A Brief Report On

Natural Hazards and Disaster Mitigation of Mizoram

March 8-10, 2021



Organised By



Department of Geography and Resource Management Mizoram University Aizawl

In Collaboration With



RAJIV GANDHI NATIONAL INSTITUTE OF YOUTH DEVELOPMENT Institution of National Importance by the Act of Parliament No.35/12

Ministry of Youth Affairs and Sports,

Government of India, Sriperumbudur – 602 105.

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PREFACE AND ACKNOWLEDGEMENT

A disaster is a serious disruption occurring over a short or long period of time that causes widespread human, material, economic or environmental loss which exceeds the ability of the affected community or society to cope using its own resources. Mizoram being a hilly state of north-east India and its southern part adjoining the Bay of Bengal, is very highly prone to landslide, earthquake and cyclone respectability. Human resource and natural resources is being lost every year owing to lack of grass root level management knowledge.

Rajiv Gandhi National Institute of Youth Development (RGNIYD), being an institution of national importance exclusively devoted to youth development, is an active academic space that is engaged in teaching, learning and research on varied disciplines that is closely associated to youth development. A three days' workshop on "NATURAL HAZARDS AND DISASTERS MITIGATION OF MIZORAM" was organized by Dept. of Geography and Resource management and sponsored by Rajiv Gandhi National Institute of Youth Development (RGNIYD), Sriperumbudur, Tamil Nadu.

I, being the coordinator of the workshop acknowledge RGNIYD for their financial support and the Vice-chancellor and Registrarof Mizoram University for giving permission to organize such a workshop on disaster mitigation.

I am thankful to the various resource persons (Dr. K.C. Lalmalsawmzauva, Dr. LalrokimaChenkual, Mr. Z. D Laltanpuia, Dr. Naorem Bobby Singh, MrZothansanga Hmar, and Mr. John L.T. Sanga) for their valuable lectures and practical classes.

I, heartily thank the participants for their active participation in the workshop.

Dr. Brototi Biswas

M. Branon

Associate Professor

Department of Geography and RM

Mizoram University

PREAMBLE

Natural hazards and disasters are unforeseen event that becomes suddenly overwhelming and destructive, deadly and disruptive. Natural hazards and disaster are any occurrence that causes damage, ecological disruption, the loss of human life, or deterioration of health and natural resources. To formulate a good disaster warrior, for the sake of hazard and disaster management, youth are the prime focus. There have been several advantages of promoting positive youth development including contribution to nation-building, proper mitigation, and management planning of Natural hazards and disasters, that will be fulfilled by imparting proper knowledge and management training to youth.

Recognizing the paramount significance of natural hazards and disaster mitigation of Mizoram, the Rajiv Gandhi National Institute of Youth Development (RGNIYD), Sriperumbudur, Tamil Nadu designed and offered an exclusive program for the development of northeastern youth through higher educational institutions. The program was conducted keeping in view the Natural Hazards and Disaster Mitigation especially of Mizoram from 8th -10th March 2021. The program was an earnest attempt to provide useful inputs on natural hazards and disaster mitigation and management program.

Objectives of the Activity:

- a) To assess the disaster risk to Mizoram in particular and India in general.
- b) To assess the key execution issues for DM in local context for each disaster type in building resilient communities for lessening natural disaster loss.
- c) To educate and train the youths and plan effective strategies for reducing disaster risk in their respective localities/villages.

Need for the Activity:

The study of Disaster Management differs from the other technical and non-technical subjects owing to the fact that it is an all-encompassing, multi-dimensional involving a host of stakeholders where both theoretical and practical lessons go hand in hand. DM strategies differ from place to 2 places based on locally available resources and problems. Community education leads to resilient communities and in this students and youths can play a pivot role.

The state has a predominantly rural population and it is quite difficult to prepare and involve the rural folks with emergency readiness. Further such type of Disaster Management program/ workshop involving the affected communities through action oriented hands-on training (field-based activities, trainings, group discussion etc.), education tools (maps, brochures, booklets, handbooks etc.) and field visits to the affected areas have not been conducted, which the present workshop did. Action and field-based program/workshop always helps in identifying the vulnerable areas along with practical based solution. The program was a leadership training program in which specific skills and competencies towards disaster management was imparted in such a way that each individual was trained as a Disaster warrior in his/her place for specific disasters and in turn the warrior can train others in his/her local community. Mizoram University achieved towards the same through reaching out to the affected people in training them, creating awareness and develop better management techniques for a resilient Mizoram.

Target Group for the Program:

The goal of the workshop being, creating resilient communities at grass root level, the ultimate target group were community members—youths or students. The youths were educated and trained both in classroom and field based training in such a way that they themselves can become trainers/leaders of Disaster management and mitigation in their respective vulnerable areas. The program was exclusively conducted for the students of the entire north eastern region. Over 50 students registered for the program.

Inaugural Function of the Program:

Day-1 08.03.2021 (Monday) 10:00-10:30 am

The Welcoming and inaugural address was given by Prof. Lalnundanga, Registrar, Mizoram University followed by Prof. Rinawma, HOD, Dept of Geography & RM, Mizoram University. They underlined the need of such workshop during present times. The necessity of workshops on Disaster in Mizoram was emphasized keeping in view the location of Mizoram and the fact that natural disasters are very common to the state. The inclusion of

participants from different fields was praised since the training was aimed to be a disaster warrior program.



Topics Covered by the Resource Persons

10:30-11:45 am

A Special Talk on Overview of National Youth Policy 2014 and Sustainable development goals was given by Dr. K.C. Lalmalsawmzauva, Dept. of Geography, MZU. Among other things, he observed that in order to achieve this Vision, all stakeholders must work towards meeting 5 key objectives. This requires specific action in one or more of 11 priority areas, identified as important for youth development.

11:45-1:15 pm

Dr. LalrokimaChenkual, Asst. Director (Training), DM&R, Govt. of Mizoram took the next lecture on "Basic concept of Disaster and Hazard" and "Disasters in Mizoram and Hazard mitigation in local context". He elucidated the basic conceptual difference between Hazard and Disaster and the meaning of the word 'Mitigation'. He underlined the primary goal of Community Based Disaster Risk Reduction and Management along with stressing on the need of people's participation as a necessary pre-requisite for Disaster Management. By involving the community in the preparedness phase, it not only increases the likelihood of coordinated action by the communities to help in mitigating disasters and lessening the impact of disaster but also brings the community together to address the issue collectively.





1:45-3:15 pm

Mr. Z. D Laltanpuia Sr. Scientist, Mizoram Remote Sensing Application Centre, Govt. of Mizoram took the next lecture on "Different hazard vulnerability profile of each district of Mizoram". He explained the different hazard vulnerability profile of each district of Mizoram by using a number of hazard risk assessment maps of the various districts of Mizoram. He went 5 on to explain the types of hazards in Mizoram, the nature of hazard in each district, the relation of nature of house with hazard proneness, requirement of physical vulnerability map etc.

3:30-5:00 PM

Dr. LalrokimaChenkual, Asst. Director (Training), DM&R, Govt. of Mizoram took the next lecture on "Systematic approach to Disaster Management". He observed certain key points in his lecture - Prevention of danger or threat of any disaster, Mitigation or reduction of risk of any disaster or its severity or consequences, Preparedness in disaster dealing, Prompt response to deal with disaster, Assessing the severity or magnitude of effects of any disaster, Evacuation, Rescue and Relief, Rehabilitation and Reconstruction. He gave certain case studies of their field work on the same.

Day-2nd 09.03.2021 (Tuesday)

10:00 am- 1:30 pm

Topic: Field Visit to hazard sites (HuntharVeng and Zemabawk) for hazard assessment and vulnerability analysis.

The field visit was conducted by –i). Dr. Naorem Bobby Singh, Dept of Geography, Mizoram University and ii). Dr. Brototi Biswas, Workshop Coordinator. The participants were taken to the landslide sites (having recurring landslides every year). The resource persons apprized the participants about the history of the landslides, the reason, precautionary measures taken by GSI and local authorities, lacunas etc. It was an interesting interactive session.

2:15 - 5:00 pm

Topic: Mock drill to deal with earthquake and landslide disaster i.Dr. K.C. Lalmalsawmzauva, Dept of Geography, Mizoram University ii.MrZothansanga Hmar, Aizawl District Organizer, Directorate of Disaster Management and Rehabilitation, Govt. of Mizoram. iii.DrBrototi Biswas, Workshop Coordinator

The resource persons as stated above conducted mock drills amongst the participants to deal with various disaster situations — landslides, earthquake, fire and educational institute disasters. It was really a wonderful and interesting session where participants learnt a lot through demo classes how to save self and others in the event of disasters.

10:00 – 11:30 am and 11:30– 1:00 pm

MrZothansanga Hmar, Aizawl District Organizer, Directorate of Disaster Management and Rehabilitation, Govt. of Mizoram. Topic: Presentation by each leader of group on: What they saw, steps towards reducing risks in the vulnerable areas, Hazard mapping in village level, identification of safe zones and shortest evacuation paths to the same.

Topic: Formation of separate disaster management group. Groups to prepare village level Disaster management master plan.

Mr. Hamar discussed about state disaster respond fund (SDRF) and National disaster respond fund (NDRF) for the period of 2015-2020 and also explained about the role of various disasters in Mizoram. The participants were divided into 5 groups with 10 participants in each group. After a detailed explanation on the topic, each group was given assignments on the topic. Each group selected villages of their choice based on hazard vulnerability and prepared hazard maps, identified safe zones shortest evacuation paths. Group leaders further gave presentation on their hazard preparedness plans. Later the lacunas were identified by the resource person.





1:30-3:00 pm

Dr. LalrokimaChenkual, Asst. Director (Training), DM&R, Govt. of Mizoram took the next lecture on "Community based Disaster management". He discussed the requirement of insurance for disaster management and the various mechanisms of applying for the same. He also postulated the penalties according to Disaster Management Act, 2005. He also discussed about the structure and function of village level disaster management and their duty on pre, post and while a Hazard is underway.

3:00 - 4:20 pm

Mr John L.T. Sanga, Director, Department of Disaster management & Rehabilitation, Govt. of Mizoram took a special session on "Career Opportunities in DM". He acquainted the official structure of Disaster management in Mizoram. Mr Sanga along with the other officials of Disaster Management apprised the participants of the various career opportunities in Disaster Management. This was followed by an extensive interactive session on the various queries in general about Disaster Management.

4:30 - 5:00 pm

Valedictory Function: The Valedictory speech was given by Prof. K.R.S. Sambasiva Rao, V.C, Mizoram University, followed by Prof. Rinawma- HOD, Dept. of Geography and RM. This was followed by certificate distribution, feedback from the participants and finally the Vote of thanks by the Co-coordinator (Dr Brototi Biswas).

Feedback of the Participants

SECTION – I: General Details of the Participants

1. Gender of the Respondents:

There was a total 50 participants in the workshop; among them 28 participants were female and 22 male participants (Fig-01).

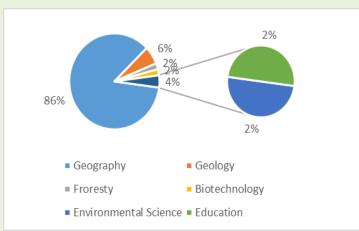


Fig-02: Department wise participant distribution

Fig-01:Gender of the Respondents

2. Departmentwise

Participants: Disaster Management being interdisciplinary having practical based approach,

same was reflected in the participant variation. A total of 50 students were registered for the

workshop. Of them 42 studentsbelonged to Geography fraternity, 03 students of Geology fraternity, 01 each from Forestry, Biotechnology Environment Science and Education department of Mizoram University (Fig-02). All were from Mizoram University except 01 student was from ICFAI University of Aizawl.

3.

4. Education level of participant: Among participants maximum participant belong to post graduation students (35) and rest of all research scholar (14) and one having Ph.D. degree (fig-03).

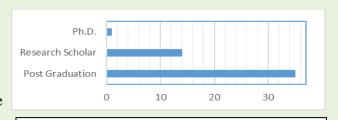


Fig-03: Educational level of Participants

5. Age of the Feedback Respondents

All the participants were below 35 years of age.

6. Name of the State Presently Posted: Among the participants, 84% of the participants were from Mizoram, about 6% were from Assam, 4% from Nagaland and rest 6% of the participantswere currently from other states of north-eastern region viz., West Bengal, Meghalaya, Manipur (Fig-04).

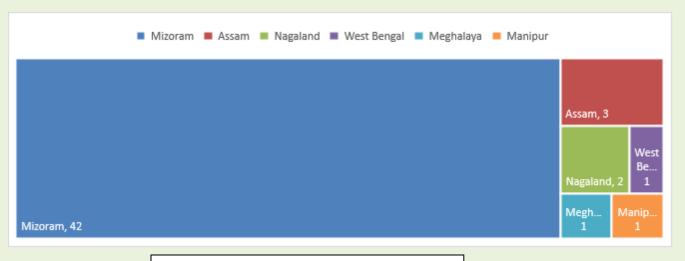


Fig-04: Name of the State Presently Posted

SECTION - II: Issues and Concerns on Youth Development in North East

1. Youth Learning- While youth education on Disaster management is an issue in North-east India, the workshop aimed towards the same through formal and informal education and encouraging the concept of 'learning while doing' through hands-on-training and mock drills.

- 2. Local livelihood resilience- Through various lectures and trainings the various aspects of management were briefed to the participants which can be used in their respective localities in case of disasters. Further community and self-disaster management, requirement of insurance for disaster management and the various mechanisms of applying for the same were also imparted to the participants.
- 3. Disaster Warrior/leadership- Apart from various trainings like shortest evacuation paths, mock drills, community disaster management trainings, along with contact numbers of State Disaster Management officials for emergency. It is hoped that through this, the individual participants will develop into a Disaster warrior in his/her locality.
- **4.** Career opportunities for youths of NE- While NE youths have limited career opportunities, through the workshop an attempt was made by the various resource persons to discuss the various career opportunities available in Disaster management.

5. Challenges commonly faced while dealing with student youth-

- Lack of environmental awareness
- Lack of confidence while interacting with non-NE youths
- Communication gaps with youths of rest of India owing to dominance of local dialect
- •Career opportunities
- Various addictions
- Poverty issue
- •Wastage of time in virtual world
- •Lack of focus in life
- Lack of life- skill oriented knowledge

6. Common challenges faced by the Students in educational institutions/various north-eastern states

- Problems of internet connectivity in rural areas
- Language and communication problem for students from other states
- Food problem for students from other states
- Lack of workshops on various life-skills
- Lack of access to sports facilities
- Lack of guidance for pursuing higher education branches
- Job crisis
- Lack of technical skills among youth and training
- Lack of trainings on competitive exams

7. Areas of attention for policy makers for development of children and youth in North Eastern Region

- ♣ Various short term trainings & workshop facilities on job oriented skills
- ♣ Various short term trainings & workshop facilities on environmental problems of NE
- **↓** Various short term researches on indigenous problems of NE
- ♣ Various short term trainings & workshop facilities on competitive exams.
- ♣ Various student exchange programs with non-NE educational institutes
- ♣ More avenues with respect to quality education and trainings in rural and semi urban areas.

SECTION – III: Feedback of the Participants on the 3-Day Workshop organized by RGNIYD

1. Reason for attending the program

The insight of the workshop's-scaled natural hazard and disaster management program is to reduce and avoid potential loss of resources. The participants wanted to have a better understanding of hazard and disaster management as a subject, so that they could make themselves well prepared to combat it towards the safety of life and resources. The reason for attending the program was to gain such a better management plan and also educate the younger students on various safety measures that need to be taken up for a better living.

2. Whether attended all the sessions of the three-DaysWorkshop Program on Youth Development?

To formulate a good warrior for disaster management and for the sake of hazard and disaster management, youth are the prime focus. The program was attended by fifty participants who actively participated in all the sessions and gained knowledge of hazard and disaster management

3. Whether faced problems of internet connectivity during the online program?

The program was conducted very smoothly without any technical error. There was uninterrupted Wi-Fi connectivity throughout the 03 days.

4. Was the program effective?

From the feedback form of the participants', the organizers can claim the effectiveness of the program since the expectation of the participants' regarding disaster management was met through classroom lectures, practical sessions and field visits to disaster sites. There was a special mock drill session which helped to grow better skills and knowledge for future disaster management. So, the program was effective spatially for the future disaster management plan.

5. Reasons for effectiveness of the Workshop

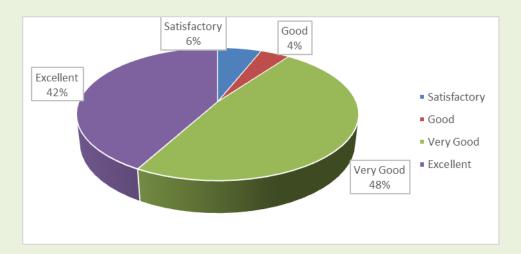
The reasons can be summed up through a few points like – interdisciplinary nature of participants' profile, topics covered, knowledgeable resource persons, individual attention and doubt clearance of each participants, offline mode following pandemic protocols, study materials provided, etc.

6. Whether the queries were clarified?

The program was well decorated and the topics delivered by recourse persons were very knowledgeable. The young participants gained a lot about the current scenario and future risk of disaster management. All the queries about the topics were solved in a good manner. Every session had an interactive session for doubt clearance. The workshop also had a specific session which was attended by all the Disaster Management officials on 10.03.21 for further addressing the participants' queries.

7. Participant's opinion on offline mode of teaching

Participants' opinions about the workshop reflected the success of the program 42% opinion was excellent and 48% were very good. The Participants' feedback opined the program as successful and well organized.



8. Participant's opinion on the duration of online sessions

Most of the participants felt the program should have been 1 week long; however each session should have been less than 90 minutes. According to the participants 45-50 minutes per session was desirable.

9. Willingness to attend advanced programme on Youth Development

All the participants are eager to attend advanced programs to enhance their knowledge.

10. Willingness to attend RGNIYD programs on other significant themes

All the participants are eager to attend similar programs.

11. Participants' recommendation about this youth development workshop to their friends

The participants were eager to share the information with their family and friends.

12. Overall impressions and participants' perceptions on the special features of the Program.

The participants were quite satisfied with the nature of the program, since it's the 1st program on Disaster management being conducted for the students with hand-on-training. They were eager to attend a 5 days' practical based program.

13. Perception about the Resource Persons:

Proficient in their subject having clear concepts, adept in using ICT tools and used creative deliverance.

14. Overall feedback rating from participants:

Most of the students felt that the objectives of the workshop were fully achieved.

Ratings of each session/lecture received 'Excellent' to 'Very good' from the participants. The overall rating received for the program from the participants was 'Excellent' to 'Very good'. Overall workshop feedbacks from participants were classified into four categories e.g. Satisfactory,

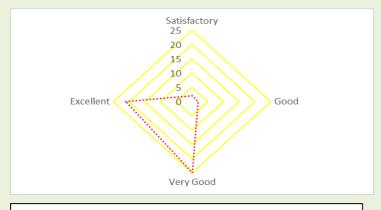


Fig-05: Overall feedback rating from participants

Good, Very Good and Excellent. The participants' response were 2,2,25,21 respectively (Fig-05)

FEEDBACK FROM RESOUCE PERSONS

There were six resource persons for the workshop. Among themtwowere from Department of Geography and RM, Mizoram University; three from Department of Disaster management & Rehabilitation, Govt. of Mizoram and one from Mizoram Remote Sensing Application Centre. According to the external resource persons "it was really a great opportunity for our department to have a successful workshop with your department".

Conclusion and Recommendations

It was a welcoming learning experience for the students of Mizoram where they learnt practical know-hows of disaster management along with various hands-on-training on the same. Most of the participants were eager to utilize the knowledge in their respective families and area. Similar practical based offline programs are highly recommended. Along with such programs, research projects dealing with research lacunas and problems in North east regions are also recommended.

Annexure 1: Program Schedule

Day-1 08.03.2021 (Monday) Chairperson & Rapporteur: Dr Brototi Biswas, Dept of Geography, Mizoram University Second session **FirstSession** $(10 \ am - 1:15pm)$ (1:45 pm - 5:00 pm)3:30-5:00 PM 10:00-10:20 10:20-10:40 10:40-11:45 am 11:45-1:15 pm 1:45-3:15 pm Mr. Z. D Prof. am am Special Talk: Dr. Welcome Laltanpuia Sr. **CVanlalhruaia** Inaugural Dr. K.C. LalrokimaChenkual address: Govt. Aizawl Scientist, Speech: Lalmalsawmzauva, Asst. Director Prof. Prof Mizoram College Dept. of (Training), DM&R, Lalnundanga, Remote Sensing Sibnath Deb Registrar, Geography, MZU Govt. of Mizoram Application Topics: Chief 1:45 pm) Mizoram Centre, Govt. of **Systematic** Guest, University Mizoram approach to Topic: Director, 3:30 Topic: Basic concept of Disaster RGNIYD. Overview of Disaster and Hazard. Management. Ministry National Youth Lunch: (1:15 Disasters in Mizoram and *Tea Break:* (3:15 of Youth Policy 2014 Topic: Different Hazard mitigation in local ii) Sub-**Affairs** Prof. and hazard grouping for context and Sports, Rinawma, Sustainable vulnerability field visit Government HOD, Dept with 5 per development profile of each of India ofgroup goals district of Geography, Mizoram **MZU**

Day-2 09.03.2021 (Tuesday)

Chairperson & Rapporteur: *Dr Brototi Biswas*, Dept of Geography, Mizoram University

10:00 am - 1:30 pm

- i. Dr Naorem Bobby Singh, Dept of Geography, MizoramUniversity
- ii. MrZothansanga Hmar, Aizawl District Organizer, Directorate of Disaster Management and Rehabilitation, Govt. of Mizoram.
- iii. Dr Brototi Biswas, WorkshopCoordinator

Topic: Field Visit to hazard sites (Zemabawk) for hazard assessment and vulnerability analysis.

Lunch: (1:30-2:15 pm): To be served during field visit.

2:15 - 5:00 pm

- i. Dr. K.C. Lalmalsawmzauva, Dept of Geography, MizoramUniversity
- ii. MrZothansanga Hmar, Aizawl District Organizer, Directorate of Disaster Management and Rehabilitation, Govt. of Mizoram.
- iii. Dr Brototi Biswas, WorkshopCoordinator

Topic: Mock drill to deal with earthquake and landslide disaster

(Tea break: to be served in between)

Day-3 10.03.2021 (Wednesday)

Chairperson & Rapporteur: Dr Brototi Biswas, Dept of Geography, Mizoram University

10:00 – 11:30 am	11:30– 1:00 рт		1:30-3:00 pm	3:00 – 4:20 pm		4:30 – 5:00 pm
MrZothansanga			-			
Hmar, Aizawl	Dr. Dr		Prof. C	Mr John L.T.		Valedictory Function
District Organizer,	LalrokimaChenkual		Vanlalhruaia Govt.	Sanga, Director ,		Valedictory speech: Prof. K.R.S.
Directorate of	Asst. Director			Department of		Sambasiva Rao V.C, Mizoram
Disaster	(Training), DM&R,		AizawlCollege	Disaster		University
Management and	Govt. of Mizoram.			management &		Address by:
Rehabilitation, Govt.			Topic: Formation	Rehabilitation,		a) Prof. T.R.A Devakumar,
of Mizoram.	Topic:		of separate disaster	Govt. of Mizoram		Registrar, RGNIYD
	Community		managementgroup.			b) Prof.VasanthiRajendran
Topic:	based			Topic:		,Head, Centre for Training
Presentation	Disaster			Discussion with		,Orientation and Capacity
by each leader		(u)	Groups to prepare	Disaster	(md	Building,RGNIYD
•	management		village level	Management	0 p	Certificate distribution
of group on:		:30	Disaster	authorities, Govt.	4:3	Feedback: If any from
What they		I -	management	of Mizoram.	4:20-4:30	Participants Vote of Thanks: Dr
saw, steps		-01	master plan.	Career	4:2	Brototi Biswas,
towards		(1:00)		Opportunities in		Coordinator
reducing		<i>i</i> : (DM .	Break:	
risks in the		Lunch:			Br	
vulnerable areas,		Lui			Tea	
Hazard mapping in					I	
11 0						
village level,						
identification of						
safe zones and						
shortest evacuation						
paths to the same						

Annexure II: Profiles of the Resource Persons

1. Details of Resource Persons and their background with experience:

A. Name: Mr John L.T. Sanga

Occupation/Designation: **Director**, <u>Department of Disaster management</u> <u>& Rehabilitation</u>, <u>Govt. of Mizoram</u>.

Experience

- i) Addl. DC, Aizawl District during April 2017- Feb 2020.
- ii) Chief Executive Office of Mizoram State Rural Livelihood Mission (April 2016- March 2017.
- iii) Private Secretary to Chief Minister during 2008-2013.
- iv) SDO Sadar during 2013
- v) Addl. DC, Siaha District 2013 2014.
- vi) Block Development Officer, Tlangnuam RD Block. Mizoram

B. Name: Dr. LalrokimaChenkual,

Ph.D from Dept. of Applied Geology, Dibrugarh University, Assam on the topic 'Sedimentological and Geomorphological studies of the area around N.Hlimen and N. Bukpui, Kolasib District, Mizoram' in 2005

Certificate in Disaster Management from IGNOU in 2007

Experience in Disaster Management

- i). Associate Professor, Disaster Management Centre, Administrative Training Institute, Govt of Mizoram during 2006 -2009
- ii). Head Faculty, Disaster Management Centre, Administrative Training Institute, Govt of Mizoram during 2009 -2016
- iii). Assistant Director (Training), Disaster Management & Rehabilitation Department, Govt of Mizoram since October, 2016 till date.

C. Name: Mr. Zothansanga Hmar

Experience in Disaster Management

- i) Project Support Associate, Aizawl District under Disaster Risk Reduction
 Project sponsored by United Nations Development Program and National
 Disaster Management Authority, Government of India during 25th October, 2010 22nd May, 2012
- ii) District Organizer, Aizawl District attached to Directorate of Disaster Management and Rehabilitation Department from 23rdMay, 2012 till date
- iii) Had attended and presented a papers in International, many National and state level training, seminars, conferences etc.

D. Name: Mr. Z. D Laltanpuia,

Senior Scientist, Mizoram Remote Sensing Application Centre, Directorate of Science & Technology.

- i) Project Scientist, State Remote Sensing Centre, Planning Dept., Govt. of Mizoram.
- ii) Scientist, Mizoram Remote Sensing Application Centre, Planning Department, Govt. of Mizoram.
- iii) Senior Scientist, Mizoram Remote Sensing Application Centre, Planning Department, Govt. of Mizoram. *Aug 2018 Till date*

E. Name: Dr. K.C. Lalmalsawmzauva

Occupation/Designation: Assistant Professor, Department of Geography & RM, Mizoram University.

- i) Member of State Disaster Management committee
- ii) Authored and co-authored 7 books and 10 research articles on various environmental aspects.

F. Name: Dr Naorem Bobby Singh

Occupation/Designation: Assistant Professor, Department of Geography & RM, Mizoram University.

- i) Authored and co-authored research articles on various environmental aspects.
- ii) Has been taking regular classes on Natural disasters and disaster management for the PG students of the department.
- iii) Has been undertaking the responsibility of teacher-in-charge of geographical field trips as part of Geography syllabus of PG students.