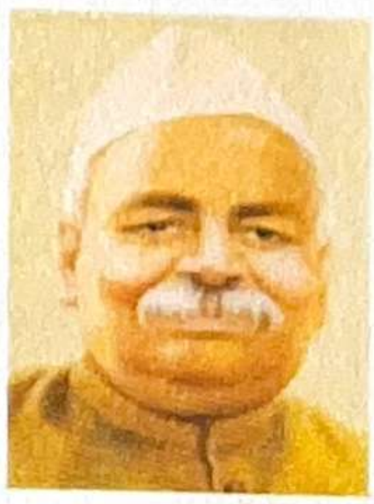
Azadi Ka Amrit Mahotsav

चतुर्थ हिमालयन लोकप्रिय व्याख्यानः लद्दाख श्रृंखला

4th Himalayan Popular Lecture: Ladakh Series



Exploring the Marvels of Himalaya and Shaping the Future Environmental Research

वक्ता: श्री जिग्मेट टक्पा (आई.एफ.एस.),
प्रधान मुख्य वन संरक्षक (सेवानिवृत्त), लद्दाख (यू. टी.)

Speaker: Shri Jigmet Takpa (IFS)
Principal Chief Conservator of Forest (Retd.), Ladakh (UT)

(10 सितंबर 2023 | 10th September 2023)

गोविन्द बल्लभ पंत राष्ट्रीय हिमालय पर्यावरण संस्थान
Govind Ballah Pant National Institute of Himalayan Environment
लद्दाख क्षेत्रीय केंद्र | Ladakh Regional Centre
लेह लद्दाख (यू.टी.) | Leh Ladakh (UT)

Shri Jigmet Takpa (IFS)
Former Principal Chief Conservator of Forest
Ladakh (UT)

Shri Jigmet Takpa completed his primary education from the Sainik School Nagrota, Jammu, and later pursued a degree in Civil Engineering. In the 1990s, he entered the Indian Forest Services (IFS) through the Jammu and Kashmir Cadre. Throughout his distinguished career, he held various significant roles, including: (i) Chief Conservator of Forests (Wildlife) in Ladakh; (ii) Director/CEO of LREDA and (iii) Joint Secretary and UNCCD National Focal Point at the Ministry of Environment, Forests & Climate Change, GoI. He superannuated from Govt. services as the Principal Chief Conservator of Forests (PCCF), Union Territory of Ladakh on July 2023. In his capacity as Joint Secretary, he actively participated in reviewing government policies and programs related to land degradation, desertification, and drought. He also played a pivotal role in monitoring and implementing various projects and schemes in addition to contributing to policy formulation. He was also in-charge of several important Govt. divisions; such as-

i. The National River Conservation Directorate (NRCD)
ii. Control of Pollution (Water) and Water Act
iii. Environmental Impact Assessment of Infrastructure Projects
iv. Global Environment Facility (GEF)
v. Sustainable Development Goals (SDG); and
vi. Environment Standard
vii. Mountain Division of MoEF&CC

Shri Jigmet Takpa pioneered biodiversity conservation, rural development and renewable energy in Ladakh. His initiatives to address the development and conservation challenges facing Ladakh's fragile ecosystem include: establishing flagship projects in identifying, devising and adapting suitable technologies for efficiently managing the natural resources of the high-altitude Himalayan regions. He conceptualised the livelihood improvement programmes for the Ladakh region and adopted a landscape-level approach to biodiversity conservation. His efforts resulted in a rapid growth of key species such as the Snow Leopard, Bar-headed Goose, Black-necked Crane, Wild Yaks, Asiatic Ibex and the Tibetan Antelope. With his vision, Ladakh has become the Snow Leopard capital of the world. The Ladakh Ecotourism Project spearheaded by Shri Takpa has directly benefited the community.

The Ladakh Renewable Energy Initiative by Shri Takpa vastly alleviated the longstanding problem of energy shortage in the region and reduced the tremendous expenditure of the Govt. of India. He has also made significant contribution through well-taken research publications which mainly focus on wildlife conservation and human-wildlife conflicts. Shri Takpa has several awards to his credit; some of them are:

i. The Environmental Hero Award
ii. The State Award for Meritorious Public Service, J&K
iii. The Indira Priyadarshini Vriksha Mitra Award
iv. the Renewtech Award for Best Nodal Agency
v. The Gyalwang Drukpa Award

He features in the *Book of Guinness World Records* for the most trees planted simultaneously in 2011.

Exploring the Marvels of Himalaya and Shaping the Future Environmental Research

Shri Jigmet Takpa (IFS)
Principal Chief Conservator of Forest(Retd.)
Ladakh (UT)

Today, we find ourselves in the heart of one of the most remarkable and awe-inspiring regions on our planet—the Himalayas. These majestic mountains, with their towering peaks and serene valleys, have always captivated the human spirit. Yet, as we stand here surrounded by the breathtaking beauty of the Himalayas, it's essential to recognize that this region presents us with a unique set of challenges and opportunities that demand our attention and stewardship. Let us embark on a journey through the challenges and opportunities that define this remarkable landscape, a landscape that has not only shaped our world but continues to inspire and challenge us.

The Geological Marvel:

Imagine, if you will, a world 70 million years ago during the Upper Cretaceous period. It was a time when the Earth's continents were still in motion, and the Indian Plate, moving at a pace of approximately 6.7 centimeters per year, found itself on a collision course with the Eurasian Plate. The result of this titanic clash was the formation of the Great Himalayan Range, a geological event of truly spectacular proportions.

Ladies and gentlemen, you are not merely sitting here today; you are perched upon the folds and faults of the Tethys Ocean's ancient sediments—a living testament to the Earth's remarkable geological history.

The Dynamic Earth:

But the drama did not end with the creation of these monumental mountains. The Indian Plate continues its inexorable journey, inching forward at that same 6.7 centimeters per year. Over the course of ten million years, it will have traveled a staggering 1,500 kilometers. The Himalayas, too, remain in motion, rising at a rate of 5 millimeters per year, making them geologically active and prone to seismic events.

Today, the Himalayas stand as not only the largest, highest, and youngest mountain range on Earth but also the most fragile. It is a region where geological forces are still at work, where the Earth's crust continues to shift and uplift, creating an ever-changing landscape.

A Precious Water Tower:

The Himalayas are often called the "Water Towers of Asia," and with good reason. This remarkable region spans an astounding 595,000 square kilometers and houses 15,000 glaciers that store a staggering 12,000 cubic kilometers of freshwater. This vast frozen reservoir makes the Himalayas the third-largest source of fresh water on our planet, trailing only the polar ice caps.

The rivers that flow from these glaciers are the lifeblood of the region, sustaining the livelihoods of millions and providing water to 1.65 billion people, roughly 20% of the world's population. It's no exaggeration to say that the Himalayas are the wellspring of life for a significant portion of humanity.

Cultural and Spiritual Significance:

Beyond its geological and environmental significance, the Himalayas are steeped in culture, spirituality, and myth. It is here that we find the sacred Mt. Kailash, revered by followers of Hinduism, Jainism, Sikhism, and Buddhism. These mountains have inspired countless pilgrims and seekers of enlightenment for centuries, leaving an indelible mark on the cultural tapestry of humanity.

Challenges in the Modern World:

However, the Himalayas, once remote and inaccessible, have not been spared from the profound changes sweeping across our world. Today, we face a new set of challenges, brought about by unprecedented economic development, social change, and global interconnectedness.

Climate change, driven by human activities, poses a significant threat to the Himalayas. The glaciers are receding, weather patterns are shifting, and the region is experiencing an increase in natural disasters such as floods and landslides. The Intergovernmental Panel on Climate Change (IPCC) highlights the shrinking of the cryosphere in high mountain areas, which negatively impacts food security, water resources, livelihoods, and more.

Habitat loss due to land use changes, deforestation, and the conversion of forests into agricultural land further threaten the fragile ecosystems of the Himalayas. Illegal wildlife trade and

poaching, driven by demand for rare species and their products, endanger iconic animals like rhinos and elephants.

Unplanned infrastructure development, unsustainable resource exploitation, including timber, fodder, and fuelwood, as well as the construction of hydroelectric dams and roads, have disrupted ecosystems and led to environmental degradation.

The frequency and intensity of floods and droughts are on the rise, posing a threat to human lives, agriculture, and infrastructure. The migration of human resources for better economic opportunities outside the region is eroding the unique cultural identity of the Himalayan communities.

In addition, the Himalayas, with their unique flora and fauna, are undergoing structural and compositional changes due to climate change, presenting complex challenges for biodiversity conservation.

Opportunities Amidst Challenges:

Yet, in the midst of these challenges, we must not lose sight of the opportunities that lie before us. The Himalayas are a storehouse of rich natural and cultural resources that can be harnessed for the benefit of the region and the world.

High-value Mountain products, including unique herbs and medicinal plants, have the potential to find a place in global markets. Entrepreneurship and transformative projects tailored specifically for the Himalayan region can unlock its economic potential while ensuring sustainability.

We have the opportunity to mainstream sustainable development in the planning and policy regulations for the region, mitigating and adapting to climate change while conserving biodiversity. We can develop models of sustainable development that encompass the entire Himalayan region, creating a blueprint for the world.

Research and development in the unexplored resources and attributes of the Himalayas, especially its vast array of medicinal plants, hold great promise for scientific discovery and economic growth.

The Path Forward:

Ladies and gentlemen, as we stand here in the shadow of the Himalayas, we are reminded of our shared responsibility to safeguard this remarkable region. In navigating these challenges and seizing these opportunities, we must prioritize sustainability, conservation, and cooperation.

Renewable energy initiatives, such as harnessing the abundant sunlight and wind, can reduce carbon emissions and ensure a cleaner future. Biodiversity conservation efforts can protect iconic species like the elusive snow leopard, while promoting eco-tourism and improving the livelihoods of local communities.

Through responsible and sustainable tourism practices, we can boost local economies without compromising the environment and culture that make the Himalayas unique.

Collaborative water resource management can ensure equitable and sustainable use of this critical resource.

The Himalayas, with their changing climate and diverse ecosystems, provide a natural laboratory for climate research, offering insights that have global implications. The rich tapestry of cultures and traditions in the region can foster cultural exchange and mutual understanding.

We must invest in disaster preparedness and early warning systems to protect the lives and well-being of those who call the Himalayas home. Transboundary cooperation, by addressing shared challenges like climate change and water resource management, can pave the way for a brighter future.

G.B. Pant National Institute of Himalayan Environment:

Ministry of Environment, Forest and Climate Change, Government of India has established

The G.B. Pant National Institute of Himalayan Environment's with broad objectives to conduct comprehensive research on Himalayan environmental issues, strengthen local knowledge networks, and develop sustainable technologies in harmony with local perspectives. These goals aim to advance scientific understanding, preserve fragile mountain ecosystems, and ensure environmentally sound development in the Indian Himalayan Region (IHR).

It is only Institute which is mandated with the above objectives and it must be recognised as authority on Himalaya. To become

an authority on Himalayan ecology and project its expertise on national levels, international and including engagement with UN organisation and multilateral organisation, the G.B. Pant National Institute of Himalayan Environment can implement the following strategies:

Research Excellence: Continue and expand cutting-edge research on Himalayan ecology, climate change impacts, biodiversity conservation, and sustainable development. Produce high-quality research papers, reports, and publications.

Policy Advocacy: Actively engage with national and international policy-making bodies. Provide scientific input and recommendations to shape policies related to climate change, biodiversity conservation, and desertification at the Himalayan level.

Capacity Building: Offer training programs and workshops on Himalayan ecology and sustainable practices to stakeholders, including government officials, local communities, and international participants.

Data Sharing: Establish a comprehensive database on Himalayan environmental data and make it accessible to researchers, policymakers, and international organizations. Collaborate with global data-sharing initiatives.

International Collaborations: Strengthen partnerships with international research institutions and organizations working on Himalayan issues

Collaborate on joint research projects and share findings at international conferences.

Environmental Diplomacy: Engage in environmental diplomacy by representing the institute and the Himalayan region at international conferences and meetings related to climate change, biodiversity, and desertification.

Knowledge Dissemination: Organize international symposiums, conferences, and workshops focused on Himalayan ecology. Share research findings, best practices, and indigenous knowledge with a global audience.

Networking: Actively participate in global networks and forums related to climate change, biodiversity, and desertification. Leverage these connections to amplify the institute's influence.

Documentation and Best Practices: Document successful case studies and best practices in Himalayan environmental management. Share these examples with international organizations and platforms.

Capacity Development for Policymakers: Offer specialized training programs for policymakers, enabling them to make informed decisions based on scientific research.

Public Awareness: Launch public awareness campaigns at the national and international levels to highlight the significance of the Himalayan ecosystem and the institute's role in its conservation.

UN Engagement: Seek official accreditation or recognition from UN bodies like UNFCCC, UNCBD, and UNCCD as an authoritative source of Himalayan ecological knowledge. Collaborate on joint projects and initiatives.

Policy Briefs and Reports: Produce policy briefs and reports summarizing research findings and policy recommendations. Share these documents with relevant UN agencies and national governments.

Advocacy for the Himalayas: Advocate for the unique environmental challenges faced by the Himalayas at global forums, emphasizing the need for tailored solutions and international cooperation.

Sustainable Development Goals (SDGs): Align the institute's activities and research with the United Nations Sustainable Development Goals (SDGs) to demonstrate its commitment to global sustainability.

By implementing these strategies, the G.B. Pant National Institute of Himalayan Environment can establish itself as a recognized authority on Himalayan ecology and position itself as a valuable partner for national and international organizations, in addressing the environmental, social and economic challenges of the Himalayan region.

In conclusion, the Himalayas are more than just a geological marvel; they are a testament to the intricate interplay of nature, culture, and human endeavours. As we continue to

explore and appreciate this magnificent region, let us also commit ourselves to preserving and nurturing it for generations to come. Through our collective efforts, we can ensure that the Himalayas remain a source of inspiration, sustenance, and wonder for all of humanity.

Thank you.

Jigmet Takpa (IFS)

G.B. PANT 'NATIONAL INSTITUTE OF HIMALAYAN ENVIRONMENT' (NIHE)

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

Ladakh Regional Centre, Leh, Ladakh

Himalayan Popular Lecture: Ladakh Series

1st Lecture: Shri C. Phunsog, IAS-Retd. (Vice Chancellor, University of Ladakh), Impact of Climate Change on India's Trans Himalayan Region (2020)

2nd Lecture: Prof. S.K. Mehta (Vice Chancellor, University of Ladakh), Water: Pollution and Remediation (2021)

3rd Lecture: Dr. O.P. Chaurasia (Director DRDO-DIHAR, Leh), Medicinal Plants Biodiversity of Cold Arid Ladakh Himalaya (2022)

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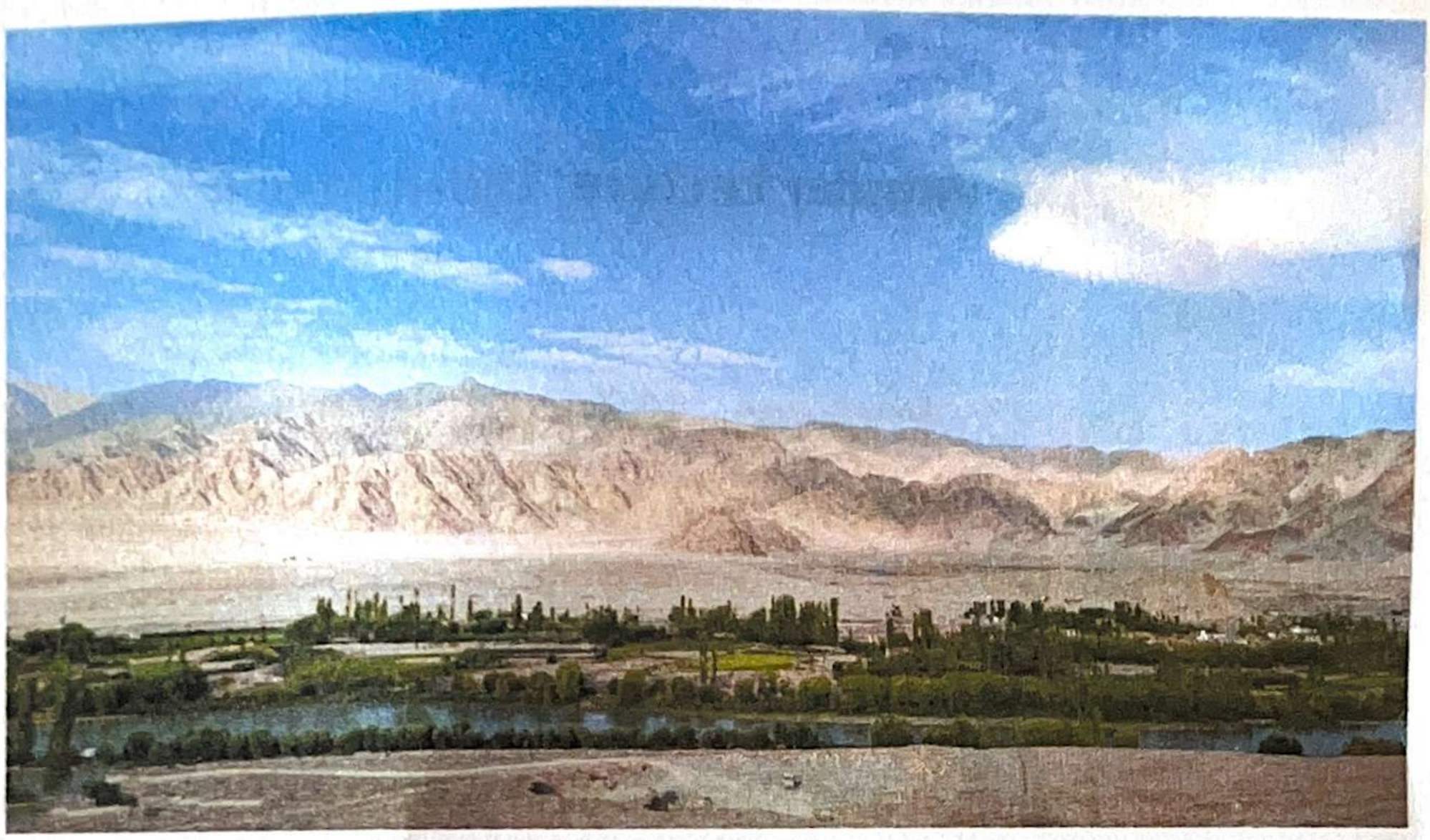

RESEARCH PRIORITIES

- Watershed services (management land use policy)
- Ecological and Economic viability of Himalayan farming systems
- Conservation and sustainable use of biodiversity
- Climate change vulnerability assessment, mitigation, and adaptation
- Disaster mitigation and management (database development and knowledge products

Developmental Options/Plans

- Sustainable natural resource management
- Propagation packages of high value plants
- Mountain specific developmental policies
- Eco-restoration and conservation models
- Livelihood options
- Capacity building and skill development
- Networking