Name of Event	THREE-DAYS TRAINING WORKSHOP FOR THE
	OFFICERS OF INDIAN FOREST SERVICE ON
	'PREPARATION OF ECOSYSTEM HEALTH CARD'
Date (s)	06.05.2024 to 08.05.2024
Duration	03 Days
Venue	Conference Hall & Royale Lalawi Hotel, Aizawl, Mizoram
Purpose/Agenda	Preparation of Ecosystem Health Card
No. of Participants	28
Participating Agency (s)	IFS officers, scientist and faculties from National Centre for
	Sustainable Coastal Management (NCSCM) and Indian
	Institute of Forest Management (IIFM).
Organizing Agency (s)	ICFRE-Bamboo & Rattan Centre, Bethlehem Vengthlang,
	Aizawl, Mizoram
Funding Agency (s)	Ministry of Environment, Forest and Climate Change
	(MoEFCC)
Collaborating Agency (s)	1. National Centre for Sustainable Coastal Management
	(NCSCM, Chennai, Tamil Nadu)
	2. Indian Institute of Forest Management (IIFM, Bhopal,
	Madhya Pradesh)

Concise Details of the Event:

### **DAY-1**

**Dr. Nitin Kulkarni, the Director of ICFRE-RFRI** in Jorhat, gave a warm welcome to all attendees and esteemed guests. He highlighted the importance of ecosystem and forest health, and praised the active participation of ICFRE-BRC in research and development. The event was inaugurated by Sh. H. Lalengmawia, IAS, Commissioner & Secretary, EF&CC Dept., Government of Mizoram. In his inaugural speech, he addressed the condition of the forests in Mizoram, noting the high number of people depending on them for their daily necessities, leading to excessive use and deterioration. He pointed out the effects of climate change on farmers' lives, specifically mentioning the decrease in Citrus fruit farming in the western part of Mizoram. He urged forest officials and the scientific community to work together to prioritize environmental sustainability and boost ecotourism in Mizoram. Key topics like carbon sequestration and sustainable forest management were highlighted, stressing the importance of adopting agroforestry and other forestry methods. He stressed the critical need for creating an ecosystem health card to tackle these issues.

Mrs. Kamal Preet, IFS, APCCF, Mizoram, and Dr. Purvaja Ramachandran, Acting Director of the National Centre for Sustainable Coastal Management, were honoured guests at the event. Mrs. Kamal Preet, IFS emphasized the significance of having scientific data grounded in valid parameters for successful intervention implementation. She also shed light on Mizo culture and ethics, praising their values of punctuality, honesty, and discipline, which are not commonly seen elsewhere.

**Dr. Purvaja Ramachandran, the acting director of NCSCM,** emphasized the significance of ecosystem health and the essential nature of the training program for ecosystem managers, such as forest departments. Providing an overview of different ecosystem services and their qualitative and quantitative aspects, she underscored the Ministry of Environment, Forest and Climate Change (MOEFCC) and its efforts in tackling forest and environmental issues.

Participants were offered theoretical knowledge on various topics during the training session. This included the current state of Mizoram Forest, land-use changes and sustainable development in Northeast India, methods for creating wetlands health cards, and the preparation of Forest Soil Health Cards to improve the forest ecosystem and its related services. As a part of field study of the training participants visited Rieke Tlang, Aizawl, Mizoram.

M.Z. Singson, CF (CC) Govt. Mizoram, presented a comprehensive overview of Mizoram Forest. He highlighted the various types of forests and their occupancy percentages, as well as the administration, management, and staff capacity of the forest department. Additionally, he discussed several initiatives such as the Green India Mission, National Afforestation Programme (NAP), Forest Fire Prevention and Management Scheme, Medicinal Plants Conservation, JICA Project, Project Tiger at Dampa Tiger Reserve, School Nursery Yojana, Integrated Development of Wildlife Habitat (IDWH), National Plan for Conservation of Aquatic Ecosystems (NPCA), and Nature Learning Centre. He addressed forest management practices like promoting conservation of Community/Village Forest (protection & enrichment planting), maintaining tall seedlings for avenue plantation, protecting plantations & forests, constructing, upgrading, and maintaining inspection paths and forest roads for protection duties, and managing forest fires. Furthermore, he emphasized the significance of biodiversity conservation, the status of jhum cultivation, Ramsar sites, protected areas, ecodevelopment activities, and the management of the zoo in Mizoram.

Professor S.K. Tripathi from Mizoram University provided a detailed discussion on "Land Use Change and Ecosystem Sustainability in NER." During the presentation, he addressed the significant land use issues in the northeastern regions, highlighted the characteristics of landscape transformation, emphasized major ecosystem services, and compared the values of ecosystem services to the global GDP. Additionally, he shed light on the challenges ecosystems face due to high human population density. He discussed wetland restoration and conservation initiatives such as Namami Gange, and detailed 12 thematic action plans to tackle future obstacles. Furthermore, he highlighted the impact of jhum cultivation on ecosystems and nutrient circulation during different follow-up stages. Additionally, he covered sustainable agricultural methods, water conservation strategies, and fostering entrepreneurship. Emphasizing the importance of ecosystem-centred decision-making over conventional methods.

**Dr. Robin, R.S. Scientist, NCSCM** delivered a presentation on the topic Preparation of Ecosystem Health Report Cards. He covered the concept of ecosystem, types, major ecosystem services and the necessity ecosystem health report cards. Additionally, he outlined the five steps process required for the preparation of effective ecosystem health cards including identify values and threats, Developing Indicators for ecosystem health assessment, Identify Thresholds, calculating grades and scores, and communication of results. The presentation concluded with an overview of the overall ecosystem health index.

Dr. V.P. Panwar, Scientist E, Forest Ecology and Climate Change Division (FRI) presented a detailed presentation on Ecosystem Services from Soil and Importance of Forest Soil Health cards. He discussed the topics of Millennium Ecosystem Assessment (MA) classification of Ecosystem Services and its significance. He put emphasis on soil ecosystem services, impotence of soil health and extent of soil degradation and desertification in India. He highlighted the AICRP project work of preparation of soil health cards under different forest vegetation in all forest divisions of India. He discussed about the major objectives of the project, sampling procedure and various methods opted to generate the data, and finally the state wise release of soil health card across the country. The talk concluded with an overview of the project key outcomes and significance of soil health cards in forestry.

Dr. Sanjay Bala, Faculty- Indian Institute of Forest Management, Bhopal. He discussed Mizoram having the highest forest cover percentage among all Indian states, but highlighted that the composition of forests in terms of economic value is not favourable. He put emphasis on sustainable management of forest for addressing the pressure on forest. He discussed the importance of assigning economic valuation to various ecosystem services, Management and Development Programme proposed by Indian Institute of Forest Management (IIFM) and various indicators of its assessment. Moreover, he delivered a presentation on Ecosystem health covered the topics of various pressure on ecosystems, relationship between societal goals and scientific endpoints and measures in ecological assessment, Essential Ecosystem Characteristics (EECs) and associated sub-categories. He summarised his talk with the effect of Anthropogenic stress vs Ecological conditions.

### Day-2

# Field training and visits

Apart from theoretical discussions and group activities, a field trip was organized during the second day of the training program. All participants and coordinators visited the Tlang River basin, one of Mizoram's main river basins. The NCSCM faculty members conducted an experiment to demonstrate the river water's health status. The Range Forest Officer from Aizwal range provided a detailed explanation about the river basin and its associated forest. Following this, the team proceeded to Riek

village and engaged in an interactive session with the village council members. Participants were asked about the primary livelihood opportunities in the village, the status of jhum cultivation practices, and the challenges faced by those living on the forest fringe. In the afternoon, the participants made a trucking to Ailawng peak, one of Mizoram's stunning peaks located in the Aizawl district known for its natural beauty and lush forests.

## Day-3

# **Valedictory Session**

An interactive session was organised on the final day of the three-day training programme. The discussion addressed crucial topics like climate change, ecosystem health, and forest fire management. This session allowed participants to interact with resource personnel actively, sharing experiences and seeking clarification. Senior participants shared valuable insights and expressed a collective interest in supporting related initiatives. They also suggested research institutions conduct state-specific studies if possible.

The valedictory session presided over by Sh. Pu Anil Shukla, IPS, DGP of Mizoram, as the chief guest. Dr. Sanjay Bala, Faculty at IIFM, Bhopal, provided a comprehensive overview of the 3 days training activities. In the inaugural address of the validatory session Sh. Pu Anil Shukla, IPS, DGP of Mizoram appreciated all the participants for their dedication to the training. He spoke about the cleanliness and peacefulness within Mizoram. He quoted the fact of human dominance over ecosystems by referencing human hunting of Bison in Yellowstone National Park. He pointed out the significance of interdisciplinary research and importance of knowledge dissemination for achieving the sustainable development goals for a promising future. He discussed the importance of sustainable approach towards environmental conservation in collaboration with stakeholders. At the end of the training, training completion certificate were presented to the participants by Sh. Pu Anil Shukla, DGP, Mizoram. Sh. Sandeep Yaday, Scientist-D proposed a formal vote of thanks.

# INSIGHTS OF TRAINING







# PRESS COVERAGE







