysis of Aizawl District prepared by the Centre was released by Pu PC Lallawmsanga, Principal Secy. i/c, Disaster Management & Rehabilitation Dept. on 3rd December 2013 at Secretariat Conference hall.



Demonstration programme for Agriculture & allied Depts.

* Pu Edward Lalzuthanga, Sr. Scientist & Pu ZD Laltanpuia, Scientist attended a 2 day 'Regional Workshop on Groundwater Prospects (HGM) of RGNDWM project for Northeastern States' at Imphal, Manipur from 16th - 17th December 2013