

Government of Mizoram Directorate of Science & Technology

# ANNUAL REPORT 2015-2016



Science & Technology for Sustainable Development



Government of Mizoram Directorate of Science & Technology Aizawl : Mizoram

# Annual Report 2015-16

### **OVERVIEW**

#### **1.1 INTRODUCTION**

The Directorate of Science & Technology, Govt. of Mizoram is the main administrative office of Science and Technology in Mizoram. It was created as a Cell in the year 1986 with a view to utilise Science & Technology inputs for various developmental activities and to take up scientific projects and schemes pertaining to frontier areas of Science. Its status as a Wing under the Planning & Programme Implementation Department was upgraded to the Directorate on 30<sup>th</sup> August, 2011.

There are two autonomous bodies working under the aegis of the Directorate of Science & Technology viz., Mizoram Science, Technology and Innovation Council (MISTIC) and Mizoram Remote Sensing Application Centre (MIRSAC) which act as implementing agencies for various scientific projects and schemes and as advisory body. The Directorate also houses several centres which play specific role for science and technology promotion and popularisation in various fields such as the Mizoram Science Centre, State Meteorological Centre, Patent Information Centre and State Climate Change Cell. Besides these Centre, the Directorate also acts as a nodal department for the National Informatics Centre (NIC).

#### 1.2 VISION

Science & Technology for sustainable development.

#### 1.3 MISSION

- (1) Harnessing potential of science & technology for sustainable development.
- (2) Create knowledge based society through innovation and application of science and technology.

#### **1.4 OBJECTIVES**

- (1) To create and develop natural resources' database for planning and development.
- (2) To promote applied R&D through universities, R&D institutions and other state, national science & technology bodies.
- (3) To identify, demonstrate, replicate and promote technologies relevant to the developmental needs of the state.

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- (4) To popularize science and spread of a scientific temper and attitude among the people of the state.
- (5) To promote innovation and facilitate filing of IPR.
- (6) To generate and disseminate meteorological data.
- (7) To enhance the capacity of utilizing bio-resources and harnessing the advanced techniques of biotechnology for socio-economic growth.

#### 1.5 FUNCTIONS

- (1) Application of Space Technology viz. Remote Sensing & Geographic Information System for natural resource management, planning and development.
- (2) Technology development and demonstration.
- (3) Popularisation of science and technology.
- (4) Promotion of innovation and facilitation of filing Intellectual Property Right (IPR).
- (5) Generation and dissemination of meteorological data.
- (6) Scientific study on climate change.

#### **1.6 ALLOCATION OF BUSINESS**

As per the Government of Mizoram Allocation of Business Rules, this new Directorate has many responsibilities for the development of the state.

The business allotted to Directorate of Science & Technology are:-

- (1) Promotion and Popularization of Science & Technology.
- (2) Remote Sensing, GIS and Space Applications.
- (3) Matters relating to Intellectual Property Rights including Copyright Act, 1957; Patent Act, 1970 involving establishment of Patent Information Centre; Design Act,1999; Trademarks Act, 1999; and all Rules/Regulation thereunder.
- (4) Meteorology.
- (5) Bioresearches and Biotechnology.

### DIRECTION AND ADMINISTRATION

#### 2.1 DIRECTORATE OF SCIENCE & TECHNOLOGY

The Directorate is the main administrative office of Science & Technology. It was created as a Cell in the year 1986 with a view to utilize science and technology inputs for various developmental activities and to take up projects and schemes

pertaining to various areas of science. Its status as a Wing under the Planning & Programme Implementation Department was upgraded to the Directorate on 30<sup>th</sup> August, 2011. At present, Directorate of Science & Technology is functioning with the Chief Scientific Officer as the head. Other scientific/technical officers include Principal Scientific Officer, Senior Scientific Officers and Scientific Officers.

Under the Directorate of Science & Technology, there are two autonomous body viz. Mizoram Science, Technology & Innovation Council (MISTIC) and Mizoram Remote Sensing Application Centre (MIRSAC). Both the body has been registered under the Societies Registration Act and act as implementing agencies for various projects under the umbrella of the Directorate. The Directorate is functioning as the administrative office with the Chief Scientific Officer functioning as the Member Secretary in both these bodies.

#### 2.2 MIZORAM SCIENCE, TECHNOLOGY & INNOVATION COUNCIL

The Mizoram Science, Technology & Innovation Council is an Autonomous Government body under Directorate of Science and Technology. The Governing Board and the Executive Committee, constituted by the State Government are the apex body having sole authority over the council. The Governing Board is chaired by the Chief Minister, Government of Mizoram, while the Executive Committee is chaired by the Secretary, Planning & Programme Implementation Department, Government of Mizoram. The Council receives yearly Grant-in-aid from Department of Science & Technology, Government of India for salary of limited employees as Secretarial support as well as fund for implementing various projects. The state government also supports it in the form of GIA.

#### 2.3 MIZORAM REMOTE SENSING APPLICATION CENTRE

Mizoram Remote Sensing Application Centre (MIRSAC) was established in the year 1988 under Science, Technology & Environment Cell, Planning Department, Government of Mizoram. It now functions as an autonomous Government institution under Directorate of Science & Technology, Planning Department, with registration under the Mizoram Society Registration Act 2005 (Reg. No. MSR-30 of 19.1.2007).

The Centre is the nodal agency and apex organization for Remote sensing and GIS applications in the state. The Centre is administered by an Executive committee and Governing Body constituted by Department heads of 16 State Departments under the Chairmanship of the Chief Secretary, Govt. of Mizoram. It is equipped

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with RS & GIS labs, library, conference room, and hardware/software for executing remote sensing and GIS related works.

To meet administrative expenditure of MIRSAC, a provision is made as Grant-inaid (Administration) under the Plan head of the Directorate.



#### 3.1 MIZORAM SCIENCE CENTRE

Mizoram Science Centre is a non-formal science and technology institution which was inaugurated on 26<sup>th</sup> July, 2003. It helps to develop scientific temper amongst the general public, particularly school children by inculcating a spirit of inquiry and fostering creative talent through activity- based learning process incorporating method of science. It promotes creative activities in school to supplement formal science education. It also develops scientific exhibits, temporary exhibitions, kits and aids for use in the Centre in order to portray the development in science and technology.



At present, construction work for Innovation Hub & Space Science Exposition theatre is carried out which would further provide scientific exposure to the current generation and inculcate innovative mindsets to the scientific community and the public at large.



#### 3.2 STATE METEOROLOGICAL CENTRE



Directorate of Science & Technology established a Meteorological Centre. At present, the State Meteorological Centre is stationed at the top floor of Directorate of Science & Technology office building, Mizoram Secretariat Complex, Khatla. Recording of various meteorological data has been started since the year 1997 with the technical help from Indian Meteorological Department. Besides Aizawl, Automatic Weather Stations have also been installed at Lunglei. The data generated are

utilized by various Government Department and agencies, research scholars, journalists, etc.

#### 3.3 PATENT INFORMATION CENTRE

Intellectual Property Rights being an important issue, Patent Information Centre (PIC) has been established with the financial support from Department of Science & Technology, Government of India during the financial year 2010-2011. Among the IPR, Copyright Act, 1957; Patent Act, 1970 involving establishment of Patent Information Centre; Design Act, 1999; Trademarks Act, 1999 are allotted to Directorate of Science & Technology. In doing so, it provides awareness on Intellectual Property Rights through seminars, lectures, workshops, etc. It provides assistance for filing of Patent, Trade Mark, Designs, Geographical Indications, etc. Patent and Trade Mark searches for universities, Government institutions, R&D bodies, educational institutions and individuals are also conducted.

#### 3.4 STATE CLIMATE CHANGE CELL

It conducts scientific study of Climate Change and related activities including simulation of climate modelling and prediction of future scenario change in different sectors. It also conducts research on climate change issues for database/information generation for the state. It conducts capacity building and training programmes for different stakeholders especially for adaptation strategies in response to climate change for integration into developmental activities by including policy makers, concerned departments, Government officials, NGOs and the local mass.

#### 3.5 NATIONAL INFORMATICS CENTRE

Since inception, Science & Technology is the nodal Department in the state to coordinate and support the establishment of the NIC by providing accommodation and assisting in implementing their programmes and schemes at the state and

district level. The NIC's Video Conferencing Centre plays a vital role for conferencing various central and state government departments. The fast internet broadband facility which they provide freely to the government departments is without doubt one of the best in the state.



**ACTIVITIES DURING 2015-2016** 

#### 4.1 CREATION AND DEVELOPMENT OF NATURAL RESOURCES DATABASE FOR PLANNING AND DEVELOPMENT

Directorate of Science and Technology is actively involved in state and national level projects where space technology inputs are required. For creation and development of natural resource database, it is executing various projects through Mizoram Remote Sensing Application Centre (MIRSAC). The data and services extended by the Centre to user Departments and public/private organizations has covered various themes of space technology inputs which have provided value-addition to schemes and projects for the development of the state. At present, MIRSAC is engaged in various levels of mappings and intends to expand its area of activities to cover wider applications of space technology for the benefit of the state.

Brief details of projects undertaken during 2015-2016 are shown in the subsequent sub-heads.

### 4.1.1 Mizoram Infrastructure Information & Monitoring System (MIIMS) using Remote Sensing & GIS:

The project on "Mizoram Infrastructure Information & Monitoring System using Remote Sensing & GIS" embodies an integrated database system of various infrastructures present in the state, which is mapped and stored in GIS environment from where they can be accessed to enhance availability of data during different stages of development activities occurring in the State. The main concept of the proposed project is to provide a State-wide platform where reliable information of infrastructure locations in the State can be accessed & monitored by the users in their respective field of requirements.

The project was approved to be taken up by MIRSAC, Science & Technology vide letter NEC/ST/MZ/685/2012 dated no. 10th December 2013. The project is funded by NEC, Shillong on a matching grant basis of 90:10, where 90% of total project funding is financed by NEC, Shillong and the remaining 10% of the project fund is provided by the State Government. The total cost of the Project is Rs. 201 Lakh. The main deliverables of this project are 8 District wise Infrastructure atlases and GIS based a Infrastructure Information Monitoring & system (software deliverable).



MIIMS Atlas released by Pu Lalsawta, Hon'ble Minister Planning Dept. (Science & Technology)





During 2015-2016, seven (7) district-wise infrastructure atlas were published, namely – Aizawl, Kolasib, Mamit, Champhai, Serchhip, Lunglei and Lawngtlai.

## 4.1.2 Installation of North Eastern District Resource Plan (NEDRP) portals for three districts

This is a collaborative project executed with NESAC, Dept. of Space, Umiam to provide reliable, relevant, up-to-date and affordable information to the district administration and concerned Line departments for planning development activities in their districts in a user friendly environment using open source GIS software package. The three districts covered in this project are - Kolasib, Serchhip & Saiha Districts. The total cost of this project is Rs. 4.5 Lakh.

All relevant spatial data for each of these districts has been contributed by the Centre (MIRSAC) and organised in the North Eastern District Resource Plan (NEDRP) portal designed by NESAC. The information content of the portal has three major modules - Natural resources, Action plan and Administrative modules.

During 2015-2016, the NEDRP portal for each of the three districts has been installed at the District Commissioner's office and has been inaugurated by each District DC.

#### 4.1.3 Rice Crop Acreage estimation of Mizoram

This is a joint project with NESAC, Dept. of Space, Umiam wherein rice cultivation areas in the state are mapped using remote sensing techniques. This project was funded under the nationwide FASAL (Forecasting Agricultural output using Space, Agrometeorology and Landbased observation) programme of Ministry of Agriculture and Cooperation, Govt. of India. The project has also focused on mapping of wet rice cultivation



areas and also traditional paddy cultivation areas that fall within the mapable scale of the project. The total cost of the project was Rs.4 Lakh.

During 2015-2016, maps and statistics showing the rice crop cultivation areas and acreage estimation for Mizoram were done and submitted to NESAC for report generation.

#### 4.1.4 Desertification Status Mapping of Mizoram

The Desertification Status Mapping of Mizoram is a collaborative nation-wide project executed with funding and guidance from Space Application Centre (SAC), Ahmedabad. The mapping exercise was carried out for two districts in Mizoram and Tripura by the Centre. The total cost of the project is Rs. 6.34 Lakh. Mapping for degraded areas in these states was done at 1:500,000 scale using AWIFS satellite data. Beside these, selected two districts in Mizoram and Tripura were mapped at 1:50,000. Further, towards the end of the project a Desertification Vulnerability Index was analysed at SAC, Ahmedabad to arrive at conclusive results for the extent of degradation in the selected districts. Tlawng microwatershed was also selected and a combat plan for proper utilization of the land area was analysed and formulated.

During 2015-2016, maps showing the desertification status of Mizoram and Tripura were submitted to SAC, Ahmedabad.

#### 4.1.5 Land Resources Potential mapping of Aizawl District

A project for mapping the land resources potential of Aizawl district in collaboration with NLUP Implementing Board, Government of Mizoram and



Official release function and handling over of Land Resource Potential Atlas of Aizawl District

under funding of the UN Joint Initiative Project, UNO. The project covers two districts - Aizawl &Lunglei in which Aizawl district was completed in the first phase. The total cost of the project is Rs. 31.34 Lakh.

The main objectives of this project involve the preparation of base layers of the district including drainage, transport network & settlement and land use / land cover. The important focus will be on preparation of data pertaining to potential areas where land resources can be utilized for development of various land based activities.

During 2015-2016, Atlas showing statistics and potential areas for Land development along with base maps of Aizawl District was published on 7<sup>th</sup> April, 2015.

#### 4.2. <u>POPULARIZATION OF SCIENCE, TECHNOLOGY AND SPREAD</u> <u>OF SCIENTIFIC TEMPERAMENT AMONG THE PEOPLE</u>

Month	No. of Visitors			No. of 3D Show spectators		
	General	Student	Teacher	TOTAL	General	Student
April	967	230	27	1224	323	226
May	939	232	19	1190	335	113
June	936	222	23	1181	293	194
July	805	81	14	900	219	127
August	1151	71	13	1235	468	84
September	841	138	15	994	303	120
October	1629	477	32	2138	382	932
November	871	1245	152	2268	246	1295
December	765	1013	190	1968	411	1075
January	827	317	26	1170	299	282
February	561	297	47	905	100	295
March	770	293	26	1089	322	148
TOTAL	11062	4616	584	16262	3701	4891

#### 4.2.1 Popularizing science through Mizoram Science Centre

The total number of visitors during 2015-2016 is 16262. Month-Wise visitor is shown below.

## 4.2.2 Organizing of seminars / trainings / camps / workshops / meetings / symposia / campaigns / lecture / demonstration

Every year 10-20 numbers of different programmes are organized for science popularization. Annual observation of important days relating to science & technology like National Science Day, National Technology Day, National Mathematics Day sponsored by Department of Science & Technology, Govt. of India.

During 2015-2016, eighteen (18) numbers of programmes were organized, viz.

Sl. No.	Name of Programs	Date	Venue	Collaboration
1.	Celebration of National Technology Day 2015	11.5.2015	Mizoram Science Centre, Aizawl	Nil
2.	State Level Workshop on 'Science for Nation Building'	19.5.2015	Pachhunga University College, Aizawl	Mizoram Science Society
3.	2 <sup>nd</sup> Mizoram Mathematics Congress	13- 14.8.2015	Pachhunga University College, Aizawl	Mizoram Mathematics Society & Dept. of Mathematics, PUC
4.	State Level Seminar on Science for Nation Building	1.10.2015	Synod Conference Centre, Aizawl	Mizo Academy of Science
5.	Observation of International Year of Light 2015	13.11.2015	Mizoram Science Centre, Aizawl	Nil
6.	Celebration of National Mathematics Day 2015	22.12.2015	I&PR Auditorium, Aizawl	Mizoram Mathematics Society
7.	Sensitization Workshop on Basic Sciences for High School Teachers	28.1.2016	Mizoram Science Centre, Aizawl	Nil
8.	Sensitization Workshop on Basic Sciences for High School Teachers for Serchhip District	2.2.2016	YMA Hall, Serchhip Hmar Veng	Nil

Sl. No.	Name of Programs	Date	Venue	Collaboration
9.	Sensitization Workshop on Basic Sciences for High School Teachers for Lunglei District	4.2.2016	SSA Recreation Hall, Lunglei	Nil
10.	Celebration of National Science Day 2016 at Aizawl	27.2.2016	Vanapa Hall, Aizawl	Nil
11.	Celebration of National Science Day 2016 at Lunglei	29.2.2016	Lunglei Govt. College	Lunglei Govt. College
12.	Celebration of National Science Day 2016 at Serchhip	29.2.2016	Govt. Serchhip College	Govt. Serchhip College
13.	Celebration of National Science Day 2016 at Champhai	29.2.2016	Govt. Champhai College	Govt. Champhai College
14.	Celebration of National Science Day 2016 at Kolasib	1.3.2016	Govt. Kolasib College	Govt. Kolasib College
15.	Mathematics Summer Camp	28.3.2016 to 1.4.2016	Pachhunga University College, Aizawl	Mizoram Mathematics Society
17.	One Day Brainstorming Workshop on Applications of Space Technologies	20.10.2015	Secretariat Conference Hall, Aizawl	NRSC/NESAC
18.	State Meet on Promoting Use of Space Technology Based Tools and Applications in Governance and Development	8.3.2016	Secretariat Conference Hall, Aizawl	NRSC/NESAC



Celebration of International Year of Light 2015



Sensitization Workshop on Basic Sciences at Aizawl, Lunglei & Serchhip

### Glimpses of NATIONAL SCIENCE DAY 2016 CELEBRATION AT AIZAWL



Audiences & Speakers of the Day



Keynote Address by Dr. R.K. Lallianthanga, Chief Scientific Officer

#### NATIONAL SCIENCE DAY 2016 CELEBRATION AT OTHER DISTRICTS



#### 4. 2.3 Science Popularization through Printed Scientific Journals

Three regular Scientific Journals have been published in collaboration with

various Scientific Organisations. The magazines are *Meithallawn* (with Mizoram Science Society), *Science Vision* (with Mizo Academy of Sciences) and *Mizoram Science Journal* (with Science Teachers' Association Mizoram). The journals are widely circulated in educational institutions from Primary level to University students all over the state and it also reaches the general masses. The toils, hard work and sincerity of the three Science NGOs paid off as can be seen from the rising demands for these science magazines.

The number of copies of Scientific Journals published during the year 2015-2016 is 45500.



Mizoram Science Journal is mainly intended for young scholars and school children and it mainly focus on fun science, career and nature aspect.

With ISSN, Science Vision is mainly research oriented and it includes original research papers and valuable scientific articles.

Meithallawn magazine focus mostly on science popularization, simple and fun science with applied aspects and its contents fits for all sections of people. It also covers life stories and achievements of renowned scientist.

#### 4.3. <u>PROMOTION OF APPLIED RESEARCH AND DEVELOPMENT</u> <u>PROJECT</u>

#### **4.3.1** Preparation of DPR/proposals for R&D projects

During 2015-2016, eight (8) numbers of DPRs/Project Proposals were prepared and submitted to the relevant department for funding, viz.

Sl. No.	Name of Projects/Schemes	Date of submission	Cost of project	Name of Ministry
1.	Development of State Spatial Data Information	17.6.2015	78 Lakh	Dept. of Science & Technology, Ministry of S&T

Sl. No.	Name of Projects/Schemes	Date of submission	Cost of project	Name of Ministry
2.	Development of State Meteorological Centre	13.8.2015	1400 Lakh	DONER (NLCPR)
3.	Celebration of National Mathematics Day 2015 and National Science Day 2016	14.8.2015	25.87 Lakh	Dept. of Science & Technology, Ministry of S&T
4.	Mizoram Bioresource Development Centre	19.8.2015	1507 Lakh	Dept. of Biotechnology, Ministry of S&T
5.	S&T Mass Awareness Programme Amongst the Tribal Population in Aizawl and Lunglei Districts	24.9.2015	18.28 Lakh	Dept. of Science & Technology, Ministry of S&T
6.	Hazard, Risk and Vulnerability Analysis of Eight District Headquarters in Mizoram	8.12.2015	205 Lakh	DONER (NEC)
7.	Preliminary Study for Scouting of Indigenous Grassroot Inventors and Technologies of Mizoram	25.1.2016	21.6 Lakh	Dept. of Science & Technology, Ministry of S&T
8.	Mizoram Science Congress	9.2.2016	18.5 Lakh	DONER (NEC)

#### 4.4. <u>PROMOTION OF INNOVATION AND FACILITATION OF</u> <u>INTELLECTUAL PROPERTY</u>

#### 4.4.1 Assistance on IPR knowhow and its filing

During 2015-2016 following inventions/inventors were given assistance for promotion of innovation and facilitation of rights of Intellectual Property Rights and more particularly towards assistance on Intellectual Property Rights knowhow and its filing.

- 1. Fitting type chainless bicycle
- 2. Bamboo round stick producing machine
- 3. Bamboo chipping machine

- 4. Brush cutter and pit digging machine
- 5. Solar Sprayer
- 6. Turmeric and Ginger Slicing machine
- 7. Automatic water pump controller
- 8. Dispenser for Sacramental wine
- 9. Aizawl Thunder the Aizawl Bullet Club

Indian Patents were filed for the first eight inventions with Patent Information Centre as the applicant at Kolkata Patent Office. One Trade Mark registration is done for Aizawl Thunder –the Aizawl Bullet Club at the Trade Mark Registry Office, Kolkata.

#### 4.4.2 Organising of workshop/lecture/seminars etc.

During 2015-2016, the following programmes were organized for promotion of innovation and facilitation of rights of Intellectual Property Rights and more particularly towards organizing of promotional programmes.

- 1) IPR Awareness seminar at Pachhunga University College with IPR Cell, Pachhunga University College on 15.10.2015.
- 2) Local Innovation Exhibition at Vanapa hall, Aizawl on 27.2.2016.
- 3) Innovators-Industry-Academics Interface at Vanapa Hall, Aizawl on 27.2.2016.
- 4) Sensitization Workshop on Protection of Mizo Indigenous Goods under Geographical Indication Act at Planning Conference Hall on 30.3.2016.



#### 4.4.3 Creation of Innovation Hub

Construction of Innovation Hub and 8.0M Diameter Dome Planetarium at Sub-Regional Science Centre, Aizawl funded by National Council of Science Museums (NCSM) was started during 2015-2016. The building foundation was laid by Shri Lalsawta, Hon'ble Minister, Planning (Science & Technology) on 11<sup>th</sup> May, 2015. On the same day, Shri G.S. Rautela, Director General, NCSM inaugurated the Fun Gallery Extension at Mizoram Science Centre which was followed by Cultural programme at Aijal Club, Aizawl. The Hub is constructed under the Scheme for Promoting Innovation, Creativity and Engagement in Science (SPICES), Ministry of Culture, Govt. of India. During 2015-2016, the percentage of construction completed is 58.4%.



Construction of Innovation Hub and 8.0M Diameter Dome Planetarium

#### 4.5. <u>GENERATION AND DISSEMINATION OF METEOROLOGICAL</u> <u>DATA</u>

#### 4.5.1 Generation and dissemination of Meteorological Data

Daily Meteorological Data has been recorded, maintained and disseminated by State Meteorological Centre stationed at Aizawl.

The data are disseminated to Policy makers, Governor's office, various Govt. Departments, researchers, journalist etc. During 2015-2016, a total of 366 daily data were generated.

#### **OTHER PROGRAMMES**

#### 5.1 STATE CLIMATE CHANGE CENTRE

The State Govt. had entrusted Science & Technology to coordinate Climate Change Programmes. With the financial support of MoEF & GIZ, a State Action Plan on Climate Change for Mizoram is prepared in line with the National Action Plan on Climate Change inaugurated by the Prime Minister in 2009.

Under National Mission on **Sustainable** Himalayan Ecosystem (NMSHE) State Climate Change Cell was newly established and started functioning during 2015-2016.

Two Project Scientists were engaged for the programme.

Booklet on 'Overview of the Mizoram State Action Plan on Climate Change and Climate Change Scenario in Mizoram' was published on 7<sup>th</sup> August, Exposure Climate 2015. on Scenario using Regional Circulation Model (SimClim-2013) for the state of Mizoram has been generated for temperature (max, mean. minimum), rainfall and relative humidity. Analysis of Meteorological data generated at



State Meteorological Centre was also performed.

State Climate Scientists has also participated in the Consultation Workshop of States of the Himalayan Region under NMSHE held at Delhi during 10-11<sup>th</sup> March, 2016.

#### 5.2 NEST BOX PROJECT

Nest Box project, initiated in the year 2011is continued as it received a good applause from the masses. The project is implemented with Biodiversity and Nature Conservation Network (BIOCONE). The nest boxes constructed are placed at several locations in and around the capital, Aizawl and selected places all over Mizoram.



#### 5.3 RAINWATER HARVESTING PROJECT AT HMUNPUI

Construction of Rainwater harvesting tanks at Hmunpui Village, Mamit District under Rainwater Harvesting Scheme of Water Technology Initiative (WTI), Department of Science & Technology, Government of India is continued. The project objective is to provide safe drinking water to the community, at the rate of 40 lpcd, complying with the Indian rural water supply requirement for individuals.

With state matching share released, overall construction of 12 tanks is finished during 2015-2016.



#### 5.4 ASSISTANCE TO SCIENTIFIC RESEARCH

During 2015-2016, three new innovations were given assistance for construction of working prototype. The local names are Zo-Weight Electric Power, Transformer CPS and a new type of wind blade for harnessing of wind power.





Government of Mizoram Directorate of Science & Technology Mizoram Secretariat Complex Aizawl-796001, Mizoram