

## Report

### NATIONAL WORKSHOP ON BIODIVERSITY & CONSERVATION IN THE HIMALAYAN REGION

September 25-27, 2023

A three-day National Workshop on “Biodiversity & Conservation in the Himalayan Region” organized by Department of Zoology & the Mountain Research Institute at University of Ladakh, Leh Campus scheduled from September 25-27, 2023. The inaugural ceremony began with welcoming of the Chief Guest (Dr. Om Prakash Chaurasia, Director of DIHAR) and other special guests manifested with mementos & traditional ‘*khataks*’ on 25<sup>th</sup> September, 2023. The inaugural session followed by lightening of the lamp and released the Abstract Book of the Conference by Prof. S.K. Mehta (Vice Chancellor, University of Ladakh) & other dignitaries. Dr. S.K. Mehta discussed on the diverse ecosystems in the Himalaya region and their substantial ecological value.

The Key-note Addresses given by renowned experts namely Dr. Krishna Kanth Pulicherla (Department of Science and Technology, (DST) GOI, Dr. Eklabya Sharma (Strategic Advisor & Senior Fellow at Ashoka Trust, Bangalore) and Dr. Archana Mantri, Vice Chancellor, Chitkara University,

Punjab. They discussed on research finding among scientists, conservationists and policy makers for a deeper knowledge of Himalayan biodiversity. Dr. Om Prakash Chaurasia, Director DIHAR addressed at audience conclusion & emphasized the paramount importance of the conservation of the biodiversity of the Himalayan region. Dr. Mohd Hussain, Convenor of Conference concluded by thanking all Conference’s Sponsors (DST-SERB, LAHDC-LEH, NABARD, Snow Leopard Conservancy India Trust, Stone Hedge, ICICI Bank and J & K) for essential support. The Conference aimed to bring together all experts, policy makers, researchers, scientists and conservation enthusiasts, discussing the issues, addressing environmental challenges & promoting long-term conservation efforts. This was followed by the technical sessions comprised of key-notes, oral presentations and Poster Session.

Total number of six technical sessions based on different themes. The theme of the first day & first Technical Session was “Effect of climate change on the Biodiversity in the Himalayan region and the session was chaired by Dr. Asad Rehmani (Ex-Director, Bombay Natural History Society, Mumbai). The first Key-note Speaker Dr. Eklabya Sharma (FNA, FNCS, FASc) talked on “Biodiversity for Future



Group photo of the participants at University of Ladakh, Leh Campus

Sustainability in the Hindu Kush Himalaya Region”. Dr. Ajaz Hussain, (State Climate Consultant of UT Ladakh) delivered lecture on “Impact Climatic change on the Biodiversity of the Himalayan Region”. He highlighted the adverse impacts of tourism on both climate change and the biodiversity of the region. In his talk he spoke on climate change & how these changes impact animal, plants & ecological processes, including phenological shifts, species composition, endemism and extinction. Dr. Ansuya Bhandari, from BSIP, Lucknow presented paper entitled “Palaeontological records of fauna from NW Himalaya, India: Palaeobiodiversity & Biodiversity implications. She showed an extinct & primitive species (*Deinotherium*, *Hipparion*, murids & *Sivapithecus*) of the Miocene age and their relationship with the modern forms (Elephas, horse, mice & rat, orangutans). She spoke on Biodiversity that changes over time & extinction occurs and new species evolve due to climate changes and discussed on African & Asian Elephants that face numerous threats & listed as endangered.

The theme of first day of the second Technical Session was “Effect of climate change on the Migratory Bird in the Himalayan region” and Dr. Eklabya Sharma (Strategic Advisor & Senior Fellow at Ashoka Trust, Bangalore) chaired this session. The key-note address on “Emerging threats to Birds” was delivered by Dr. Asad Rehmani (Bombay Natural History Society, Mumbai), and he highlighted that migratory birds face numerous threats due to human-caused factors. The next speaker Dr. Anil of Zoological Survey of India, Dehradun delivered a talk on “Avian diversity of north-west Trans-Himalaya”. He explained that in Trans-Himalaya region includes the high altitude, cold and arid mountain areas of Ladakh, Jammu & Kashmir, North Sikkim, Lahaul and Spiti areas of Himachal Pradesh. This zone has sparse alpine steppe vegetation that harbours several endemic species and is favourable habitat for the biggest populations of wild sheep and goat in the world and rare fauna that includes Snow Leopard & migratory Black-Necked Crane. The cold dry desert of this zone represents an extremely fragile ecosystem. Dr. Pankaj Chandan (Senior Nature Conservation Scientist, Himalayan) suggested the University of Ladakh should consider starting an annual black-necked crane festival celebration in Ladakh. Dr. Iqbal Ali Khan (Gurukula Kangri) presented his work on “Breeding Biology and Territorial ecology of Eurasian Magpie in Ladakh region of Himalaya”. In breeding Biology twenty-five meeting pairs of Magpie were monitored at two sites of Kargil District (Ladakh). He spoke about Eurasian magpie in the terms of India and this species is only found in Ladakh region. He presented one of his PhD objectives in the conference.

The third Technical Session of the second day theme was “Insect Biodiversity of Indian Himalaya” and chaired by Dr. Anil Kumar (Scientist E, ZSI, Dehradun). The session progressed with Dr. Aijaz Ahmad Qureshi (Research Officer & Coordinator Biodiversity, Park, J & K). He spoke on insects

constitute the most diversified group and emphasizing the significance of pollinators and highlighted the economical value of pollination services performed by insects has been values at \$ 217 billion per year and the threats and challenges faced by insect biodiversity. Dr. Kaid Johar (Department of Zoology, Gujarat University) presented his work in an online mode on “Imaging of Microfauna for Biodiversity Studies”. This was followed by few expert talks by Dr. Sankaran (EAG Member TEC-Uol), Dr. Archana Mantri (TEC Coordinator, Chitkara University), Professor Raja P. Pappu (TEC Coordinator, GITAM University and Mr. Skalzang Dorjay (Founder, Ladakh Agri Clinic, a local Agri Tech Entrepreneur based in Leh).

Fourth Technical Session theme was “Effect of Tourism on Wildlife of the Himalayan Region”, and was chaired by Dr. Subrat Sharma (University of Ladakh). Dr. Tsewang Namgil (Snow Leopard Conservancy India, Leh, Ladakh) & Dr. Gaurav Sharma (ZSI, Dehradun) delivered talks on “Growing impacts of tourism on wildlife and ecosystems in Ladakh” and “Status and conservation of mammalian diversity of India with special reference to Indian Himalaya” respectively.

The third day of the fifth Technical Session covered the theme “Anthropogenic effect on the fish fauna of the Himalayan Region” and this session was chaired by Dr. Deldan Namgyal, from HAMARI SKAUST-K, Leh, Ladakh. In this session Dr. Yahya Bakhtiyar (Department of Zoology, Kashmir University, J & K) delivered a talk on “Unraveling the profound effects of water quality on aquatic ecosystem”. Dr. Bakhtiyar discussed the ecological and economic benefits of freshwater ecosystems including climate moderation, flood control and habitats. This session followed by Professor Kuldeep Krishna Sharma (VC, Himalayan University, Itanagar, Arunachal Pradesh) spoke on “Microplastic as potential threat to aquatic Biodiversity: A Review”. Dr. Sandiya Bharti, (Department of Zoology, BBAU, Lucknow, U.P.) gave online mode talk on “Potential ornamental fishes of Himalayan region: Prospects and Constraints”. Dr. Basharat Ali (Department of Zoology, Ladakh University) talked about the fish diversity in Ladakh that primarily comprises species adapted to the cold waters of high altitudes, rivers & streams and due to changing climatic conditions with anthropogenic activities/pressure results in a loss of biodiversity. The poster presentation session took place after 5<sup>th</sup> technical session at outside of the main corridor & outside of the Conference Hall on 27<sup>th</sup> September 2023 and 18 posters were displayed and presented by participants from India at Leh campus.

Sixth Technical Session theme was “Agro-biodiversity for sustainability” and the session was chaired by Dr. Tsewang Namgail (Snow Leopard Conservancy India, Leh, Ladakh). The session commenced with the key-note address by Dr. Deldan Namgyal (HAMARI SKAUST-K, Leh, Ladakh) on Adaptation strategies for improving the livelihood under climatic changes scenario in Ladakh. This session was followed by a lecture of Dr. Priyanka Ashokrao Ingle

(Botanical Garden of Indian Republic) on “Creating cold desert Germplasm Conservatory: New identity for Ladakh”. She proposed the concern for setup of botanical garden in Ladakh and established in suitable location that promoting conservation efforts in the region. Dr. Kunzes Angmo, (HAMARI SKAUST-K, Leh, Ladakh) spoke on “Medicinal Plant Diversity and Conservation Status of Medicinal Plants in Ladakh”. She gave overview of the numerous medicinal plant species that found in Ladakh accounting for 300 species and highlighted that a multitude of medicinal plant species are currently threatened, with numerous critically endangered species as a result of climate change, intrinsic vulnerabilities, and transnational illegal trade. Dr. Praveen Kumar Yadav (Department of Forensic Science, University of Ladakh) talked on “Spectroscopic identification and discrimination of timber species using attenuated total reflectance infrared (ATR-FTIR)” and he explained about timber identification that is important to stop the illegal logging and trading of protected & scheduled plant species. He emphasized on technique ATR FTIR spectroscopy for the identification and discrimination of economically important or legitimately protected timber species.

The Valedictory Session was held on 27<sup>th</sup> September, 2023 at Auditorium of University of Ladakh in Leh campus. The Valedictory Function was graced by Padma Gurmet, Director of National Institute, Sowa Rigpa as the Chief Guest and Dr. K Sankaran, Professor of Anna University and Dr. Krishna Kant Pulicherla, Department of Science and Technology, New Delhi, were Guest of Honour and Special Guest. In Valedictory Function, the welcomed addressed delivered by Dr. Subrat Sharma, Dean Research, University of Ladakh. The report of the Conference and the key highlights summarized by Dr. Basharat Ali, Assistant Professor, Department of Zoology. Dr. Padma Gurmet, Chief Guest highlighted the diverse flora and fauna of Ladakh. Dr. Sonam Wangmo, the Organizing Secretary of the Conference talked

about biodiversity conservation and how to protect our natural heritage for future generations. The session was concluded by prize & certificate distribution to participants of poster presentation and the research scholar Ms. Youton Dolma (Department of Zoology, University of Ladakh) received 3<sup>rd</sup> prize, Mr. Niyaz Ali Khan got 2<sup>nd</sup> prize (Fish Biology & Limnology Laboratory, University of Kashmir) and Mr. Mohd Eli (Entomology Laboratory, University of Kashmir) received 1<sup>st</sup> prize. During valedictory session a memento and ‘*khatak*’ has given to Dr. Ansuya Bhandari by Dr. Mohd Hussain, Convenor of the Conference. She mentioned about the reasons why we need to protect biodiversity and the general message of her talk is that conservation of biodiversity is important for future generation therefore, “Save nature, save Biodiversity and save our life on planet”.

The Conference ended successfully with stimulating suggestions and recommendations that setup of the Botanical Garden in Ladakh, Access to basic & sophisticated equipment to carry out research on Biodiversity & Conservation, Expert talk series and student exchange programs in Ladakh, Zoological tour and exploration of Zoological Museum are essential for students, celebration of Black-Necked Crane day in Ladakh. Regular Biodiversity meetings and projects with the support from local government can raise awareness about the preserving these species and their habitats, contributing to preservation efforts in region.

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