



**Three days Training Workshop
on
Plant functional trait-based evaluation of ecosystem
functioning and services of Himalayan forests
for
Indian Forest Service (IFS) Officers
(November 8-10, 2023)**

PATRON

Prof. Sunil Nautiyal, Director, NIHE

COURSE COODINATORS

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Scientist - G Scientist - F

Management Committee

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Organized by



G.B. Pant National Institute of Himalayan Environment (NIHE)

(An Autonomous Institute of Ministry of Environment, Forest & Climate Change, Govt. of India)

Kosi-Katarmal, Almora - 263 643, Uttarakhand, INDIA



About the Training Workshop

The Himalayan region is a home to more than 10,000 species of plants, 300 species mammals, 1000 species of birds and is equally rich in other taxonomic forms. The region is also diverse in terms of its geology, climate, demography, culture, and economic conditions. Due to its rich biological assemblage, high population density and anthropogenic impacts, the region has been designated as a biodiversity hotspot. The Himalayan forests and landscape play a critical role in providing vital ecosystem services such as freshwater resources, climate regulation, and habitat for a wide array of plant and animal species. However, this delicate balance is increasingly threatened by a range of forestry issues that demand urgent attention and sustainable management practices. The area is currently dealing with a number of issues like rapid land use changes, habitat fragmentation, excessive use of forest resources, soil erosion, landslides, a decrease in forest density and cover, disruption of wildlife corridors, and disruption of natural processes as a result of rising population and infrastructure development. The number of tourists visiting the area has multiplied over the past few decades, adding to the burden on infrastructural growth and solid waste generation. Thus, new approaches are required for sustainable management and conservation of different ecosystems in the Himalaya.

The proposed training course on "*Plant functional trait-based evaluation of ecosystem functioning, and service of Himalayan forests*" seeks to discuss and deliberate on ecological solutions being discussed at global level in the contemporary world. Plant functional traits have been identified as the key indicators of plant evolution and adaptation to the local environment. Thus, functional traits provide important clues for understanding the structure, function and services provided by ecosystems. The Himalayan region being home to a large number of forest types with a diversity of over 2000 tree species and 10,000 seed plant species, has an enormous diversity in plant functional traits. The training program will cover a wide range of topics, including ecosystem structure, functioning and services, phenological diversity of forest, forest policy and governance, etc. A team of national level experts with experience in forestry, ecology and policy governance has been invited to deliver lectures and participate in panel discussion during this training. Thus, participants will have the opportunity to learn on emerging issues of functional trait-based evaluation of ecosystem structure and functioning from the experts as well as from each other through experience sharing. This training programme seeks to equip forest officers with the knowledge they need to take informed action to address the forestry problems affecting the area by promoting a deeper understanding of the connections between forest protection, Himalayan ecology, and sustainable development. It seeks to promote a collaborative approach, bringing together diverse stakeholders to work towards a sustainable future for the Himalayan ecosystem, while also supporting local communities and promoting sustainable development.

VENUE: Govind Ballabh Pant 'National Institute of Himalayan Environment' (NIHE), Almora – 263643, Uttarakhand.

Location Coordinates : Lat 29.639920°, Long 79.622768°
Google Map Link : <https://goo.gl/maps/Eq657U3Q2UQn5coWA>

IMPORTANT DATES

Training Dates: November 8-10, 2023 (03 days)

BOARDING & LODGING: Suitable boarding & lodging will be provided to all the participants.

ABOUT ALMORA & ITS GENERAL CLIMATE

Almora is situated on a ridge at the southern edge of the Kumaon hills of the Central Himalayan range in the shape of a horse saddle hillock. In summer, Almora is largely under the influence of moist, maritime airflow from the western side of the subtropical anticyclonic cells over low-latitude ocean waters. The average temperature in Almora during July is 23.5°C with average rainfall of 318 mm.

HOW TO REACH

The Institute is well connected with Almora town. It is almost 14 km away from Almora town on Almora-Ranikhet Road.

By Air: The nearest airport for Almora is Pantnagar. Taxis are available to Almora from Pantnagar Airport (approx. distance 115 km).

By Rail: Kathgodam is the nearest railway station to Katarmal, Almora at a distance of 97km. The station is well connected with major destinations of India like Delhi, Lucknow, Kolkata, etc. Buses and Taxis are available to Almora from Kathgodam.

By Road: Almora town is well connected by motorable roads with major cities in northern India. The distance from Delhi to Almora is 365 km (via Moradabad and Bilaspur) which may be covered in 9-10 hours of time.

FOR ANY QUERY: CONTACT PERSON

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We look forward to welcoming you at Almora in October 2023...!!



G.B. Pant 'National Institute of Himalayan Environment' (NIHE), Almora, Uttarakhand



G.B. Pant National Institute of Himalayan Environment (NIHE) established in 1988-89, is an autonomous Institute of the Ministry of Environment, Forest & Climate Change (MoEF&CC), Govt. of India. NIHE which is identified as a focal agency to advance scientific knowledge, to evolve integrated management strategies, demonstrate their efficacy for conservation of natural resources, and to ensure environmentally sound development in the entire Indian Himalayan Region (IHR). The Institute

attempts to maintain a balance of intricate linkages between socio-cultural, ecological, economic, and physical systems that could lead to sustainability in the IHR. To achieve this, the Institute follows a multidisciplinary and holistic approach in all its Research and Development programmes with emphasis on interlinking natural and social sciences. In this effort, particular attention is given to the preservation of fragile mountain ecosystems, indigenous knowledge systems and sustainable use of natural resources. A conscious effort is made to ensure participation of local inhabitants for long-term acceptance and success of various programmes. Training, environmental education and awareness to different stakeholders are essential components of all the R&D programmes of the Institute. The Institute functions in a decentralized manner having 40 scientists and about 200 Research Scholars. R&D programmes of the institute are majorly based on the stakeholder needs and is carried out by 05 Regional Centres across the IHR. These are located from the north-western to north-eastern Himalaya are: (i) Ladakh Regional Centre (Leh, Ladakh), (ii) Himachal Regional Centre (Kullu, Himachal Pradesh), (iii) Garhwal Regional Centre (Srinagar-Garhwal, Uttarakhand), (iv) Sikkim Regional Centre (Pangthang, Sikkim), and (v) North-East Regional Centre (Itanagar, Arunachal Pradesh) along with headquarters at Almora (Uttarakhand) and Mountain Division at MoEF&CC, New Delhi.

Near Almora, worthwhile tourist destinations

Binsar Wildlife Sanctuary, Jageshwar Temple, Kasar Devi Temple, Chitai Golu Devta Temple, Katarmal Sun Temple, Deer Park, Kausani, Ranikhet, Martola, Kalimah, Kumaon Regimental Centre Museum, etc.



Plant functional trait-based evaluation of ecosystem functioning and services of Himalayan forests November 8-10, 2023

Programme Schedule

Day 1: Inaugural session November 8, 2023	
09:30 AM – 10:00 AM	Registration
10:00 AM – 10:15 AM	Welcome – Prof Sunil Nautiyal, Director, NIHE
10:15 AM – 10:30 AM	About the Institute – Dr. J.C. Kuniyal, Scientist-G & Head, CEA&CC, NIHE
10:30 AM – 11:00 AM	Overview of the Training – Dr. I.D. Bhatt, Scientist-F & Head, CBCM, NIHE
10:30 AM – 11:00 AM	Introduction of the Participants
11:00 AM – 11:20 AM	Remarks by Special Guest Dr. Pankaj Raturi, Head, Deptt. of Bioresource Development, Dabur India Ltd.
11:20 AM – 11:40 AM	Remarks by Chief Guest Dr. Devendra Pandey, IFS (Retd.), Director General, FSI, MoEFCC, New Delhi
11:40 AM – 11:45 AM	Vote of Thanks – Dr. K.S. Kanwal, Sci-D, NIHE
11:45 AM – 12:00 PM	----- HIGH-TEA -----
Technical Session I: Application of Scientific and Technological Advances for monitoring ecosystem services of Himalayan forests	
12:00 PM – 01:00 PM	Dr. Devendra Pandey, IFS (Retd.), Director General, FSI, MoEFCC, New Delhi
01:00 PM – 01:30 PM	----- LUNCH BREAK -----
Technical Session II: Plant functional trait-based evaluation of ecosystem functioning and services: principles, procedures and pitfalls	
01:30 PM – 02:30 PM	Prof. Zafar A. Reshi, Department of Botany, University of Kashmir
02:30 PM – 05:30 PM	Field Visit- Suryakunj: A forest eco-restoration model, NIHE
Day 2: November 9, 2023	
Technical Session-III: Plant functional trait-based evaluation of ecosystem services in the IHR	
10:00 AM – 11:00 AM	Dr. Rajeev Pandey, Head, Division of Forestry Statistics at ICFRE, Dehradun
11:00 AM – 11:15 AM	----- TEA BREAK -----
12:15 PM – 05:30 PM	Field Visit- Field visit to sacred grove <i>Cedrus deodara</i> forest in and around Jageshwar, Almora
Day 3: November 10, 2023	
Technical Session-V: Understanding Plant functional traits to better manage Himalayan forests	
10:00 AM – 11:15 AM	Dr. Rajesh Thadani, Executive Director, Centre for Ecology, Development and Research (CEDAR), New Delhi
11:15 AM – 11:30 AM	----- TEA BREAK -----
Technical Session-IX: Dynamics of Forest Resource Assessment in India	
11:30 AM – 01:00 PM	Dr. S.S. Samant, Former Director, HFRI, Shimla Shri B.D. Suyal, IFS (Retd.), PCCF cum Managing Director, Forest Corporation H.P.; Director FSI, Shimla
01:00 PM – 02:00 PM	----- LUNCH BREAK -----
02:00 PM – 04:30 PM	Panel Discussion: Improvement in the working of Forest Departments: Need for career development through training and skills
04.30 PM – 05:30 PM	Valedictory Session - Experience Sharing