

Proceedings of the Sustainable Mountain Development Summit-XI, Leh-Ladakh, 2022



Harnessing
tourism for
sustainable
mountain
development



The Administration of the
Union Territory of Ladakh



LAHDC LEH



SUSTAINABLE
DEVELOPMENT
FORUM OF
LADAKH

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Harnessing tourism for
sustainable mountain development

9-12 October, 2022



SUSTAINABLE
DEVELOPMENT
FORUM OF
LADAKH

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LADAKH AUTONOMOUS HILL DEVELOPMENT COUNCIL LEH
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It is a privilege to present the proceedings of Sustainable Mountain Development Summit-XI (SMDS-XI) held at Sindhu Sanskriti Kendra (SSK), Leh, Ladakh from 9 to 12 October, 2022. The theme of the summit was 'Harnessing Tourism for Sustainable Mountain Development'. The summit included the Indian Himalayan Youth Summit-V {IHYSV) on 9 October, 2022 at SSK, Leh, which focussed on 'Entrepreneurship in the Himalayas'. Finally, there was the Mountain Legislator's Meet held on 11 October, 2022 at the Assembly Hall, LAHDC, Leh where the discussions focussed on Extended Producer Responsibility: From Pol-

icy to practice. These proceedings provide a detailed documentation of the discussions that took place through the course of the summit along with the outcomes and policy recommendations.

SMDS-XI included a diversity of inputs, debates, and discussions with delegates from all mountain states and Union Territories of the Indian Himalayan Region. These proceedings provide a detailed documentation of these discussions along with policy recommendations and declarations that synthesised the discussions at the summit. As a policymaker, I found these discussions to be very fruitful in terms of highlighting different dimensions of challenges while also exploring potential solutions in terms of policy, technology, and practice. A lot of learning takes place when people from different backgrounds, cultures, professions, and experience sit together to discuss collective concerns, such as climate change and sustainability of development, along with various forms of collaborative action for relevant policymaking and implementation of such policies in the Indian Himalayan Region.

I extend heartfelt gratitude to all the people who made this summit possible, especially Government of India, Administration of UT of Ladakh led by the then Hon'ble Lieutenant Governor of Ladakh, Shri R. K. Mathur, Hon'ble Member of Parliament, Ladakh, Shri Jamyang Tsering Namgyal, District Administration, Leh, my colleagues in Ladakh Autonomous Hill Development Council in Leh and Kargil, members of various Panchayati Raj Institutions, Municipal Committee Leh, Integrated Mountain Initiative, Sustainable Development Forum of Ladakh, University of Ladakh as well as various associations, civil society groups, religious groups and many others. I am confident that Government of India will take cognisance of these discussions and recommendations from SMDS-XI to develop policies specific to the needs of the Indian Himalayan Region. I look forward to participating in more such discussions with Government of India as well as State and UT governments across the Indian Himalayan Region to develop policies that are best suited to the unique needs of these mountain regions.

Adv Tashi Gyalson

*Chairperson, CEC, LAHDC, Leh
Chairperson, Steering Committee, SMDS-XI*

Leh, Ladakh
March, 2023

OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS
DEPARTMENT OF FORESTS, ECOLOGY AND ENVIRONMENT
ADMINISTRATION OF UNION TERRITORY OF LADAKH



The proceedings of SMDS-XI mark an important step in channelling debates, discussions and deliberations into the process of policy development and collaborative action. The summit and its discussions are an important milestone in the discussions on sustainable mountain development in the Indian Himalayan Region. In addition to representatives from different mountain states and UTs of the Indian Himalayan Region, the summit also brought together different stakeholders including policy

makers, administrators, elected representatives, developmental practitioners, civil society representatives, academics, scholars, activists, youth, students and others.

Such critical discussions are a key element of policy development as it integrates multiple different voices and interest groups that participated in these deliberations. The checks and balances, dialogues and debates temper various challenges, contradictions and disagreements to ensure that resulting policies and developmental strategies are robust, relevant, unbiased, supported by evidence and most importantly, socially and ecologically sustainable.

As documented in the proceedings, there is a need to adopt a more holistic and need based approach to development, especially in mountain regions such the Himalayas, which have a fragile ecosystem. In addition, local communities have developed various socio-cultural strategies and mechanisms to harness local resources and thrive in some very challenging landscapes. We must recognise that the environment and local communities are part of one comprehensive unit. It would be detrimental in the long-term to focus on narrow sector-based approaches in the Indian Himalayan Region. Thus, we cannot conserve the environment without also conserving the socio-cultural heritage of local communities and vice versa. At the same time, one cannot focus on economic development of mountain communities at the cost of the environment or their socio-cultural heritage. In this regard, there is a need to reduce trade-offs and focus on creating synergies through sustainable development initiatives. These are some of the key challenges that face Government of India and mountain communities across the Indian Himalayas in modern times. The United Nation's Sustainable Development Goals (SDGs) adopted by Government of India is one viable framework for such a holistic approach to development in mountain regions.

In an effort to set an example, the organising team for SMDS-XI made a conscious attempt to integrate principles of sustainability and inclusivity into the summit itself in keeping with efforts made at previous SMDSs in this regard. This included adoption of a zero waste principle, where conscious efforts were made to reduce waste generation and maximise recycling of materials used in the summit. This included the use of local material and skills to develop publicity material (the

banners were printed on cloth), optimal use of digital technology, exclusion of disposable materials and plastic bottles, use of water dispensers, and collaboration with local recycling agencies.

In addition, conscious efforts were made to ensure gender-balance and social inclusion in different aspects of the summit. This included the composition of the organising team as well as participants to ensure space for different voices and facilitate dialogues to develop pragmatic and inclusive policy frameworks. Similarly, in the wake of the COVID-19 pandemic and building on the efforts of SMDS-IX and SMDS-X, SMDS-XI was held in hybrid mode to facilitate a more inclusive summit with participation from across the IHR and other parts of the world.

The proceedings provide an insight to the diversity and richness of the discussions. A conscious effort has been made in the proceedings to synthesise the discussions while still retaining different levels of agreements, disagreements, debates, and alternative perspectives that were articulated during the course of SMDS-XI. I hope that these discussions will facilitate further conversations around these issues in the Indian Himalayan Region as well as other mountain regions in the country and other parts of the world. I look forward to facilitating and participating in more such conversations to help shape the sustainability of development in the mountain regions of the Indian Himalayas.



JIGMET TAKPA, IFS

Jigmet Takpa, IFS

Principal Chief Conservator of Forest, Ladakh

President, Sustainable Development Forum of Ladakh

Leh, Ladakh

March, 2023

P. D. Rai

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Making India Proud of our Mountains

FOREWORD



I take pleasure in writing this note to the proceedings of the 11th Edition of IMI's flagship program – the Sustainable Mountain Development Summit held in Leh, Ladakh from the 9th through the 12th of October 2022.

We now have the proceedings, and it is a document that will serve us well in the years to come, in not only generating new ideas but also helping us understand what is necessary to do to make our lives better and sustainable in the Mountains.

The main theme was 'Harnessing Tourism for Sustainable Mountain Development'.

We also had a most significant and interesting Mountain Legislators' Meet which resulted in the Leh Declaration that encapsulates the huge problems and challenges of plastic waste in the Indian Himalayan Region. There is a call to enforce Extended Producers' Responsibility on those corporates whose products packaging end up littering the entire landscape of the mountains.

The Indian Himalayan Youth Summit preceded the Summit by a day. Interesting ideas and perspectives of our young minds came forth in abundance resulting in the Youth Leh Declaration. They discussed the topic "Entrepreneurship in the Himalaya".

Since much of what I am about to write have already been discussed at length during the summit, I venture to give a peek into what one can expect in the proceedings.

Tourism has the potential to be a powerful tool for sustainable mountain development. It can generate economic growth, create job opportunities, and preserve cultural heritage, while also promoting environmental conservation and protection. However, it is important to harness tourism in a responsible and sustainable manner to ensure that it does not harm the natural resources and cultural heritage of mountain regions and promotes equity.

One of the key challenges in sustainable mountain tourism development is balancing the economic benefits of tourism with the environmental and social impacts it can have. This requires careful planning and management to ensure that tourism activities are sustainable and do not cause harm to the local ecosystem. For example, tourism development should be designed to minimize the impact on wildlife, reduce waste, and promote sustainable use of natural resources.

Another important aspect of sustainable mountain tourism development is preserving and promoting the cultural heritage of mountain communities. Tourism can help to promote and preserve local traditions, crafts, and cultural practices, which in turn can create job opportunities and support local economies. However, it is also important to ensure that tourism activities respect the culture and traditions of the local communities and do not exploit them for commercial gain.

Sustainable tourism can also support the conservation and protection of mountain ecosystems. By promoting responsible tourism practices, such as reducing waste and supporting local conser-

vation efforts, tourism can help to preserve natural resources and biodiversity in mountain regions. Sustainable tourism can also help to raise awareness of environmental issues and support conservation efforts.

In conclusion, harnessing tourism for sustainable mountain development requires a comprehensive and holistic approach. Prerequisites are careful planning, management, and collaboration between stakeholders, including local communities, governments, and the private sector. By promoting sustainable tourism practices, we can ensure that tourism benefits local communities and contributes to the preservation of mountain ecosystems and cultural heritage for generations to come.

Acknowledgements:

I have to place on record my deepest gratitude to Shri R. K. Mathur, the then Lt. Governor of Ladakh for his immense help and guidance; to Adv. Tashi Gyalson, CEC LAHDC, who inspired us all to take up this opportunity of showcasing SMDS-XI in a manner which many of us would have hesitated to do; to Shri Rigzin Spalbar and Shri Jigmet Takpa and the entire team of Sustainable Development Forum of Ladakh, the State Chapter of IMI, in putting this all together so successfully.

Thanks to the General Secretary of SDFL, Shri Sunetro Ghosal for his behind the scenes work with our small IMI team and with a larger set of IMI Members who weighed in. Also, many thanks to the galaxy of speakers, moderators, resource persons, IMI Members and delegates who attended in person or virtually.

We dedicate the SMDS XI proceedings to the beautiful people of Ladakh; they knew all along what it means to live sustainably but are now challenged by the advent of modernity. We must learn from their past and put it to good use in the present and future.



PREM DAS RAI

President, IMI and Former Member of Parliament (Sikkim)

Gangtok, Sikkim

13 March 2023

Sustainable Mountain Development Summit-XI

Harnessing tourism for sustainable mountain development
Sindhu Sanskriti Kendra, Leh
10-12 October, 2022

Shri Jigmet Takpa

*Principal Chief Conservator of Forest, UT Ladakh
President, Sustainable Development Forum of Ladakh*

■ The formation of the Himalayan ranges has been one of the most spectacular events on Earth. About 50 million years ago, the Indian tectonic plate collided with the Eurasian tectonic plate and pushed the Tethys Sea upwards to create the Himalayan region. Ladakh was witness to this dramatic event. The Himalayan ranges are spread across 4.2 million sq km and it is the youngest, the highest, and also the most fragile landscape in the world. It is also the largest storehouse of freshwater— primarily in the form of ice and snow—outside the Polar region and is called the third pole of the planet. There are approximately 15,000 glaciers holding 600 billion tonnes of ice and snow. The Himalayas feed 1.65 billion people in its catchment area, which is 20% of the Earth's population. It is the source of major perennial rivers including Indus, Ganges, Brahmaputra and Mekong rivers where great civilisations have evolved and thrived.

The Himalayas are one of the four biodiversity hotspots of India with 10,000 species of plants, of which 3,160 are endemic to the region. It is also home to a vast diversity of medicinal plants. It is home to 160 endangered species of mammals. It is also a sacred landscape. For instance, Mt Kailash is an important site for Tibetan Buddhism, Hinduism, Jainism and Bonism. Thus, it is home to a vast diversity of natural and cultural resources and services.

The Himalayas faces several major challenges and issues. The IPCC Part 2 of the Sixth Assessment Report on Climate Change: Impact, Adaptation and Vulnerability observed and projected that climate change is going to impact ecosystems, health, water security, cryosphere, food and energy security in the Hindukush Himalayan region. The 2019 IPCC special report on Ocean and Cryosphere in a Changing Climate re-

vealed that Hindukush Himalayas faces the risk of losing 60% of its glaciers by the turn of the 21st Century. The Himalayas are also prone to glacial lake outburst floods, flash floods, drought, landslides, and lies in the highest i.e. zone 5 in terms of seismic activity and is prone to frequent earthquakes.

As a remote and inaccessible region, the Himalayas face multiple environmental, social and developmental challenges. India is a largely a tropical country. Thus, Government of India's projects, programmes, rules and regulations need to be customised for mountain regions such as the Himalayas. The economy of the Indian Himalayan Region (IHR) includes agriculture, marginal agriculture, and pastoralism. In addition, the Himalayan region also faces issues related to security as it is a border region with different nation-states.

It is also an important tourist destination. Ladakh was opened to tourism in 1974. Initially a few hundreds and thousands of people visited the region. Now, the number of tourists has crossed 5.5 lakh, which is almost four times the population of Leh district. Though tourism has fuelled prosperity and economic development, it has also impacted its resources, ecosystems, the environment, social and cultural values, and economic sustainability.

The theme for SMDS-XI is Harnessing tourism for sustainable mountain development along with the Mountain Legislators Meet to discuss Extended Producer Responsibility: Policy to Practice and the Indian Himalayan Youth Summit-V on entrepreneurship in the Himalayas. Delegates from the 12 Himalayan states will deliberate in this framework to explore developmental models that are ecologically benign, socially-culturally acceptable, and economically viable with long-term sustainability.

Ten years of SMDS

Shri. P. D. Rai

*President, Integrated Mountain Initiative
Former Member of Parliament, Sikkim*

IMI is a platform that enables conversations across the Himalayas including all mountain states, UTs and hill districts. The founding father of IMI is the late Dr R. S. Tolia, who was an IAS officer, former Chief Secretary of Uttarakhand and the first Chief Information Commissioner of Uttarakhand. The vision of IMI is to make India proud of her mountains. It is not just about the mountains but about the whole country.

In 2010 Dr R. S. Tolia drafted a concept note in which he wrote, “The debate of environment versus development is neither a new one nor something over which the world has not pondered earlier. Sustainable mountain development is a mantra, which was evolved at the Earth summit or the Rio Declaration of 1992 on World Environment and Development. Rio+20 is just two years away and it is about time that Uttarakhand also aligns itself to the SMD framework. The Indian Mountain Initiative [as it was called initially] is about embracing the SMD ethos, following the SMD strategy and approach as we move forward taking the other 10 Indian mountain states along.”

This paragraph captures the nature of the debates that take place at SMDs. IMI is a unique institution that works at integrating scientific research into policy and into practice. IMI facilitates conversations while also actively participating at each of these levels as well as research, policy development and practice.

Prior to SMDS-XI, 10 SMDSs have taken place.

- SMDS-I (2011) took place in Nainital, Uttarakhand and its theme was hydropower, climate change adaptation, rural tourism, and community forestry.
- SMDS-II (2012) took place in Gangtok Sikkim and its theme was water, forest, communities and mountain livelihoods.
- SMDS-III (2013) took place in Kohima, Nagaland and its theme was forest, water, river, streams and springs and mountain agriculture.
- SMDS-IV (2015) took place in Itanagar, Arunachal Pradesh and the theme was disaster risk reduction, mountain agriculture and forests.
- SMDS-V (2016) took place in Leh, Ladakh (J&K) and its theme was water security and skills.
- SMDS-VI (2017) took place in Aizwal, Mizoram and its theme was climate change and sustainable mountain cities.
- SMDS-VII (2018) took place in Solan, Himachal Pradesh and its theme was the well-being of next generation of farmers in the Himalayan region.

- SMDS-VIII (2019) took place in Shillong, Meghalaya and its theme was sustainable mountain initiative for livelihoods and entrepreneurship for youth.
- SMDS-IX (2020) took place in Dehradun, Uttarakhand and its theme was emerging pathways for building resilient post-COVID-19 mountain economy: adaptation, innovation, and acceleration.
- SMDS-X (2021) took place in Darjeeling in West Bengal and its theme was one health: response to zoonosis, sustainable food systems, biodiversity and ecosystems for human health, governance that promotes one health.
- These are the kind of discussions and conversations that take place at these summits. At COP-26 in Glasgow, UK, the Hon'ble Prime Minister of India, Shri Narendra Modi announced that India was committing itself to five targets, which he called Panchamrit:

1. To achieve net zero emissions by 2070.
2. To increment the use of non-fossil energy capacity to 500GW by 2030
3. To reduce India's economic carbon intensity by 45% by 2030
4. To fulfil 50% of its energy requirements through renewable energies by 2030.
5. To reduce 1 billion tonnes of carbon emissions from total projected emissions by 2030.

These are national goals and we need to understand how they can be achieved. It is important that the work of IMI and its state chapters as well as state governments move in this particular direction.

IMI has struck a chord with mountain communities, especially the youth. One of the earliest impacts was the foundation of the mountain division in the Ministry of Environment, Forest, and Climate Change, Government of India. IMI also works with NITI Aayog as well as GB Pant National Institute of Himalayan Environment and Divercha Centre at IISC, Bangalore. IMI has also made submissions to the 15th Finance Commission, which culminated in a conclave in Mussoorie of Chief Ministers of mountain states in July 2019, which was also attended by the Union Finance Minister and Chair of the Finance Commission. IMI was instrumental in the development of an interesting bill called the Sikkim Well-being of Generations Bill in 2017, which integrated the SDG framework into the heart of development to achieve sustainable mountain development in Sikkim. IMI has also been contributing to policy development in various states such as the electric vehicles policy in Himachal Pradesh,

Lt Gen. Anindya Sengupta, AVSM, YSM

General Officer Commanding

14 Corps

Indian Army

■ The Indian Army has been deployed across the Himalayan region for various reasons. The army is not in this area as tourists but have become an integral part of the environment in the region. The mountains of India are the source of important rivers, which supports all life-forms and livelihoods in the Indian subcontinent. The Indian Army has fought wars in the Himalayan region before independence when lines were still being drawn as well as post-independence.

Therefore, army personnel have developed a natural connect with the environment. This means they appreciate the importance of mountains be it to maintain territorial integrity, to protect the people and the environment. All these roles are important to the Indian Army. The Indian Army recognises the challenge of sustainable development. There is need to discuss what sustainable development means in these fragile mountains. We have witnessed many negative impacts of non-sustainable development models. An example of this is the unfolding disaster in Uttarakhand. The Himalayas are facing a diversity of challenges including climate change, increased unpredictability, melting of

glaciers, increase in seismic activities, emergence of new diseases etc.

The Indian Army has been in Ladakh for a very long time. It has personnel posted in very remote locations. For instance, there are hardly any people living in the areas north of Shayok river, northeast of Phobrang, and near Demchok and Chumur. However, India's frontiers lie beyond these areas and the Indian Army is present there. The army understands the importance of developing these remote locations. It is important that our citizens are able to live more comfortable lives even in these locations.

Tourism has emerged as an important sector in the harsh environment and challenging terrain of Ladakh. However, it is important to evaluate the sustainability of tourism. The actual impact of these actions will become clearer only in the future. The challenges of security have contributed to the development of tourism. Tourism helps create awareness about these remote locations. However, one has to guard against over-tourism. There are multiple instances of a casual tourist travelling through remote areas without knowledge of the environment.

Dr. Pawan Kotwal

Principal Secretary, Forests

The Administration of UT of Ladakh

■ The Himalayas are very young mountains. India as we know was located 6,000 km below the equator for millions of years. Plate tectonic movements led to the movement of the Indian tectonic plate northwards. Since the rock density of both plates were similar, when they collided, the landmass moved upwards to create the Himalayas. Ladakh lies close to the Pamir knot, which is the place where the Indian plate and Eurasian plate collided first. This led to the creation of various ranges such as Himalayas, Kunlun, Tien Shan, Karakoram, and Hindukush. This is a very important geological region.

Ladakh is a cold desert with annual rainfall of around 0.8 cm. The population is very sparse with a density of three to five persons per sq km. Ladakh has a difficult and vast terrain where connectivity is an issue. This makes it challenging to take public services to the people where accessing people is a challenge and people accessing government services is also a challenge. In addition, roads and telecommunications are also a challenge in the region.

At the same time, Ladakh has strengths too. It has the highest solar radiation in India and the highest solar power potential. Ladakh experiences 317 sunny days each year. It also has hot water springs, which is natural where two tectonic plates meet. These hot water springs are an important source for geothermal energy. Efforts are currently underway to tap and harvest the Puga valley geysers for geothermal energy. Ladakh also has large wind energy potential. Ladakh is also very rich in terms of biodiversity. A total of 40 mammal species and 340 bird species have been recorded from Ladakh. Nearly 1,000 indigenous medicinal and aromatic plants have also been recorded in the region. In the context of these natural bounties and challenges, sustainable development is the only viable model for Ladakh.

Given the special nature of Ladakh, the Hon'ble Prime Minister envisaged that development in the region will be carbon neutral. The carbon neutral plan is currently being developed at the national level by Ministry of Environment, Forest, and Climate Change. The Administration of UT of Ladakh

has already taken a few steps in this direction. This includes promotion of polycarbonate greenhouses to grow vegetables throughout the year for personal consumption and for sale. This will decrease dependence of transporting food from outside and reduce the resulting emissions and carbon footprint.

The Administration of UT of Ladakh has initiated energy audits of various institutions with the Health Department taking the lead. Already, different bulbs have been replaced with LED bulbs. An experimental project has been initiated to explore the possibility of heating the hospital and staff quarters using geothermal energy. Similarly, solar irrigation water pumps are being promoted to replace diesel pumps. E-vehicles are being promoted in the transport sector. The Administration of UT of Ladakh is collaborating with Indian Institute of Remote Sensing to plan the development of agro-forestry across Ladakh. In this regard, seabuckthorn has great potential for carbon sequestration as 1 hectare of seabuckthorn sequesters four to eight tonnes of carbon. This could then be converted into carbon credits.

The Administration of UT of Ladakh is also exploring the potential of geo-tourism in Ladakh. The Indian Space Research Organisation (ISRO) has detected a red lake in the Photoksar area. There are apparently only two such lakes in the world with the other one being in British Columbia, Canada. The Administration of UT of Ladakh is also tapping Corporate Social Responsibility (CSR) to support five projects that are currently underway. One of them is exploring ways to harvest seabuckthorn, which is very challenging. The UT Administration is studying the leather value chain in Ladakh. It is also working to improve the traditional toilet through the use of certain types of bacteria, which is an INR 15 crore (INR 150 million) project. In addition, the Hanle Dark Sky Reserve is being developed to protect the environment while also providing employment opportunities. The light management plan is ready and is currently undergoing consultations. I am confident that sustainable tourism is possible and there are solutions available. We do not have any alternative to it.

Shri. Jamyang Tsering Namgyal

Member of Parliament, Ladakh

■ Ladakh has a fragile ecosystem and also bears responsibility for national security and development. In this regard, the Hon'ble Prime Minister, Shri Narendra Modi's vision to develop Ladakh as a carbon neutral region is a timely and necessary step. In this regard, the UT Administration, the Hill Councils and local communities have come together to take several initiatives.

One such initiative is Mission Organic Development Initiative (MODI), which is working to make Ladakh fully organic. In the same way, electricity and power supply in the region is moving away from fossil fuels towards renewable energy technologies such as hydroelectric, geothermal, and wind energy. In addition, policies are being developed for industrial development and tourism, to make them economically and environmentally sustainable. People in Ladakh have been talking about the need to promote quality tourism and move away from quantity tourism. This means, one needs to look at tourism not only in terms of money but also in terms of being environment-friendly.

The temperatures of army posts can touch minus 30 and even minus 50 degree Celsius in the winter. Dialogues are

currently underway to install heating systems that are more environment-friendly by tapping solar energy to reduce pollution while also ensuring that the security force personnel have the facilities they require to perform their duties. In this regard, we need to get the world's best batteries to store energy generated through solar energy technology.

Ladakh also has the challenge of implementing schemes such as Deen Dayal Grameen Jyoti Yojana for 100% electrification in all areas including border regions. Another such scheme is Jal Jeevan Mission that endeavours to provide drinking water to people in their households. Similarly, BRO is implementing PMGSY to provide road connectivity to every corner of Ladakh. In this regard, the presence of Karakoram Wildlife Sanctuary, Changthang Cold Desert Wildlife Sanctuary, and Hemis National Park imposes restrictions on activities that need to be done for development and national security. I am thankful to the Minister of Environment, Forest, and Climate Change, Shri Bhupendra Yadav for processing all Ladakh-related applications that were submitted on the ministry's portal. In fact, the Ministry of Environment, Forest, and Climate Change has processed all applications that it has received.

Adv. Tashi Gyalson

*The Hon'ble CEC/Chairperson
LAHDC, Leh*

■ A number of environment-related initiatives have been adopted since Ladakh became a UT. The people of Ladakh have been experiencing the impacts of climate change and global warming on a daily basis. In this context, there is an urgent need to control and address the environmental degradation that Ladakh has been experiencing. The Hon'ble Prime Minister of India, Shri Narendra Modi has articulated his vision to make Ladakh carbon neutral. In this context, the UT administration has started many new initiatives to promote sustainability and reduce carbon emissions.

For instance, Ladakh has a number of potential renewable energy resources for solar, geothermal and hydrogen energy. In addition, milk processing and food processing units are being developed. An effort is being made to promote local products and locally-grown vegetables. Similarly, a decision has been taken to make Ladakh 100% organic by 2025 and efforts are progressing well. At the same time, Ladakh greenhouse initiative has also been started to promote the use of greenhouses to grow vegetables. Ladakh recently received an award for this initiative. Efforts are also being made to promote e-vehicles (EVs). A policy is currently being developed to subsidise private and commercial EVs. Electric buses have already been introduced in Ladakh.

Leh district has been facing a longstanding issue due to notifications issued in 1987 to declare Nubra and Changthang as wildlife sanctuaries and inclusion of Markha valley in Hemis National Park. Claims and objections are still being settled for these areas and the UT Administration is working to restore rights. So far, work for development of

roads, power, water, phone towers etc in these protected areas have been cleared by Ministry of Environment, Forest, and Climate Change and progress is being made. There is hope that the long pending issues will be resolved soon.

I hope that recommendations from SMDS-XI are considered and incorporated in the policies of Government of India. For instance, there are apprehensions about the Extended Producer Responsibility rules because it has not been implemented in mountain regions despite their fragile and vulnerable ecosystems. In this regard, it is important to develop a mountain-specific amendment to the EPR policy for the Himalayan region.

Ladakh is a new UT and it is important to nurture this UT. A lot of handholding is required, especially for youth. A mega-employment fair could be held in Ladakh with participation from large companies. This would benefit the youth in a big way.

It is important to recognise the efforts being made by local stakeholders in Ladakh to achieve sustainability. For instance, a decision has been taken in the tourism sector, especially guest houses and hotels, to cap capacity to 35 rooms for new hotels and guest houses to promote equal opportunities for everyone. LAHDC, Leh is currently considering this proposal that has come from stakeholders in the tourism sector. This has been done by local stakeholders on a voluntary basis to promote sustainability and distribute income from tourism more equitably especially in rural areas. In this regard, the UT Administration and LAHDC, Leh is currently working on development the Hanley Dark Sky Reserve to promote rural tourism.

Shri. Bhupender Yadav

*The Hon'ble Minister of Environment, Forest and Climate Change,
Employment and Labour
Government of India*

■ I congratulate IMI for keeping the SMDS conversations going. This is in keeping with an old Indian saying, that we come together, we sit together, we discuss things together, which allows us to share our knowledge and good results emerge from it. The biggest challenge to development is that there is no uniformity of integration. The integration also needs to preserve uniqueness. In India, there is a lot of diversity including the unique Himalayan ecosystems,

I congratulate the youth for adopting a declaration on seven important issues. The youth highlighted the need for capacity building. Generally, capacity building is linked with some form of employment. However, capacity building should also be for conserving traditional knowledge, traditional literature, saving the environment and also linked to skills. Capacity building should also be related to promoting a scientific temper among our youth.

There is a government agroforestry institute in Coimbatore where students are working on tree genetics. It is heartening to see young scientists working on tree genetics and tree breeding. The Zoological Survey of India and the Botanical Survey of India are also working on taxonomy. Botanical Survey of India has uploaded information about 36,000 plant species on the net. This includes medicinal plants. When we are talking about capacity building, we must organise workshops for youth interested in specific subjects and enable them to interact with such environment-oriented scientific institutions.

In India, development has led to many ecological wrongs, which we are now trying to address. For instance, historically the cheetah was the top predator on the grasslands of Kuno but they disappeared some decades back. The cheetah is now being rehabilitated to the region once again. Young scientists from Wildlife Institute of India have been working hard and contributing to this project. We must encourage youth to participate in such projects to build their capacity.

In addition, there is the challenge of financial literacy. There are many important schemes from Government of India such as Start Up, Skill India, etc. There is a need to link such schemes with financial literacy and capacity building. This information is being uploaded on the internet to enable people to access them from anywhere. For instance, there is a portal called National Career Service portal through which more than a crore (10 million) youth have applied for jobs and more than 10 lakh (1 million) employers are also present. The portal is being upgraded. In September 2022, a record 428,000 job opportunities were made available on the

portal. I believe there is need for integration with this portal as it covers around 400 different sectors. Efforts are being made to inter-link this portal with other related portals by Ministry of Micro, Small and Medium Enterprises and Skill India. In addition, international collaborations are also being developed. While we should encourage ease-of-doing in the Himalayas, we should also promote ease-of-living.

The youth also spoke about conserving natural resources. At the COP 20 meeting at Glasgow, the Hon'ble Prime Minister had spoken about how the world needs to move toward Mission LiFE, which refers to environment friendly lifestyle and focusses on mindful consumption of resources instead of mindless utilisation. The solutions will not come from outside. They are in our culture, ethos and traditions. We have so many cultures and traditions that have survived in very challenging environments and they are already conserving resources. We now need to adopt them.

Ladakh and the Himalayan region are not just tourism areas but also areas of peace, culture, harmony with great ecological and social values. In this regard, we have a lot of capacity. In my opinion, we should link tourism with our fragile environment and promote aspects such as sports, mountaineering, cycling, and peace. In fact, the World Forest Conference that took place recently in the USA acknowledged in its declaration that forest areas are not only for enjoyment but also for peace. So in addition to cultural values, if we promote tourism as an experience of peace, it will strengthen development in the world. Tourism models that focus on nature, spirituality, and adventure should be explored as it will preserve the uniqueness of the Himalayan region. However, in addition to environment-friendly tourism, one should also promote environmentally responsible tourism. The involvement of local stakeholders is critical without which it will be incomplete. In addition, there is need to develop activities throughout the year. There is a need to develop local traditions and cuisines while engaging with the outside world. If the tourists are going to eat the same food they eat at home, then what is the point of coming to the Himalayas? Himalayan cuisines have developed over thousands of years but it needs to be branded and promoted.

It is important to conserve cultural and historical assets across the Indian Himalayan Region. This will require protecting natural resources, sensitising people to the uniqueness of the landscape, identifying likely conflicts between resources for eco-tourism and the livelihood of local communities, and attempt to minimise such conflicts, compati-

bility of type and scale of ecotourism development with the environment and socio-cultural characteristics of the local community. This will require capacity building for tour operators and tourists.

I understand that there are some misunderstandings about protected areas and local rights. I would encourage the Administration of UT of Ladakh and LAHDC, Leh to come to Delhi for a two-day meeting with Ministry of Environment, Forest, and Climate Change and the Ministry of Tribal Affairs to discuss and resolve this issue.

The Parivesh (environment) portal of the Ministry of Environment, Forest and Climate Change is being re-developed. In the past, people had to apply individually for environment clearance, forest clearance, wildlife clearance and, in coastal areas, for CRZ clearance. Unfortunately, one clearance agency would not communicate with other clearance agencies. Now, we are working to integrate all four clearances to avoid misunderstandings.

Solar energy is a big strength as the Sun provides eight times the energy that we need. The Hon'ble Prime Minister has provided three visions for acting on the climate issue. One is to shift industries to green energy, two there is International Solar Alliance developed by India and with over 106 member states and headquartered in India. In Glasgow, the Hon'ble Prime Minister spoke about one sun, one world, one grid where energy can be transferred between places where it is night and day.

In addition, India is collaborating with the UK to create Coalition of Disaster Resilient Infrastructure (CDRI). India's Parliament has also recognised it and wherever climate related disasters impact infrastructure, there is need to discuss what kind of coalition must be built to create disaster resil-

ient infrastructure. The way things are in the world today, those who have emitted carbon are not suffering as much as the ones who have not. That is why there are discussions on losses and damages.

In the Indian Himalayan Region, we need to improve road connectivity. By reducing distances of distant landlocked mountain regions, we will also be reducing fuel consumption and emissions. The best example is that of Atal tunnel in Himachal Pradesh that connects Lahoul-Spiti, which has reduced distances, fuel consumption, and carbon emissions. Similar projects are underway below Zoji-la that connects Ladakh and Kashmir. This will be a significant step towards carbon neutral Ladakh. The Hon'ble Prime Minister has a vision of making Ladakh carbon neutral and demonstrating carbon neutral lifestyles to the world.

In the context of climate change, we must speak of climate justice. India's advocacy ensured that the world agreed on the relevance of climate justice as enshrined in the Paris declaration. Climate justice recognises that a dignified life includes things such as energy access and amenities. In the Panchamrit declaration, India has agreed to a target of 500GW from non-fossil fuel sources. As we maximise the use of renewable energy to generate energy, we will also ensure that everyone has access to energy to live dignified lives.

Inclusive sustainable development is related to SDG 8 and 12. This is the year of sustainable mountain development. I encourage you to integrate the youth declaration with Mission LiFE initiated by the Hon'ble Prime Minister, which covers all these issues. I will conclude with the wise words of the Prime Minister, "When every individual thinks of national good and every nation thinks of global good that is when sustainable development will become a reality."



Harnessing tourism for sustainable mountain development

Shri. P. D. Rai

*President, Integrated Mountain Initiative
Former Member of Parliament, Sikkim*

■ The term 'sustainable tourism' is an oxymoron. There cannot be sustainability if you experience a tourism boom. There are people who think sustainable tourism is possible if you are able to create ecological benefits through tourism. We need to evaluate different perspectives in this regard. We need to explore how the natural environment can be used for tourism in a way that it does not disturb its integrity and the ecosystem services it provides.

Shri Delex Namgail

*President
All Ladakh Tour Operators Association*

■ About 30 years back, Ladakh was a responsible, sustainable, self-reliant, zero waste, carbon negative and a resilient Trans Himalayan region. As Ladakh transitioned towards modernity, it has lost the indigenous traditional wisdom that its residents have practiced for centuries. Tourism and the Indian Army are two of the key drivers of change in Ladakh. Even as Ladakh become an increasingly popular tourist destination, the Indian Army too has been increasing its presence in the region. After Ladakh became a UT in 2019, the pace of development has increased due to generous funding allocations by Government of India. Mountain regions require a more pragmatic approach that integrates sustainable thinking, planning and development. Tourism and biodiversity are intimately connected. In fact, the growth of the tourism industry is directly correlated with healthy ecosystems. Integrating biodiversity considerations in planning for tourism will ensure continued viability, biodiversity conservation and long-term financial success.

In this regard, all travel and tourism stakeholders recently developed consensus on a vision for Ladakh in terms of the need to rethink tourism to make it more sustainable and responsible. Relevant strategies include high value, low impact tourism, ecotourism or responsible tourism, and promotion of Brand Ladakh. The last point relates to a growing realisation among the people of Ladakh that they have succumbed to the demands of non-local tour operators who have been selling Ladakh at a very cheap price. Ladakh is an

international brand but we have not been able to market and promote it to the right audience.

One of the major challenges faced by all mountain states in the IHR is that they are summer destinations. This exerts a lot of stress on the region with several negative impacts including rampant tourist infrastructure construction, increase in taxis and transport services, importing of building materials and increased water usage. An estimated, 60% to 70% of all tourists consume packaged drinking water with 30,000 plastic water bottles being dumped on a daily basis in the summer. These are 2011 figures and things have definitely worsened since.

I decided to carry out a SWOT analysis for Ladakh to identify its strengths, weaknesses, opportunities and threats (See Figure 1). The biggest threat faced by Ladakh is from over-tourism or mass tourism. As the impacts of this tourism become more evident, all stakeholders have reached a consensus to promote Ladakh as a high value destination. One of the most viable models for tourism in the Himalayas is the Bhutan model. Bhutan adopted a high value, low volume tourism model in 1974, which is the same year that Ladakh was opened for tourism. Tourism should not be a number's game for any mountain region. The tourists arrivals in Ladakh has now surpassed the local population and the impacts of mass tourism and over-tourism are becoming evident in certain pockets such as Nubra and Pangong-tso.

There are several examples of such negative impacts. For instance, Stok Kangri was an important mountaineering peak close to Leh town. Its popularity meant that it attracted a large number of trekkers. In this regard, we are all to blame including village communities, tour operators, associations like us, government agencies and the Leh Hill Council, as no one anticipated the damage and impact of over-tourism including water contamination. Finally, the village community

decided to close Stok Kangri peak for three years from 2020 to 2022. Now we are working on SOPs including limiting the number of trekkers who go into these valleys. We are also promoting community-based tourism to maximise benefits to local communities. We are also developing clear roles and responsibilities for everyone associated with these treks.

Similarly, the Chadder trek had become very popular, which resulted in pollution, overcrowding and fatalities. We then collaborated with District Administration, Leh to

restrict the number of trekkers allowed on the route, along with clear SOPs that made medical check-ups mandatory, provision of medical facilities, emergency communication facilities and waste management facilities.

Ladakh needs to be promoted and marketed among a select audience to promote high value tourists. Branding of Ladakh is very important. We have worked on a draft of Ladakh Responsible Tourism Policy, which will soon be presented to Leh Hill Council for consideration.

Ladakh SWOT Analysis

S Strength	W Weakness	O Opportunities	T Threat
<ol style="list-style-type: none"> 1. Rich landscape 2. Monasteries and tourist attractions 3. Monastery festivals and events 4. Vibrant cultural, historical, and natural heritage 5. Highest number of peaks over 6,000m amsl in the Indian Himalayas 6. Rich in flora and fauna, snow leopard and brown bear. 7. Very popular 8. Quality tour operators 9. Accommodation options ranging from homestays, guest houses to luxury hotels and resorts 10. Restaurants international cuisines 11. Good air connectivity 12. Good road connectivity 	<ol style="list-style-type: none"> 1. Extreme travel conditions 2. Acute Mountain Sickness 3. Absence of a tourism policy 4. Wayside amenities and restrooms 5. Quality accommodation in remote locations 6. Conservation of Natural heritage 7. Professional wildlife, adventure and language guides 8. Poor sanitation and solid waste management 9. Tourism impact on culture and ecology 10. Absence of marketing and branding strategy for Ladakh 11. Leh centric tourism with no benefits to the village communities 12. No market linkages with local food, art and handicrafts 	<ol style="list-style-type: none"> 1. Building world class wayside amenities and restrooms 2. Creating more sustainable accommodations using local earth 3. Carbon neutral state 4. Developing a marketing and branding strategy to position Ladakh as a high value tourist destination 5. Potential for growth in wildlife, adventure, wellness, spiritual 6. To generate international Buddhist travellers. 7. Direct International charters and flights to Leh 8. Film and advertisement destination 9. Winter Sports has huge potential 10. Astro-tourism and the Dark sky Reserve at Hanley 	<ol style="list-style-type: none"> 1. Over tourism 2. Climate change 3. Ecological degradation 4. Poor urban planning 5. Competition from other mountain destinations 6. Sensitive geostrategic location 7. High dependence on tourism 8. Global COVID-19 pandemic 9. Indo-China standoff 10. Fragile ecosystem

Kacho Mehboob Ali Khan

Secretary, Tourism
The Administration of UT of Ladakh

The Administration of UT of Ladakh has taken several initiatives to promote sustainable tourism in Ladakh. Mount Everest is a good example of over-exploitation, which has been studied and documented well. The area around Mt Everest was declared as Sagarmatha National Park in 1976 and recognised as a UNESCO World Heritage Site in 1979. Sagarmatha National Park is visited by 100,000 tourists each year including 600 climbers who want to climb Mt Everest. The 600 climbers would mean a lot of paraphernalia, which results in a range of problems. One major problem is global climate change. In addition, there are problems that we create locally.

There are several mountains in Ladakh that were not opened for tourism due to problems in Kashmir valley. The Indian Mountaineering Federation (IMF) has compiled a list

of 120 mountain peaks above 5,000m above mean sea level that are already open. In addition, 130 other peaks are in the process of being opened for climbing and trekking.

The Administration of UT of Ladakh is in the process of drafting a tourism policy for Ladakh and is holding extensive deliberations with all stakeholders. IMF is providing inputs for the mountaineering and trekking aspects of the draft policy. The draft will be finalised soon and it will include a comprehensive policy and an action plan. Firstly, an implementable policy is required with details for its implementation along with identification of who will contribute to make Ladakh a sustainable tourism destination. Secondly, awareness is very important. The UT Administration has been focussing on cleanliness since it became a UT. Since 2021, the UT Administration has been grappling with specific challenges in certain areas. Ladakh experienced over-tourism in certain spots, which resulted in problems in the summer months of June and July 2022. Thus, regulation is very important. However, regulation should not become an impediment. Regulation must be balanced with the as-

pirations and income generation for the people associated with the tourism sector. This sector is a very important part of Ladakh's economy with 58-60% of its population directly or indirectly connected with the tourism sector. This need to be recognised even as some form of regulation is implemented.

The research on Mt Everest concluded with a simple recommendation that what goes up the mountain must come down. This is relevant to Ladakh too where waste management has emerged as an important social and environmental issue. The tourists who visit Ladakh have to be trained to be responsible, which will reduce the need for regulations. Their responsibility is to enjoy their experiences in Ladakh without creating any form of pollution.

There is a need to create resources for tourism in Ladakh, especially, trained human resources. This includes mountain guides and trekking guides. We are working on opening up more areas of Ladakh for tourism, especially trekking. In addition, we are also trying to revive trekking routes that have become dysfunctional. In some cases this might not be possible as roads have been built along these routes. In this regard too, we need to balance maintenance of trekking routes with the need for good connectivity.

Shri Jigmet Takpa

Principal Chief Conservator of Forest, UT Ladakh

There are many facets to tourism. There is conventional tourism, responsible tourism, cultural tourism, and medical tourism. In fact, tourism can be developed around anything. Many areas in Ladakh have wildlife or are protected for biodiversity conservation. Ironically, these are the very places that tourists visit the most, which has resulted in extensive environmental damage. This includes areas in Changthang Wildlife Sanctuary and Karakoram Wildlife Sanctuary in Nubra. Moreover, people living in these protected areas face many problems and restrictions on development. In addition, large carnivores such as snow leopards, wolves, and lynx prey on their livestock, which undermines their agro-pastoral livelihoods. This used to result in retaliatory killing of wild animals.

Ladakh is rich in biodiversity as it is at the junction of two biogeographic zones: Palearctic and Indo-Malayan. Agro-pastoralism remains the main livelihood strategy in Ladakh. In addition to depredation losses, people in Ladakh have also suffered losses due to mass deaths of their livestock due to climate change-related events, which also impact wildlife.

In the tourism sector, the UT Administration is focussing on developing amenities and facilities. For instance, if a tourist travels to Umling-la, which is the highest motor-able pass in Ladakh, then there should be facilities such as toilets, cafeterias, and garbage disposal systems along the way.

It is very important for all stakeholders to work together. For instance, tourists, tour operators, hoteliers and the administration must work together to ensure that everyone disposes their waste correctly in dustbins without littering.

In Ladakh, there has been no scientific study on estimating the region's carrying capacity. However, the UT Administration is trying to estimate the carrying capacity for specific destinations. This will help in the regulation of the number of tourists for these areas in consultation with all stakeholders.

In Leh district, LAHDC, Leh is collecting an environment fee, which is being used to create infrastructure for segregation, collection and disposal of garbage. This is not being done in Kargil district and the UT Administration is exploring ways to generate revenue to maintain tourism assets. The UT Administration is also working with Indian Army and other security forces to create certain facilities in places where the civilian administration is not able to develop such infrastructure. Thus, everyone needs to work together to make Ladakh a sustainable tourist destination.

The people of Ladakh also used to collect fuel wood in the form of bushes, which also supports several species of mountain ungulates. Thus, the main conservation issues that have emerged include the lack of alternate livelihoods, degradation of natural resources due to competition between stakeholders, and depredation losses.

Department of Wildlife Protection, Leh initiated ecotourism ventures in Ladakh in a planned manner. First, it developed the Ladakh Vision Document under the leadership of the then Chairperson of LAHDC, Leh, Shri Rigzin Spalbar. This document articulated a vision for 11 to 12 sectors and has been implemented to varying degrees. In addition, a micro-level planning exercise was conducted to assess resources and aspirations. This resulted in the development of Ladakh's ecotourism initiative.

The main objective of this initiative was to reduce conflict between local communities and wildlife. This would require a reduction in the number of livestock though the development of alternate livelihood options through ecotourism including homestays and eco-guides. Since these options were remunerative, many people joined these initiatives and it continues to work well. Department of Wildlife Protection, Leh provided training for guides and also developed bilingual (English and Ladakhi) field guides for flora, fauna and avifauna for the guides. The training included natural resource management, geomorphology, camping and field

training. Department for Wildlife Protection, Leh provided a lot of training in homestays too. So far, over 2,000 homestays have been established in Ladakh and they are functioning well. The concept of homestay requires a home owner to rent out two-three rooms in the house to guests, with Ladakhi style toilet, cuisine, and an immersive cultural experience. The most important thing is that it has to be hygienic by maintaining the highest quality level.

Department of Wildlife Protection, Leh had organised a capacity building workshop for homestay providers and women's SHGs several years after the initiative was started. During the course of the discussion, one lady said they have received five major benefits from living in or near a protected area. She enumerated these benefits in detail. "One, we get higher economic return while doing less work. Two, we have to provide high quality and nutritious food to tourists who pay for it while family members too are able to eat nutritious food. In addition, the food is eaten fresh as we do not have a storage facility. All this has significant health benefits for the family. Three, the income allows us to educate our children. Four, cleanliness and hygiene has improved. Five, the presence of tourists in the house has resulted in a form of discipline in the household, especially in terms of reduction of alcohol consumption by the men-folk," she explained.

The department would provide various products such as mattresses that people would generally not have in the house. The rest of the things would be sourced by the families. Similarly, the department also developed eco-cafes, which are run by women's Self Help Groups (SHGs) where 50% of the investment was done by the SHG and 50% by Department of Wildlife Protection, Leh. In addition, the department also introduced renewable energy technology in every corner of the region. In fact, Ladakh is the first place in the country that successfully electrified each and every village in 2001, which was then expanded into a national project. As part of this effort, solar cookers, solar heaters, and solar home lighting systems were distributed to reduce extraction pressure on local natural resources.

Shri Skarma Tsering Deleks

President

All Ladakh Hotel and Guest House Association

When Ladakh was opened for tourism in 1974, the primary focus was on international tourists and initial accommodation was in the form of homestays and guest houses. Subsequently few hotels were built. Tourism growth over the following three decades was gradual and sustainable with limited negative effects. People were hosting guests and enjoying the benefits of tourism.

Finally, the department developed a management system to manage the waste left behind by tourists. The villagers were asked to collect the waste and bring it to a loading centre located near the village. Recyclers would buy this waste from the villager at the prevailing rate in Leh town. While the department initiated this Cash for Thrash project, it has now become self-sustaining. These initiatives have enabled wildlife to prosper once again. Ladakh has now emerged as the snow leopard capital of the world and tourists pay a lot of money for this experience.

This has resulted in a significant change in the relationship between people and wildlife. I once received a call from Mangyu village that a snow leopard is trapped in a coral pen. A team was sent with all the required equipment to rescue it. In such cases, the team would capture the animal and after a thorough examination, they would release it far from the village to reduce the possibility of it returning to village to prey on livestock. The team reached the village and was able to successfully remove the snow leopard from the coral pen. The villagers were very cooperative, which was a welcome change as people are often agitated and angry when a snow leopard has killed a number of their livestock. In fact, once the operation had concluded, the villagers treated the rescue team to a feast. Then as the team was leaving the village with the snow leopard, youth from the village intercepted them at the edge of the village and asked them to release the snow leopard close to the village as it was a resident of the area. This is part of a growing competition between villages to have more snow leopards in their area to attract more tourists. As a result, the department has taken a step back and local communities have taken the lead to protect snow leopards and other wildlife species. Thus, ecotourism and development can go together if there is a good strategy.

These efforts have been recognised at the national level including the Best Responsible Tourism Project Award in 2012-13 from Government of India along with 15 national awards for the promotion of renewable energy and related efforts.

This sub-sector of tourism witnessed a rampant growth after 2009-10, which was marked by a dramatic increase in domestic tourists and the resulting demand for accommodation. The lack of a tourism policy meant that growth in this sub-sector was haphazard and unplanned, shaped largely by demand from the tourism sector.

Ladakh became a UT in 2019. Then, the onset of the COVID-19 pandemic in 2020 derailed all tourism activities. As Ladakh emerged from the pandemic and settled into becoming a full-fledged UT, all forms of compliances were enforced in the region. For instance, the Pollution Control Committee was formed and they implemented norms and regulations adopted by the Central Pollution Control Board (CPCB). One

such norm mandated that hotels with more than 19 rooms have to install an individual sewage treatment plant (STP) on their premises. The tourism sector was not prepared for these kinds of compliances. The hospitality sub-sector has so far not been able to comply with these compliances and have requested the government for some flexibility in the context of the geographical conditions in Ladakh. If an STP is installed, it needs to work throughout the year, which would be difficult in Ladakh where tourism is concentrated in the summer months. A hotel is said to be reasonably successful if it has 40-50% occupancy throughout the year. In Ladakh, the occupancy is generally for 90 to 100 days a year. However, if you extend the time frame for this calculation to 365 days, then the occupancy is barely 27 to 30%.

The unique conditions in Ladakh means a tailor-made solution will need to be developed or some relaxation will need to be given to connect all such facilities with the common STP against the payment of an annual fee. It is difficult to maintain an individual STP for just four months a year and it will not provide an optimal result. Similarly, there is a norm that guest houses are only allowed to have six rooms. In Ladakh, there are more guest houses and homestays than hotels and we have requested that this number be increased to nine rooms to support such family-run establishments.

Furthermore, even though tourism is the largest sector of Ladakh's economy, it has so far not been recognised as an industry. This recognition will allow tourism professionals

to get access to relevant benefits extended to various industries. In addition, we have also requested the government to de-notify Nubra and Pangong areas from the respective wildlife sanctuaries. A few years back a number of properties were dismantled causing heavy losses to camp and resort owners. In 1987, these wildlife sanctuaries were marked by people sitting in Kashmir and they were not aware of the terrain and the inhabitants staying in that area.

Finally, there is a need to protect tourism in Ladakh for local inhabitants. All tourism stakeholders, social and religious organisations, and political parties have unanimously adopted a resolution that no outsiders and non-residents of Ladakh can invest in the tourism sector. This is the only industry left with Ladakhi people. In this context, in 2022 we restricted support to six properties that had direct investments by people from outside. We will be releasing a new list of other properties and announced that no one should indulge in such activities. We have also requested help from LAHDC, Leh to ensure that tourism in Ladakh remains in the hands of the people of Ladakh. In addition to restricting outside investment, we have also imposed restrictions on ourselves. For instance, all members of ALGHA have agreed to a cap of 35 rooms in new properties to help other people to participate in this sector. Similarly, the taxi and tempo union has decided to put a cap of three taxis per owner and the Bikers Association has also restricted the number of bikes that can be owned by each individual or company.

Dr Sonam Angmo

*Assistant Professor
University of Ladakh*

■ There are three dimensions to sustainable tourism: environment, economy, socio-cultural factors. A balance is needed between them to ensure long-term viability and sustainability of tourism. Initially a lot of importance was given to the economic aspect of tourism as it facilitates economic development and this was regarded as an environmentally benign sector, which it is not. Thus, a lot of studies on tourism focus on its economic impact. However, after the 1970s and 1980s, there are studies that focus on the socio-cultural and environmental impacts of tourism as well.

Tourism has several positive and negative socio-cultural impacts but these are generally not discussed and remain less evident. The economic and environmental impacts usually dominate discussions as they are more evident. There are many positive socio-cultural impacts and one of the most important is that it helps in the preservation of culture.

When tourists come to Ladakh and take interest in the local culture, local communities also become fascinated and start making an effort to preserve it. In addition, tourism also facilitates interactions with people from different nationalities and cultures and promotes cultural exchange to improve understanding of different cultures.

There are numerous negative sociocultural impacts too. One such impact is the concept of staged authenticity, which is common in Leh today. It refers to the practice of staging cultural practices to suit the taste and likings of tourists. For instance, a particular traditional dance lasts for 20 minutes with a slow pace and uses heavy costumes. However, when this is performed for tourists in a hotel, the duration of the dance is shortened to 10 minutes, the pace is increased and lighter costumes are used. This is an example of staged authenticity. In addition, there is also demonstration effect, which refers to observing tourists and copying them as their culture seems fascinating and superior. In addition to copying tourists, people sometimes also want to adapt and incorporate certain aspects of non-local culture into their own culture through a process called acculturation.

There is a need to constantly measure and monitor the

impacts of tourism. I studied the perception of different stakeholders in the tourism sector. I sampled three groups of stakeholders: residents, tourists and tourism suppliers. I had initially assumed that residents would be acutely aware of the negative impacts of tourism. Instead, I found that residents perceive a lot of positive impacts with very few negative impacts. In contrast, I found that tourists perceive some negative impacts. Tourists are generally regarded as being laid back as they enjoy their vacation but they also seem to be aware of some negative impacts of tourism activities.

Dr Anu Kumari Lama

*Tourism Specialist
ICIMOD*

I will unpack issues related to achieving impacts at scale and explore the barriers to scaling best practices in the tourism sector. The term 'scaling' has become increasingly popular in the field of development studies and climate action over the last three decades. Ironically, there has been limited exploration of its relevance to sustainable tourism in the Himalayas.

There are discussions about over-tourism but the absence of tourism is also an issue as observed during the COVID-19 pandemic. Whether we like it or not, tourism is the mainstay of mountain economies. It is good news for us that global tourism is on the path of recovery. This is evident in India too with 1.54 million international tourist arrivals in 2021 with 677 domestic tourists.

UN World Tourism Organisation reports that in the near future tourism will experience a rapid expansion with a projected 8.5% annual growth. The Ministry of Tourism, Government of India anticipates that by 2030 the Indian tourism sector will be worth USD 250 billion and USD 1 trillion by 2047. This is huge. Thus, Government of India has published a draft tourism policy for Ladakh in 2022 to make tourism more resilient, inclusive, carbon neutral and resource efficient. This policy is more fitting in the context of sustainable tourism as tourism is also being impacted by macro trends such as climate emergencies, health emergencies, and environmental and social risks.

For instance, in 2021 the world recorded an average temperature increase of 1.1 degree Celsius in relation to the pre-Industrial Revolution period. There were several disaster events in 2022 including flash floods, heat waves etc. This is a period of uncertainty and there is a need to evaluate if the tourism sector is prepared for this level of uncertainty. The

Over the last few years, tourist numbers have increased to the extent that they have been regularly exceeding the number of local residents. This is a cause of concern as this imposes pressure and stress on natural resources. In 2022, 2.5 lakh (250,000) tourists visited Ladakh in just two-and-a-half months. There is an urgent need to learn from examples in other parts of the world, such as Maya beach in Thailand where tourism was shut down due to over-tourism. This means careful planning and sound policy is required to govern tourism in Ladakh.

Intergovernmental Panel on Climate Change (IPCC) predicts that if the current rate of emissions continues then we will soon cross the 1.5 degree Celsius mark in terms of temperature increase. This needs to be considered especially in the context of mountain regions. The predictions made by IPCC are not very encouraging. The increase in temperature in mountain regions will be higher than the global average. For instance, a 1.5 degree Celsius rise in average global temperature will reflect in a place like Ladakh as an average increase of 2.23 degree Celsius. Most of the mountains would experience elevation effects. This is not a good sign. It has a direct impact on water access. Increased unpredictability and uncertainty is expected with disaster events and macro-trends shaping a new world where the economy needs to be made more secure and resilient. The media coverage to this report focussed on the actions needed to prevent the average temperature rise from crossing the 1.5 degree Celsius threshold. This will require ambitious and urgent action at scale and the mountains and their tourism sectors are not prepared for it.

The tourism sector is multifaceted as it creates economy because of various services and operational sectors such as transportation and handicrafts. The delivery of these services requires multiple institutions, which makes it multidimensional too with public and private sector participation. However, it is not generalised and remains place-dependent in terms of localities and context. One has to take these dynamics into account when discussing scaling in the tourism sector.

While scaling is important, it is not very well understood. I recommend the book, *To scale, or not to scale - that is not the only question. Rethinking the idea and practice of scaling innovations for development and progress* by Seerp Wigboldus. This book draws inputs from applied sciences and practice-based knowledge. In simple terms, scaling is either replication or multiplication for the spread of an intervention to cover more beneficiaries, across a larger geographical area, in a specific time-frame as there are time-dependent pathways and through responsible action. There are two dimensions when we talk about scaling: out-scaling

and up-scaling. Out-scaling refers to the use of a concept that has been tested with positive results that is then replicated in a different place by the community or by a partner. Up-scaling refers to an effort to mainstream either through policy action or by covering a larger area. Scaling a process requires tremendous amount of negotiation, diplomacy, patience, flexibility, time and resources. It is not easy.

Scaling is a complex topic. In this regard, 'impact at scale' can happen in different ways just as there are different kinds of scaling. One is quantitative scaling that focuses on numbers. Two is spatial scaling that focuses on space and geographical spread. Temporal scaling focusses on short-term, mid-term and long-term. The short-term and mid-term are transition processes while the long-term is about transformative processes to bring about change. Social scale focusses on inclusion, especially in terms of equity related issues. In addition, one also needs to look at other perspectives of scaling such as economic, juridical, ethical, environmental, political, cultural, partnership.

One also needs to consider if one will be following a deterministic or non-deterministic pathway for scaling. The strategy has to be systemic, integrative, collaborative, adaptive and reflective to have wider value. Financing is an important issue in terms of scaling. It can be large scale or bottom up. It is not only loans but also policy guidelines, schemes, resources, and capacity building. If we look at all these elements collectively, financing can be an important tool for scaling of a project. Barriers include the need for evidence-based decision-making, enabling environment, infrastructure, access to knowledge, technology, markets, finances, capacity, investments, and strategy.

In conclusion, scaling is about going big and innovative in terms of policy, practice and partnerships. It is a solution to broader environmental, social and economic challenges. It requires a lot of negotiation, diplomacy, patience, flexibility, time and resources. It is also about strategising in terms of what change is needed and how it will be achieved.

Discussion

Q: How do you determine the carrying capacity of a place?

Shri Delex Namgail: Carrying capacity is something that has never been estimated for Ladakh. Currently we are working on assumptions based on our understanding of the region. We have been requesting for such a study from the UT Administration since 2019. For example, Chadder trek suffered due to over-tourism and a lot of non-local agencies offering this tour at a very cheap rate. Then, we collaborated with District Administration, Leh to curtail the numbers and put restrictions on ourselves too. We decided that every tour operator could only have seven groups with a maximum of 10 people per group.

Q: The Presidents of ALTOA and ALGHA spoke about a cap of 35 rooms and the promotion of community-based tourism. Isn't there a mismatch there? Why are you not thinking of a cap on tourists? You could, for instance ban tourists who are not linked with any tour agency.

Shri Skarma Tsering Deleks: That is a good question. We are self-imposing restrictions because we need to put a cap on different things to protect tourism in Ladakh. We are not promoting investors in Ladakh. Otherwise, investors will come to Ladakh and build big hotels. They will not build small hotels.

These measures are to restrict access to big players. We have requested the Hill Council to de-centralise tourism in Ladakh with a focus on community-tourism and homestays. Currently the concentration of tourism remains in Leh town. We have requested the Hill Council to provide incentives to villages and rural areas to encourage them to participate in tourism. The trend of tourism changes over time and many tourists do not want to stay in an urban area. They are looking for alternate solutions and prefer a peaceful area.

Q: There was a contradiction. The President of ALTOA framed tourism as a problem of plenty and proposed the adoption of the Bhutan model with a focus on high value, low volume tourism. The President of ALGHA framed tourism as under-utilisation of hotels at around 27% capacity utilisation in the whole year. That would mean you should not regulate the number of tourists but let environment and other policies do their work. As the GDP of the country grows, more tourists will come to Ladakh. Regulation is not the way forward. Capacity will only be used once you have tourists coming in. When money comes into the sector, it goes across a cross-section of society.

Shri Delex Namgail: There is a misunderstanding here. My point was about

the dangers of over-tourism while Skarma was speaking about STP and pollution control norms. He was saying that if you work out the occupancy of a hotel for 12 months, then most of the hotels will fall below 30% occupancy even though they are packed from May to September. The occupancy figures fall only if we analyse the numbers for 12 months.

Q: Sustainable tourism is fragmented. Can tourism ever be sustainable? We are facing many problems in Ladakh especially related to groundwater, waste management. In the past, Ladakh used to receive international tourists and they were very sensitive towards nature. But the tourism right now is very devastating. Is sustainable tourism possible or is it a myth and exists only in theory?

Shri P. D. Rai: Ladakh's tourism is very unique. We now have climate change and we also have climate tourists who escape the extreme heat in the plains and are willing to buy cool weather if they can afford it. Sikkim has a similar experience. We have to unpack solutions, frameworks, scalability, and academic literature to understand ground realities. We also have questions of equity and related issues and the extraction of scarce resources.

Technical session: Tourism products for the mountains: Good practices and pitfalls

Dr Rajan Kotru

Redefined Sustainable Tourism

■ There are a number of tourism products in the mountains and we need to learn from the diversity of experiences in terms of the processes adopted, the context, best practices and policy learning. Also, there are important insights for sustainability. That said, nothing might be sustainable as climate change threatens us and it is unclear how some of these models will adapt to increased uncertainty and unpredictability. The focus should be on sustainable and responsible tourism. Conservation of resources is an important aspect of sustain-

ability. If resources are not conserved, then tourism will not be sustainable. Similarly, local communities must benefit from tourism in an equitable and inclusive manner. Unfortunately, in many places most of the benefits are extracted by tour operators and little reaches local communities. In addition, sensitivity and inclusion of culture is important as the Himalayas are a distinct geographical and culturally diverse region. Finally, there is the aspect of commerce that sustains tourism activities.

High value, low volume tourism
Shri Sonam Tobgay

Bhutan Sustainable Tourism Society

■ Someone once asked me why Bhutan charges USD 200 a night from international tourists and INR 1,200 a night from Indian tourists. I responded by asking if the person had ever visited a carbon negative destination. When he replied in the negative, I explained that he now has the answer for his earlier question.

It is important to understand what Bhutan has sacrificed to be a carbon negative destination. People are not allowed to cut forests and they have to maintain a minimum green cover of 60%. Bhutan has also prohibited polluting industries and imposed restrictions on where roads can be built. There is a mandate that rivers have to be kept clean. People are able to enjoy these experiences but the people of Bhutan must get something in return. If someone wants to visit and enjoy a carbon negative destination, they will have to pay for it.

There have been a lot of discussions about carrying capacity in the context of sustainable tourism. Generally this

is understood to mean environmental carrying capacity. In layman's terms, this would refer to drinking water availability, solid waste management capacity, transportation capacity, and air pollution impacts. Bhutan's capital, Thimphu is a city of 150,000 people. If 40,000 people visit it, it will automatically impact drinking water, waste management systems, sewerage, and the local market. The influx of visitors actually creates a problem in the local market resulting in an increase in the prices of vegetables and local produce. In Bhutan, we do not have enough people to work in local industries as everyone wants to work in the tourism industry, which is more profitable. These are things we would need to estimate when we are calculating carrying capacity.

In addition, we also need to consider local cultural protection including local attractions and sensitivities. In Bhutan, tourists are charged a fee to visit local attractions. The fee is very important to sustain the local attraction sites in terms of maintenance, provision of amenities such as toilets and protection from the elements. Tourism is about experience. You cannot go to a tourist attraction and have to struggle to find a toilet or find shelter from the sun or rain.

There was a case of a visitor who had climbed on top of a stupa. It created a lot of disgruntlement and unhappiness in society, which is bad for tourism. Then local communities start to view tourists as someone who is not wanted. Similar-

ly, tourists have to be sensitive about traditions and cultural practices. For instance, when they visit a monastery, they need to take off their shoes, and hat. These are basic Buddhist practices that we communicate to our visitors to ensure that they are respectful and comply with these norms. Respect is mutual. You respect the visitor and they respect you and your culture.

One also needs to pay attention to landscaping. No one wants to visit a place that is not beautiful. In the Himalayas we have four seasons that provide four different colour combinations. In Bhutan, we use a lot of flowers, which also attracts birds and bees that are important for pollination. By planning the landscape, one can make the destination more attractive.

Then we have regulations, which are essential. In the absence of regulations, it is a carrot and stick game. Nobody listens if one only has the carrot and the stick becomes important. Bhutan has a very strict tourism regulation policy. The tourist applies online and pays for everything in advance. There have been discussions on accommodating walk-in tourists. In our experience, walk-in tourists are good in areas where you can accommodate a lot of people. Bhutan is a small destination and can accommodate a limited number of people. We will only allow the amount of people we can accommodate and handle. In that sense, we are well planned and visitors get a good experience.

In addition, strict monitoring mechanisms are in place by the government through the tourism council. They do not monitor the visitors but focus on resources including hotels, guides, trekking guides, river guides, bus drivers, hoteliers etc. Bhutan has very high standards and a very strict

monitoring system for service providers. This allows service providers to gain the confidence of visitors that their money is safe and that they are receiving the best service. This does not happen in a year or two but over a longer period.

Finally, it is important to build capacity of people in the tourism industry. In Bhutan, we started around 30 years ago. We started with trekking guides as trekking is more technical. We had instructors from Austria but we soon realised that this was not sustainable. Then, we trained our guides and sent them to Austria to be trained as trainers. They then returned to Bhutan and trained other Bhutanese guides. The same thing was done in the cultural sector. A curriculum was developed for culture guides. A book was developed on iconography of all monasteries. All cultural guides had to pass a cultural test. They receive a certificate only after they pass this test. All guides have to display their certificate of qualification. In turn, all tourists have to provide their guide's number when they apply for a visa.

However, there are some failings too in this system, especially arbitrary decision making. One example of this is from the valley of Punakha that is drained of the two rivers. While one can raft anywhere in the world, nowhere else will the rafter pass a famous Dzong on the bank of the river. The Dzong is a huge fortress with monks sitting on the banks. People invariably take a picture with the Dzong in the background and it became an important marketing tool as people shared their pictures through social media. Then the government passed a rule that people cannot float past the Dzong and have to stop upstream. There was no logic to this decision. This is one failing and regulators must be more careful that they do not ruin a good tourism product.

Smt Poonam Gupta Shreshta

Community Homestay Network

■ The Community Homestay Network (CHN) is an emerging social enterprise in Nepal with a strong mission to create travel experiences that have positive impacts on local communities. CHN is a leading provider of community-based accommodation and community-based activities that partners with local tourism enterprises and destinations. It is very important to understand the services offered through this network. One of the major services offered by CHN is logistical management (including bookings), manage the website, and liaison between rural communities of Nepal and travellers from around the world.

The other activity undertaken by CHN is product and destination development. CHN develops community homestays across Nepal along with different local experiences and activities, and add-ons for value addition. The focus is on developing a destination as a whole and not just a community. CHN works through community circuits to connect different destinations in one circuit.

CHN also takes responsibility for promotion and digital marketing to reach a wide audience around the world. Although Nepal has numerous destinations and communities, they are often overlooked due to lack of marketing. That is where CHN steps in to promote and market authentic communities to people round the world.

CHN is also involved in capacity building to ensure that local communities are able to serve people from around the world. The training covers different areas including hospitality, hygiene, sanitation, English language, and digital literacy. In addition, community visits are also organised to enable communities to learn from each other.

In 2022, the network included 36 communities spread across Nepal of which 12 communities are in mountain regions with 10 in the Kanchenjunga landscape and two in the Annapurna region. As part of the CHN, three different products are being offered to travellers. These include community homestays, community experiences, and community circuits. In community homestays, the traveller stays in local houses, experiences the local culture and lifestyle, and eats home-cooked meals. They live with the family in an authentic Nepali home. There are 36 such communities spread across Nepal. Community experiences are a range of local activities that travellers can do while staying at a community homestay. This includes participation in native cultures and festivals, experience of local landscapes and lifestyles by joining hikes, treks, and tours around communities. In addition, they can explore local arts and crafts and opt for pottery classes, and painting. CHN is currently developing community circuits and refer to multi-day itineraries that connect five or more communities in a single tour and involve numerous activities. Since it is difficult to promote a single place or destination, CHN is creating community circuits that provide a good blend of popular destinations and emerging ones.

Some of the challenges faced by mountain communities include limited exposure. Though Nepal is a well-known destination for mountain tourism, the focus remains on a

small number of destinations. Another challenge faced by these communities includes limited access to benefits. The concentration of tourism in a limited number of places means rural indigenous communities are deprived of the benefits of tourism. Furthermore, the popular destinations become overcrowded. A lot of Nepal's cultural diversity is being lost due to rapid urbanisation.

CHN is attempting to address some of these challenges by creating a platform that creates a win-win scenario for local rural communities and travellers. The hosts get global exposure through the CHN website, financial benefit through extra income through community homestays and various social impacts such as women empowerment, creation of jobs, preservation of cultures and others. Travellers get a hassle-free solution from a single platform. They get all the information about these unexplored mountain communities and the unique experiences. CHN is creating strong partnerships with partners around the world including renowned global and local tour operators to divert travellers to lesser known destinations. This helps attract the right kind of traveller who enjoys rural tourism and respects the culture and value of the local people.

CHN has listed these experiences with different popular online travel agencies. In addition, it has nurtured partnerships with likeminded organisations to help growth, and amplify the impact on these communities.

Smt Mallika Virdi

Himalayan Ark

I am based in Sarmoli in Pithoragarh, Uttarakhand, which is close to the India-Tibet-Nepal tri-junction. The geography and location of the village makes it special. The landscape includes the lesser Himalayas, the Greater Himalayas and the Trans Himalayas. The landscape determines the kind of lifestyles led by local communities. Transhumance was a way of life in this area till the 1962 Indo-Chinese war. After the war, people settled down and now practice subsistence agriculture. The area still has its unique cultural heritage.

This may seem like an ordinary village in the Himalayas but it has been a success story. The tourism industry has four moving parts. There are the tourists and tour operators on whom everyone focusses. The other two components are the host community and the landscape.

Our work started in 2004 when I was in my first term as Sarpanch. Uttarakhand has a very unique institution called Van Panchayat under the the Gram Panchayat to manage

forest commons that are important to everyone's survival. I soon discovered that people were not really interested in conservation activities as they were busy earning a livelihood. Clearly we needed to have an alternate livelihood option to regulate use of the forest and to generate an income. The solution we developed was nature-based tourism. Since this is a commons' resource, there are certain conditions and restrictions.

We basically devised a nature-based tourism approach in which people owned the enterprise. That was critical as it is the only way to mitigate the negative impacts of tourism. Community-based tourism is really about a landscape approach that uses geography to the advantage of the community. The lifestyle of the people was the centre piece of experience offered to the tourists. This was essentially slow, conscious, immersive travel. Through the homestays, tourists get to experience how local communities live. However, we ensured there was a safety net as the tourist is not the guest of one family but of the whole community. This means there is a safety net for the tourist as well as the family that owns the homestay.

People often say that customer is king but that is not how we deal with our tourism enterprise. There is no need to

teach a person how to look after a guest. The equation remains pretty much that of a guest and a host. We also focus on fostering self-respect and respect for our environment. There is generally a specific power dynamic when people come and spend money and act as though everything is for sale. We make it clear that everything is not for sale. So we flipped the cultural context. Mountain communities are also changing. We are not museum pieces. We have kept our cultural moorings but we have standardised certain things like bedding and hygiene standards in the homestays,

Our success owes a lot to the business model we adopted. The rate of return in a homestay is very high. In fact, when the COVID-19 lockdown was imposed, we had no overheads. In 2019, a small village like ours had 700 visitors with occupancy of 1,200 nights. Our turnover in 2019 was INR 50 lakh (INR 5 million). This was unimaginable when we started. This was achieved because we collectivised our assets. We speak of vulnerable communities, distributing benefits, and tourism as a vehicle for development but none of this can happen when communities do not have enough employment and resources to meet their own needs. So we collectivised our homestays. We don't go beyond two rooms per home. Those who do not have rooms are selected to become nature guides. Out of the INR 50 lakh that was earned, only 2% went outside the community and that was for business compliance and 80% goes to the service provider. Out of that we put 2% back into the Van Panchayat. The rest of the money stays within the community. This is also a model that cultivates resilience. This was evident during the lockdown since tourism is not the only source of livelihood for the community. The main source of income for the community remains rural livelihood including agriculture, wool work, and shop-keeping. Tourism is just one option in the plurality of approaches we use. If we were dependent only on tourism then the lockdown would have hit us hard and we too would have crashed like the rest of the world dependent on tourism.

In addition, we did digital leveraging which is important for a remote area like ours and we use our geography to our

advantage but we also use access to digital technologies. We are active on social media. During the lockdown, we started a portal called Voices of Rural India on which people in the tourism business across the country started narrating their stories. These stories are published on the portal now. Thus, we have been leveraging all our advantages in a way that we continue to earn.


In the 2000s when we started homestays, it was a fairly new concept. In 2022, there are 3,600 registered homestays in Uttarakhand. The target was 5,000 and though only 3,600 homestays are registered, there are many more. This approach is based on using the market mechanism. It moves from a collaborative approach to a competitive one. That is, it moves from a community approach to single households that want to earn quickly.

It also does not provide safety nets. For instance, in a homestay, personal space and public space become one as the family starts doing business from home. In a hotel or a resort, the family generally lives elsewhere. In this case, there are strangers in the home space. There are risks of exploitation of the families, the culture and the landscape. That is one thing you have to be very careful about. That is why the safety net is very important. When things go wrong, the police and state are not always there to handle the situation.

Finally, I am not sure tourism can be an instrument to deliver development across the board. We must provide access to everyone, especially the most vulnerable. The right of first use must remain with the community. Tourism is a very voracious industry. It will come into communities and lead to conflicts over resource use. Government oversight is very important. Not just in terms of registration, certification and skill enhancement but also in terms of safety. There was a case recently of a young woman who worked at a resort and was murdered. There is a fine line between hospitality and trafficking. We need to be careful about the direction in which our society is headed, including tourism. I would argue that sustainability is something that puts people, place and landscape first.

Shri Fayaz Ahmad Dar

Sagg Eco Village

 Sagg Eco Village is a small experiment in Kashmir valley. I am the founder. Prior to starting this, I had spent almost two decades outside Kashmir for studies and work. I finally returned to Kashmir in 2010 to share my experience and learning with the younger generation.

As part of this, I started an organisation called Mool Sustainability Research and Training Centre. It is an NGO that works primarily with young people to build capacity and understand the challenges they face. I spent three-four years of travelling around Kashmir, Jammu and Ladakh to interact with young people in schools, colleges and universities. A lot of things emerged in these conversations. People wanted ecologically and culturally friendly ventures, products and services that improved their quality of life. So we decided to do an experiment, which became Sagg Eco Village. Sagg is a Kashmiri word that means watering or nurturing while Mool in Kashmiri means roots.

We started the experiment of building the eco-village in 2013. We identified a barren piece of land with rocks and thorns that had been abandoned due to the lack of water. We started working there and started planting trees, clearing thorns and breaking the rocks to develop some infrastructure. It has become a mini-village spread across 1.5 acres and includes a farm and spaces for cultural retreat and lifestyle research. We have documented all our experiences so far. We use these lessons to help other people. This has given rise to the village academy. It is said that it takes a village to raise a child and this is probably the best model for development too.

Our lifestyles are rather disintegrated and people have no control over their own decision making. Our mission is to build integrative and inter-generative lifestyles and communities through ecological entrepreneurship. We hope to reach 10 lakh (1 million) people over the next 10 years. Ecological entrepreneurship integrates ecological, cultural, and

human needs and resources with technology.

At Sagg we provide recreational stay, services and cultural walks. We have built everything using local materials, local manpower. We have now developed a food processing unit and food from the farm is processed using traditional recipes, which are then served and sold to customers. All our manpower is local. It has always been local. We also work with schools and colleges through camps, with a free session each week for local children.

I think to be sustainable we have learnt that we need to know who we are and what we want. That has to be at the back end of any initiative. Furthermore, sustainability has to be integrated from the first day. It gets complicated if you start bringing sustainability in at a later stage. You have to have a clear vision for what kind of a lifestyle you want and a theory of change. One also needs a positive, resilient and adaptable approach and patience with bureaucracy.

Shri Muzammil Hussain

Roots Ladakh

I head an organisation called Roots Ladakh. We have been in operation for the last 10 years. The challenges in Kargil are very different from other parts of Ladakh. It is not a traditional tourist destination and was mostly regarded as a stop-over destination. In addition, it had the baggage of being a war town due to the 1999 Kargil War. We have been working to promote responsible tourism in the area and this has forced us to think creatively and out of the box.

One of the experiences we developed is in the village of Hundermann, which is a 300-year-old settlement that is currently located on the Line of Control (LoC) that separates India and Pakistan. The village was controlled by Pakistan till 1971 after which it came under Indian control. Our main objective in the village has been to document lesser known aspects of its heritage and history. In addition, we wanted to change the preconceived notion of Kargil as a war zone. In 2015, the idea developed into a museum by the local community. It showcases the lifestyle and history of the place. The impacts are intangible in terms of changing mind-sets and perceptions of people including locals or outsiders. Over the years, this destination has emerged as a major tourist attraction with thousands of visitors. We have moved away from typical sightseeing tourist sites, to experiential tourism. We conduct village walks, nature trails and local food experiences with the help of the local community. Over time it has also helped create livelihood and entrepreneurship op-

portunities. We have seen people start ventures such as tea shops. Other people have set up binoculars and telescopes to allow people to look at villages across the LoC. It has also instilled a sense of pride in our own heritage and history. We initially used to think that mountain communities are inferior in terms of culture but when people from outside start appreciating your culture, then people start valuing it again.

Another similar project was done in a village called Henasku, which is located on the highway between Kargil and Leh. This village has also been called Bayul as it is hidden in a gorge. The village is steeped in history and was a small chiefdom on the Silk Route. There are a lot of folklore about the history where it was regarded as a hidden village. Our objective in this project was to document and promote the lesser known aspects of its heritage. It resulted in the development of a small community museum in a 17th Century home of the Lonpo family. The Lonpo family now manages the museum. It is a ticketed museum. As part of the project we developed six-seven homestays in the village to host guests. A lot of the young boys and girls are now helping us conduct nature trails around the village.

A third project we have done is on the Drass area. Kargil is one of the only few remaining homes of the Himalayan brown bear. Unfortunately, it comes into conflict with humans in these areas. This project was meant to promote nature and wildlife tourism for Himalayan brown bear conservation and conflict mitigation. We started this project in 2016 and the main idea was to engage the local community in conservation to change their mind-set. We have seen a significant shift in the way people perceive brown bears in the area. In addition, Kargil and Drass have now become important destinations in the wildlife tourism circuit. Initially, the

local communities regarded brown bears as a liability. However, now that they are deriving economic benefits from their presence they are now regarded as assets. We had initially created a team of young boys and girls from three different villages impacted by conflict. These individuals have become our torchbearers and mobilisers within the community. Their main role in the beginning was to help mobilise people, implement the projects, and hold sessions, awareness workshops, and sensitisation workshops. Slowly they have started working as wildlife trackers, spotters, and some of them have started homestays and ventures to promote wildlife tourism in the area.

Another project we initiated was the Suru Outdoor Festival. This is a community-based initiative in Suru valley. Earlier, Suru valley was known for trekking and mountaineering but it also has potential for other outdoor activities such as rock climbing, biking, high-lining, and slack lining. This festival is held over two weeks and is supported by the local community. It has promoted alternative forms of tourism in the area and has initiated an outdoor culture. This festival won the UIA Rock Climbing award in 2019 and has made a mark on the world climbing scene. Many youth have started adopting the rock climbing culture and the region is slowly developing into a rock climbing destination.

There have been several key lessons from these projects. Most importantly, our approach has always been to identify the unique aspects of the place, or a problem or an opportunity to see how we can package it and find a solution. We also need to consider if tourism is the answer for certain problems. Once we have figured this out, the community is placed at the centre of the process. Community participation and owner-

ship are the two important factors. In this regard, the bottom up approach has worked best. A lot of times, we assume that communities and locals do not know or understand an issue and that we need to provide an answer. However, this is not the case. People rarely ask the community what they want.

Once you have identified a unique experience and the community is ready, you need to look for enterprising partners within the community. When you first approach a community, there is a lot of mistrust. And lack of confidence in you. Thus the partners are the early adopters of the idea and once they start reaping benefits, the rest of the community will follow suit. Once that happens you start creating similar opportunities for everyone be it homestays, or whatever opportunities you are creating.

Once you have more people on board, you must identify lack of employability and skill gaps for which you will need to start training and capacity building.

However, if something has to be sustained over a longer period of time, it needs ownership from within the community. This means they need to have their skin in the game. This means we stop doing things for free and stop handing things out. When given things for free, there is no appreciation and value for it. For example, if you are setting up a homestay, you ask the family to invest in it. Then they have their skin in the game and they will take it more seriously. Similarly, we need to inculcate a sense of pride in heritage that will help sustain the project.

Finally, you need to harness the internet and media as part of the effort to create pride, which develops automatically when people from outside start coming to the community and start appreciating it.

Shri Dorje Angchuk

Indian Institute of Astrophysics

■ A flick of a switch can turn day into night and night into day. Light is everywhere and it is an integral part of our lives. We need to consider how we use it and how is it impacting our environment and behaviour. A star-filled night was once a part of the evening time entertainment but now people spend their evenings surfing the internet. One part of the problem is light pollution that deprives us from observing the night sky.

Astronomy is the oldest science in existence. It continues to inspire art and technological innovation. In fact, it has

been a major force behind the development of imaging and camera technology. Now camera technology has become very advanced and there is a camera in everyone's pocket. Now everyone is clicking but no one is actually seeing.

As part of our efforts to conserve the night sky and ensure that local communities benefit from it, we are developing a dark sky reserve in Hanley valley, which has an exceptional or distinguished quality of nights. This initiative includes educational, scientific, economic, environmental, and cultural elements. The reserve will be spread across an area of 22 sq km. There are only 12 dark sky sanctuaries in the world. Hanley Dark Sky Reserve will be India's first dark sky reserve and will attract many tourists from India and abroad.

The skies in Ladakh have always been exceptional. Hanley Dark Sky Reserve is the way to take it forward. Hanley has already been identified as the best site for optical and

infrared astronomy. It provides an opportunity to promote astro-tourism. Visitors to the area can spend the day visiting various locations such as Tsomoriri, Tso Kar, Pangong, and then spend the night enjoying unparalleled views of the night sky in a relaxed atmosphere. In addition to generating an income and reducing light pollution in the area, it will also generate interest in astronomy.

I recently searched online for 'astro-tourism' and there were 61 lakh results in 0.65 seconds. That means there is immense interest in this topic. The Hanley Dark Sky Reserve will attract astronomy enthusiasts, which will benefit local economies through homestays, etc. As part of the Hanley Dark Sky Reserve initiative we will be providing telescopes to villagers and training them to become brand ambassadors to promote astro-tourism. The local communities in Hanley have been very enthusiastic about the training and the idea of the dark sky reserve.

Astro-tourism is the fastest growing tourism sector. It will not only generate income but also conserve nature. Since Ladakh is a rain shadow region located at a high altitude above mean sea level, it has very clear skies at night. This is mostly due to lower atmospheric moisture, which would otherwise absorb starlight, which results in high transparency. So far, there has been limited light pollution outside the urban areas.

Light pollution impacts in multiple ways. Many people think that all light is good and more light is even better. However, light pollution annoys and disturbs our eyes. It also covers the sky and prevents us from seeing the night sky. A light pollution satellite image underlines the fact that half the world now lives in an urban environment. In fact, Leh and Kargil towns in Ladakh have a similar light pollution signature as other larger cities.

There is a famous case of Los Angeles in 1992. There was an earthquake in the middle of the night at around 0400 hours. As the earthquake struck, people rushed out of their homes and all the lights went down with the electricity grid. Soon, people started calling emergency services to re-

port that there was a mysterious cloud in the sky. Later, it emerged that the mysterious 'cloud in the sky' was the Milky Way that many of them had never seen! This is another reason why Hanley Dark Sky Reserve is important in showcasing the beauty of the night sky.

The main intervention in creating a dark sky reserve is in the form of a light management plan to curb light pollution. All light sources should be shaded well to direct it where it is required and to prevent it from diffusing in the atmosphere. In addition, curtains should be used on windows to prevent light from spreading beyond. Furthermore, headlights of vehicles should be used at low beam at night.

Light pollution has very harmful effects on wildlife by disorienting them and disrupting their ecology. It has been known to have a negative impact on mammals, vegetation, birds, marine wildlife as well as insects.

Light pollution also results in glare and disturbs sleep patterns with negative health impacts. Research is being done to understand the impact of light pollution on biological clocks. Artificial light, especially white light, disturbs the circadian rhythm. Our ancestors sleep patterns were governed by day and night patterns. Night-time exposure to artificial light suppresses the production of melatonin, which is correlated with a range of health issues including cancer.

In addition, light has been mistakenly correlated with safety. This is a false sense of security. When a torch is shone or a bright light is switched on, we are only able to see what is lit and not the darkness beyond. Studies have found that street lights do not prevent accidents and crime while costing a lot of money. These lights create shadow area, which actually increase risks. In this regard, it is safer to have shielded lights activated by motion sensors to optimise their safety function while reducing light pollution.

As a result, I call contemporary times, which are characterised by light pollution as the dark ages. Thankfully, light pollution is reversible. We can shield our light sources and use timers, motion sensors, low wattage bulbs, which will help save electricity and greenhouse gas emissions.

Shri Pradeep Sangwan

Healing Himalayas Foundation

I have been working in Himachal Pradesh for seven years. Prior to this, I was wandering around aimlessly without really knowing how to give back to this region. Then during one trip to Chandratat and Surajtal, I met and stayed with some shepherds. They taught me about conservation of our environment. I have been trying to pass on the knowledge I gained from them through the campaign called Healing Himalayas.

Around 2009 and 2011, many Hindi movies were released that inspired young people to travel in the mountains. However, these youth did not know anything about the kind of ecological footprint they were creating in this area. They would just travel around and take selfies for social media. This resulted in a lot of pollution, especially in the lower altitudes of Himachal Pradesh along shorter trek routes of 6 to 8 km. Once during a trek, I collected 10,000 PET bottles in two days and most of them were for energy drinks.

This is how we started creating a team of people and volunteers who started travelling beyond such trek routes. I was trekking more than 2,000 km in a year between 2016 and 2019. The idea was to be consistent about the work, create awareness, and involve local communities in those cleaning drives. Each community was doing something on their own at a small scale. The next challenge was to find a way to dispose the waste that was being collected.

I visited multiple government offices to understand how they dispose their waste. I visited one of their scientific waste disposal sites and it was basically a landfilling site. I concluded that it was futile to put in so much effort to collect waste if it was going to end in a land filling site. This is when I realised that we had to create our own mechanisms in terms of material recovery facilities (MRFs). In 2020, we managed to get some money and we started building the first MRF in a remote village called Chitkul where waste had collected, as there was no facility for disposal. Most people would burn their waste but a lot of the material could be reused in a circular economy.

Then, we started building such facilities in Lahoul, Spiti, Kinnaur, Shimla, and Kullu. On a daily basis we collect

around two tonnes of waste. By the end of 2023, we anticipate that we will be collecting 20 tonnes per day from these remote high altitude areas that will be recycled. In remote areas, we did not have any problems with wet waste but it is a problem in urban areas. We are now setting up the first biomethane plant to process 2.5 tonnes of food waste on a daily basis in Kullu district. The wet waste will be converted into fuel that will be supplied to people in the area at a subsidised rate.

It is important to sustain these MRFs. When we start an MRF, we connect with the local community, we engage with them and identify individuals who can work on the initiative. There is some stigma attached to dealing with solid waste and many people call me a glorified rag picker. We started training individuals to collect the waste material and sort it. We then invite recyclers to the facility to train them to segregate the waste properly so that they can extract maximum benefit from the collected waste. This is sold to the recycler and a user fee is collected from hotels and commercial establishments. This money goes back to the person who runs the MRF. Nothing comes to Healing Himalayas or anyone else. This keeps them motivated to continue working towards the cause and become our ambassadors. We are replicating this model across all high altitude districts and it is sustainable. We must treat people who collect waste with more respect and dignity and make them feel included in society. So far they are thinking of it as a job but if we extend respect to them, they will own this very important role.

In the third phase, we are trying to figure out how to dispose waste in the district where it is collected. Now, we transport materials to the plains, which leads to more emissions. The solution is to ensure that every district has its own mechanism for recycling of different materials. We are establishing the first such facility in Kufri near Shimla. This is a small scale facility but we are setting targets on a daily basis. This is a sustainable approach.

We will continue focussing on some key aspects. We are working with students to help them understand the problems. Once someone picks up someone else's waste, they will never litter again. We have been practicing circular economy for many centuries though the term was coined more recently. This philosophy has been part of our culture and traditions for eons. We should not only revive these traditions but also revive natural springs so that people do not need PET bottles.

Technical session 2: Social inclusion and cultural values

Dr Monisha Ahmed

Ladakh Art and Media Organisation

■ Cultural heritage tourism is a fast growing segment in Ladakh. Globally, it is said to be worth over USD 1 billion with Asia alone earning around USD 300 million from cultural heritage tourism. Cultural tourists often stay longer and spend more money. They come looking for a meaningful experience of a place that is more memorable. They want to learn and gain and enrich themselves. In turn, this has an impact on the places they visit as it creates jobs, revitalises historic sites, and crafts become more viable. There is a positive social and economic impact as it reinforces identity and pride in one's identity.

An example of how heritage is brought to the forefront is Ladakh Festival, which includes a procession from Leh Palace. It draws attention to heritage buildings, rich textile traditions, and various music and dance forms.

Ladakh is often portrayed as a place that is very remote. People say that before 1974 very few tourists visited Ladakh. This is not true as people have been visiting Ladakh for centuries for various reasons. People have come to attend the Hemis Festival, have tea with the king, ride yaks, wear local dress, partake in local vices like smoking a hookah etc. Some of the earliest travellers to Ladakh in the early 17th Century actually write about having tea with the King Singge Namgyal. The only time Ladakh was really closed was from 1947 to 1974 and that was for security reasons. So people have always been coming to Ladakh for rich cultural experiences.

Cultural heritage tourism covers a diversity of experiences. For instance, there are petroglyphs in Ladakh that date back to the Bronze Age. Ladakh has religious buildings, crafts, wooden bridges, food, music, etc. in terms of cultural heritage tourism. In fact, it is impossible to talk about tourism without talking about culture. And action is required to conserve this cultural heritage.

Ladakh is a living culture. Culture does not refer only to objects that are seen in museums but also to living practices where artisans make things that are used. This is a very important part of a culture.

I identified three important facets of cultural heritage tourism in Ladakh:

1. Continuities in Ladakh's cultural heritage.
2. Continuities with change
3. Continuities where culture has been irrevocably changed.

For instance, design patterns such as the Thigma are still commonly seen on ropes and belts. It goes back several centuries but Ladakh's cultural heritage is even older and is still practiced today in many ways. Another practice is weaving. There are records of weaving in the 14th Century as evidenced through wall paintings. There are records of weaving in the 1900s and it continues even today. The only change that has happened now is that a lot of the male traditional weavers have stopped weaving and women have taken over the craft. Built heritage is another such practice. The streetscape of Leh town provides us a glimpse of how this has changed drastically over the last 10 years.

Once you knock down a building, you cannot really build it back to what it was. It was a historical structure that had meaning and history. That has a place in the lives of not just of people in the past but also for future generations to understand what Ladakh is all about and give them a sense of pride in their identity and culture. A lot of destruction of heritage has been taking place, especially of built heritage. More conversations are needed around these issues.

New genres are also emerging in cultural heritage practice. There are artists who are looking at the landscape in Ladakh and its wildlife, folk stories, and songs, which they are reinterpreting in their own way through art. Cultural heritage is also transformed, it has new mediums of expression, and that is the whole vitality of Ladakh. Its cultural heritage is still there, though some practices are dying out, others continue and yet others are being transformed with new forms taking their place.

The challenges of heritage conservation

Dr Sonam Wangchok

Himalayan Cultural Heritage Foundation

There is a Ladakhi word called 'Stendel', which means interdependence. The word 'sten' means depending on each other and 'del' means connection. When we talk about heritage in Ladakh it is all interconnected and interdependent. So we cannot separate tangible heritage from intangible heritage. When we are talking about tangible heritage, the intangible heritage is always there. If we are talking about a palace, a monastery or even a house, there is always a story and history behind it. Similarly, cultural, natural and wildlife heritage are also interdependent and interconnected. So the word 'heritage' includes everything and 'stendel' is very relevant to it.

There is another relevant Tibetan word called Rinthang, which means value. When we talk about heritage we have to think about its value. In fact, the value is the most important thing about heritage. Until and unless we do not understand the value of the heritage, we will not preserve, enjoy, appreciate, and respect it. So we have to understand the value (rinthang) of the heritage,

Leh palace is a good example of how all forms of heritage are interconnected. From outside, we see Leh palace and feel pride given its known history going back to King Singge Namgyal. In addition to the architectural and economic value it also has intangible value. For example, there are folk songs dedicated to Leh palace, which provide a lot of information about it. One song describes how every brick bears the blessing of Lama Staksang Raspa who was a close associate of King Singge Namgyal and had blessed the palace. In addition, it is said that because of the blessing of Lama Staksang Raspa and the skill of the masons, the stones and bricks of Leh palace will never fall outside even if there is a major natural disaster. It will always fall inside. The belief, respect and faith in the learned monk are part of the intangible heritage connected to a tangible heritage structure.

There are so many values associated with heritage. It could be natural, cultural, tangible, intangible, religious, spiritual, architectural, historical, artistic, social, economic, educational, agricultural, etc. It is because of these values that we want to protect and safeguard them. The agricultural value of Leh palace can be deduced from the fact that Leh palace was built on a hill as the king did not want to disturb agricultural activities in the fields below, which were of great importance in those days.

Heritage faces many challenges. One of the biggest challenges is related to value. The lack of understanding about

the value of heritage is one of the biggest problems I have observed in Ladakh. Most heritage sites are neglected, abandoned, destroyed, damaged because people do not understand their value. For example, many tourists visit Thiksey village where they visit the monastery. However, there is another site in the village called Nyerma that is not visited by anyone. This second site is historically very important and is believed to be over a thousand years old. It is said to be the largest Buddhist university in Ladakh and was founded by Lotsawa Rinchen Zangpo who used it as a base to commission the 108 temples that he built across the western Himalayas. So it is a very important site, but there is little understanding of its value by the administration, tourism department, tour operators and even local residents. Some scholars and researchers understand the importance of the site but their understandings are mostly in research papers. This makes it very difficult to conserve, restore, and preserve this site and promote it for tourism.

At the same time, Ladakh is an open museum. There are rock art sites almost everywhere in Ladakh, especially along various rivers. Sadly, we have not understood the value of rock art and many of them have been damaged during road construction. We have lost many such sites already and are still discovering others. We have so far identified 400 rock art sites in Ladakh. These sites are important sources of information especially if you want to know about the earliest human residents of Ladakh.

Another example of this is a unique fort near Sumoor village in Nubra. There are no forts like it in any part of Ladakh or even in Tibet. There is no information available on this fort. However, the fort is still there but has been kept under wraps. I feel such heritage sites should be promoted for tourism. Some argue that it should be kept as a secret as it would otherwise be spoilt and polluted, but I would say that if we keep it a secret, it will be ignored and suffer more damage. Such sites should be restored, conserved, maintained and then promoted for tourism.

Similarly, Ladakh has many caves, which have their own unique history and stories. Some caves have beautiful paintings inside, which have not been promoted for tourism at all. Before building huge monasteries in Tibetan style, our monks, hermits and meditators used to live in such caves as did traders and travellers as there were no accommodation facilities at the time. Such caves need to be studied and researched. For instance, we often say that Ladakh was part of Zhang Zhung (western Himalayas). When we speak about this aspect of history, such caves are the only source of information and evidence. Based on the evidence they contain, I can confidently argue that at least upper Ladakh was a part of the independent kingdom of Zhang Zhung. In addition, we also need to document the intangible heritage of these caves especially stories, oral history, and folk songs.

Another challenge faced by heritage, especially architectural and built heritage, in Ladakh is climate change. An example

of this is the damage suffered in the 2015 floods, by Zimskhang house in Kyagar in Nubra, which belonged to a noble family. It can still be restored and revived but so far no effort has been taken in this regard. Climate change-related flash floods and rain have caused damage to wall paintings, Thangkas, religious objects, etc., in monasteries. These monasteries are built from stone, mud and wood. So, a major challenge is to adapt these structures to withstand the impacts of climate change without compromising on their heritage value.

Perhaps one of the biggest challenges and failures we have in heritage conservation is the absence of a heritage policy and guidelines. I have been raising this issue with the district administration in Leh and Kargil as well as the Administration of UT of Ladakh. The absence of a heritage policy and guidelines means everything happens according to individual whims and fancy. A lot of heritage sites have been damaged due to the absence of a policy and guideline that would determine how something should be conserved.

The lack of such a policy has resulted in the irreversible loss of heritage. For instance, Panamik is a very important site in the context of trade with Central Asia as the traders would rest and celebrate when they reached this village after crossing several dangerous mountain passes. They would also celebrate at Panamik before they embarked on the journey back to Central Asia given the dangers the journey ahead. There was a sacred Chorten (stupa) in Panamik village with a path below it that dated back to this era. People used to walk below the Chorten to receive its blessings. When I visited the site in September 2022, the Chorten was gone and in its place a link road had been built through the area.

Similarly, there was an old mosque in Chalungka village in Nubra that was built in a traditional style using local mate-

rials. When I visited the village some years back, I observed that the old mosque had been demolished and a new one was being built in concrete with token Ladakhi architectural elements. I observed similar changes in Thang village near Turtuk. It was recently opened for tourism and I was thrilled that tourists would be able to see some of its beautiful architectural heritage structures that had a unique value. However, when I visited the area in 2021, I could not find this structure and was pointed to a concrete structure that had replaced it.

There are Mane walls in different parts of Ladakh. These are not just important to Buddhists but also contain inscriptions that are of immense historical value. For example, I found one inscription on a Mane wall in Nubra valley. I had known about one king who ruled over Nubra before King Tashi Namgyal captured Nubra to make it a part of Ladakh. One of the inscriptions on a Mane walls gives the names of four kings who had ruled over an independent Nubra kingdom before it became a part of Ladakh. There is a lot of such information on Mane walls. However, many of these walls are being lost for road construction without any form of documentation. Since there are no guidelines for identifying and managing heritage sites, people are free to do whatever they want.

In conclusion I would say that for heritage conservation we need to understand the value of heritage, which will instil respect. In addition, management of heritage is very important be it for tourism or development. In this regard, management of change is the key. This will require a heritage policy and guidelines. In the absence of such a policy and guidelines, we will continue losing our heritage sites at a rapid pace.

Traditional architecture and tourism in the IHR Mr. John Harrison

Conservation architect

I am a conservation architect with a special interest in Tibetan architecture. I have been travelling, documenting and sometimes restoring buildings in the Himalayan region since 1985 from Hindukush and Baltistan to Ladakh and Nepal to Lhasa and Bhutan. Most of my work has been in Ladakh in Leh, Kanji, Wanla, Skurbuchan, and in Mustang in Nepal, which is along the Nepal-Tibetan border.

Historic buildings are important as they are a visible and tangible evidence of history. They provide a sense of continui-

ty in a place to hopefully counter the rapid changes of modern life and make sense of the chaos around. If we agree that historic buildings are important, and this is by no means a universal agreement, how do we ensure their survival? Major buildings such as the royal palace, the Tisuru stupa, and monasteries are listed as national monuments and protected under law by an overstretched and underfunded Archaeological Survey of India (ASI). In Nepal, the Department of Archaeology is in a similar position. More extensive lists of historic buildings and cultural relics have been prepared by Indian National Trust for Art and Cultural Heritage (INTACH) and by Namgyal Institute for Research on Ladakh and Culture (NIRLAC), which is now defunct. These cover petroglyphs, stone figures, stupas, village temples, and important houses. None of these are protected in any way. Forget the ordinary traditional houses of farmers in villages that were an integral part of the Ladakhi landscape until very recently. This vernacular architecture has literally

been a part of the landscape in Ladakh, Nepal and across the Himalayas. They are made from the rocks, earth and trees on the site. This architectural style can remain in use. It does not have to be abandoned or demolished and replaced by new concrete structures. It can continue as housing accommodation as Tibet Heritage Fund has demonstrated in Leh's old town neighbourhood. They have worked on over 40 houses in the old town that have been repaired, refurbished, and upgraded for 21st Century lifestyles. Or, a change of use can be found as with Ladakh Arts and Media Organisation (LAMO). They converted the Munshi and Gyao Houses into a flourishing art centre located just below the Leh palace. I first reviewed the house in 2003 when it was in a ruinous state after it had been vacated by the owners around 20 years earlier when they moved to a new concrete house they had built on fields outside the old town area.

The old town of Leh is a unique survival. It is an urban ensemble that is not just the palace and the temple, and the castle above but the whole structure of houses and lanes climbing up the hill side and tunnelling under buildings. It must be preserved as a physical structure and as a living community, which it still is. It must not become a museum exhibit.

Outside Leh, there are a number of fine old houses that have been converted into hotel and guest house use or family houses upgraded to provide homestay accommodation. This is a positive conjunction of tourism and conservation. An interesting case of changing attitudes is the Moljoks house in Saspol where the parents moved out of the old house some 20 years ago and built a new concrete house next door. The son of the family has rescued and restored the old building as a boutique guest house.

Tourism can play a part in architectural conservation by providing funding for restoration, conversion, and maintenance. However, mass tourism can also destroy it by sheer physical pressure on fragile monuments. It is for this reason that the English National Trust has introduced a pre-booked appointment system in some houses to control the number of visitors. Similarly, the city of Venice is limiting the number of day visitors to the city.

Historic building restoration needs skilled craftsmen. The labour situation has changed considerably in recent years. The old master builders (mistris) are dying out and not being succeeded by anyone. Construction is perhaps not seen as a suitable occupation by educated youth. So much of the building work for new construction as well as restoration is being done by seasonal migrant workers from Doda, Bihar and Nepal. Skilled carpenters and masons can learn and adapt but they have not been born and raised in local building traditions. THF had a largely Ladakhi workforce over their 20 years work in Leh as they provided year-round employment. They have now established the AAA House in the old town which expands to Artisans, Artists, and Architects and is also called Himalayan Bauhaus. It is a sort of a craft guild to bring together painters, metal workers, weavers, as well as carpenters and masons.

Young architects in Ladakh are beginning to explore the potential of traditional material as well as methods such as rammed earth used in ways that do not necessarily copy traditional forms. This gives some hope to counter the endless concrete hotels with fancy woodwork over the windows pretending to be Ladakhi. I fear that Leh, apart from the old town, is already a lost cause. It has been destroyed by mass tourism.

Cultural heritage: The seemingly intangible and the story of tangibility in Northeast India **Smt Mary Therese Kurkalang**

Independent cultural curator and social researcher

■ Let me start with a story. There were once two men who were very good friends. One was poor and the other was rich. The poor man frequented his friend's house often and he was never allowed to leave before he had eaten a proper meal of rice, meat and vegetables. One day, the rich man went hunting near his friend's village and decided to drop in to visit him. The friend was thrilled and welcomed him. He called out to his wife and asked her to cook the finest meal for his good friend. The wife looked sadly at the empty bas-

ket, which they used to store rice in the kitchen. There were just a few grains left in it. She decided to run to the village shop and beg for supplies on credit. When she reached the shop, the shopkeeper refused to give her anything without clearing past dues. She begged and begged but he was firm in his refusal. She walked back home dejected and sad that she could not fulfil her husband's wishes. She reached home in this state and on entering the kitchen her eyes fell on the meat knife lying in the corner. She was in such a state of distress and hopelessness that she took the knife and slit her throat. In the meantime, the two friends were chatting in the courtyard. The poor man called out to his wife to ask if the meal was ready. He received no response and walked in to check on her. To his dismay, he found her lying dead next to the empty rice basket. He immediately understood what had happened. He could not bear his grief and shame. He proceeded to take the same knife and slit his own throat.

The friend sat waiting in the courtyard and started getting impatient. He called out to his friend and got no response. He stepped into the house to find him. When he saw the husband and wife next to the empty rice basket, he realised what had happened. He wailed and his sorrow and guilt grew heavy on him. How could he continue to live after what he had done to his best friend? He took the same knife and slit his own throat. In the meantime, at the village shop a man was caught stealing. The shopkeeper raised an alarm and the thief ran away. The villagers joined in the chase. As the thief was running away, he spotted the house and it had no lights inside. He thought it was empty and ran inside to hide. It was so dark and he was so exhausted that he fell asleep. At dawn, the thief awoke with a start and saw the three dead bodies lying next to the empty rice basket. He thought to himself, "It is bad enough that the villagers know I am a thief but if they think I am also a murderer, they will surely kill me brutally. It is better that I kill myself." And so he used the same knife to slit his throat.

After a few days the villagers realised that the house was strangely silent. No one had seen the couple anywhere. The village council decided to investigate and went into the house. When they entered the kitchen, they saw the four people dead next to the empty rice basket. The wise old village chief realised what had happened. He announced that from that day on the rich and poor alike are only obligated to offer guests that which grew plentiful in the land; areca nut and betel leaves. This would ensure that there would be no repetition of what had happened here. So to this day, when you enter a Khasi home, you will be given a piece of betel leaf with a little bit of lime symbolising the husband and wife, a piece of areca nut symbolising the friend and some people stuff a little bit of raw tobacco leaf to the side of the mouth to symbolise the thief.

That is a Khasi folktale. The interpretation is my own. There are many other versions that you might come across. The areca nut and betel leaf is now sold at INR 2 per piece. Our folk stories, especially those belonging to indigenous oral cultures, are part of our cultural heritage. Do they become tangible when they are written and printed in books? Are they intangible when they are passed down by word of mouth? Are there ways in which wisdoms behind these stories can be shared? Could there be a school of thought in philosophy or agriculture or environment or conflict resolution or law studies that would include indigenous wisdom?

Culture and heritage can be viewed from different perspectives and there are intersections between policy, economy, environment, cultural identity of people and places and the ever changing nature of this identity. Speaking about the cultural heritage of Northeast India, it is home to over 200 languages, many of which have died and are dying. In this context, I recall Prof. Ganesh Devy's words, "When a language dies, an entire culture dies with it."

In one of my recent research and documentation projects, I had to visit and see the way in which artisan clusters were working with bamboo, silk, clay and wood. As I travelled to remote villages and trekked through forests to meet some of them, I realised fairly quickly that documenting the craft as a product or purely from the perspective of the making process from material to end product would do a great injustice to the practices. All of the rich layers of the way in which different communities understood the material they worked with, the soil it came from, the season in which to cut, and that the objects they made did not have to last forever but would organically wear out. They did not feel separate but rather in community with what they created. For example, I observed a community that had moulded clay by hand for generations without the use of a wheel. The clay was taken from a designated spot in a mineral rich valley to which they alone had rights. However, they could only take the clay once a year after completing elaborate rituals and then let the area remain undisturbed until it had replenished itself. The objects they created from the clay, had and still have very specific utilitarian function and ritual value.

Recently a grant was given to this community to showcase this special craft to visitors. They built a concrete structure with a modern oven designed and installed by a few urban designers. The village was a little distance from the structure and knowingly or unknowingly remained hidden from the structure. The valley where the clay came from was a long, trek away. I cannot help but wonder if a visitor or a tourist came to the concrete structure they had built to see the women potters and purchase a cup or plate or a pot from them, perhaps bargain with them over the price. What cultural exchange would have taken place in this instance? Who benefitted from this exchange? Would the objects they create have a higher value with proper storytelling, appropriate packaging, and priced a hundred times more in a far away city in Japan or a designer store in Delhi or Mumbai?

Cultural tourism in Ladakh

Smt Portia B. Conrad

Jamia Milia University

Shri Gulzar Hussain

Frozen Himalayas

Dr. Asif Hussain

Administration of UT of Ladakh

■ Ladakh's culture has evolved and flourished over centuries given its strategic location as a gateway to the Silk Route trade. It has remained a melting pot of lifestyles. There has been a lot of cultural exchange across this larger landscape. For instance, when Balti Princess Gyal Khatoon married Buddhist King Jamyang Namgyal, it provided a major cross cultural exchange particularly in Leh. Similarly, traders who travelled through Ladakh too, left their cultural imprints in the region.

Tourism is an integral part of Ladakh's economy while it has also been blessed with a unique tribal culture. Our research suggests that while we showcase the cultural history of Ladakh, there is a need to preserve it. An evolving narrative of Ladakh's cultural history is very important. The existing literature on Ladakh's history depends primarily on old history and does not reflect the local communities. In this regard, the term sustainable requires more discussion and debate. In addition, there is need to focus on infrastructure that connects Ladakh's cultural heritage with its economy at the core of which lies tourism.

There is an urgent need for the Tourism Department to reinvent itself. While there are incentives to use local material, common people often do not have the knowledge or the resources to use these materials. In this regard, the Tourism Department needs to have a team of architects as well as structural engineers who can actually implement and assist with the use of local material. This will ensure that infrastructure being built or restored is done properly.

The workforce behind tourism in the IHR

Dr Vincent Darlong

Martin Luther Christian University, Shillong

■ I will focus on the workforce behind tourism. They are the wheels and lubricants of the tourism sector. Tourism is one of the largest industries globally and also in the IHR. When we look at the labour force in the tourism sector, there is an organised and an unorganised sector. In the organised

There have been discussions on the need to focus on quality tourist. However, there has been little or no discussion on what 'quality' tourist means. A lot of responsible tourists, especially international ones, arrive in India between November and April. Unfortunately, in this period Ladakh sends the message that it is closed. Perhaps the time has come to promote Ladakh as an all-weather destination.

The data shows that thousands of tourists have been arriving in Ladakh each month, especially in 2021 and 2022. For instance, in May 2022 there were 1,036 international arrivals and 90,000 domestic tourists. These numbers are alarming given the context of Ladakh's ecological fragility. Ladakh cannot accommodate such a large flow of tourists in a month. The data also shows that in 2022, in a period of 2.5 months, more than 2.5 lakh (0.25 million) tourists visited Ladakh. The recommendation to open Ladakh as an all-weather destination is based on the fact that Ladakh currently now has the infrastructure to host tourists even in the winters.

Furthermore, when we talk about sustainability, often the focus is on infrastructure in terms of how facilities are built, the material they use, the use of technologies, etc. We seem to forget that sustainability starts by putting local produce on the menu. This is an important way to reduce the carbon footprint of each tourist. It is thus important for us to include local produce and make it mandatory to include local produce, vegetables and cuisine on the menu of every hotel and restaurant. That will help us become a sustainable community.

Destinations such as Pangong are not equipped with public conveniences to accommodate a large inflow of tourists. In a day around 4,000 tourists visit Pangong. We often observe long queues outside toilets in places like this. We need to install more local toilets in the area as water toilets are polluting. There are prototypes being developed that adapt traditional dry toilets for use by tourists, which needs to be explored further. Finally, Leh has become a concrete jungle and we need to take tourists away from Leh town to rural areas. There are thousands of homestays already but we need to rethink and upgrade these homestays to bring them at par with facilities in Leh to host quality tourists that we want to promote.

sector, we could say that the first stakeholder is the government that brings about policies, procedures and practices for tourism. Then we have the professional and academic institutions that train human resources, the students who are being trained, and the professionals who are being trained to enter the tourism sector. Then we have the travel and tour operators who actually put every wheel and lubricant into action from ticketing to hospitality to tour guides to advertisement of destinations. Then you have the media that connects the destinations and the potential tourists. The unorganised sector includes communities that live in the location of the

tourism and the destination. They are a part of the workforce. They are not trained by professionals but are trained intuitively by themselves, by practice and by their own local knowledge. This is an asset of the Hindukush Himalayas. I would also like to mention indirect unorganised sector in the form of the public. They are potential tourists that need to be connected in a different way to make them responsible tourists. Actually it is that unorganised large public sector that needs to be educated about responsible tourism including the basic etiquette of tourism.

Gender and the tourism industry Smt Thinlas Chorol

Ladakhi Women's Travel Company

I am from Takmachik and grew up in the village. As agro-pastoralists, we grazed our animals in the mountains. As a child I used to thoroughly enjoy going into the mountains with the livestock. Later, I moved to Leh and I was in the Student's Education and Cultural Movement of Ladakh (SECMOL) for a few years where I learnt English. When I was studying in college, many youth started working as tourist guides. I also wanted to become a guide as I had trekked some famous routes including Markha valley and Sham. I discussed this with many volunteers at SECMOL and they encouraged me to become a trekking guide. So I visited two travel agencies. The first one told me they would hire me if I was willing to be a monastery guide. I told them that I do not know anything about monasteries but I know a lot about mountains and I knew these routes well. They refused. The second agency said that they organised groups and that I could not go with them as I was a woman and that our culture was different.

Later on, I went on to complete a basic mountaineering course followed by an advanced mountaineering course where I learnt first aid and other skills. Then SECMOL started Around Ladakh with Students and I worked with them for a little while. Through this I got to know many travel agencies and started working as a freelance guide. Tourism is a major source of income in Ladakh and it creates a lot of jobs.

Finally, in 2009 I started Ladakh Women's Travel Company for two reasons. I used to meet a lot of women who would ask me to take them along with me on treks as a helper. Secondly, many tourists appreciated women guides and would tell me that they have not seen a women trekking guide in any other part of India. I have also seen female travellers who have had problems with their trekking guides

I remember my own experience in Bhutan where I observed how much the government has done on this. I have seen at least one group that had come in from Italy. The first thing they were given on the first day was a briefing. Every group has to come through their own organised tourist travel centre. The briefing that was given included what they should do and what they should not do along with information on punishments for non-compliance. I think that is where we are lacking and that is what we need to focus on. Whoever brings in the tourists must take on a part of the responsibility.

including sexual harassment. Therefore I thought it was a good opportunity to connect the two. Women were working as monastery guides and there were very few mountain guides and I trained girls who were interested in becoming mountain guides.

There are very few women working in the tourism sector due to social restrictions and norms. Traditionally, women were not even allowed to touch the plough or enter some monasteries. The village is run by an elected called Goba but women are almost never elected to this position. Earlier, they were not even allowed to attend these meetings. Traditionally, women did not have property rights. Despite this inequality, women work very hard and contribute towards society's development. Historically, women would do all the work in the village. They are forced to shoulder more responsibilities in the village as men migrate to other places for jobs. As a result, women do all the work including raising children, caring for livestock, supporting elders in the family, and household chores. In some places women have started earning an income by running homestays. Interestingly, in Ladakh women in general are now more educated than men. Nowadays women too are looking for jobs and migrating to Leh in search of employment. Women have been working in the tourism industry for many years but in very specific roles in restaurants, hotels and offices. They were largely excluded from roles such as trekking guides. This is a reflection of Ladakhi society at large where women are not involved in decision-making processes. So far, not a single woman has been elected to the Hill Councils in Leh and Kargil.

Ironically, whenever an event is taking place in Ladakh, women are asked to welcome important guests and serve tea and food. That has been the level of women's participation. My recommendation is interventions are needed to achieve equality in Ladakh. Women must be taught to be independent and become empowered. They need support when they start businesses. They also need support to improve homestays. At the social level too we need to make changes. We need to ensure that half of the elected representatives are women. We have several large organisations in Ladakh

working to improve society including religious organisations and political parties. They all have a general wing and a special women's wing. Instead of this, they should have 50% reservation for women in their executive committees. I have been working with various organisations for gender equality and I have noticed that in these organisations, the men have large offices with sofas and other facilities, while women office bearers have very limited facilities. We need to educate

parents to ensure that sons and daughters are treated in the same way. Currently, girls are asked to do the cleaning, washing etc., while boys are given other tasks. When men return late, parent's often do not even ask them for a reason. However, if a girl or woman says she will be late, family members start asking all sorts of questions and say that she must return home before dark. We also need to include challenges faced by women in school curricula.

Inclusivity in the tourism sector

Shri E. B. Blah

President

Tour Operators Association of Meghalaya

President

Northeast India Tourism Confederation

The Northeast India Tourism Confederation represents the interest of all stakeholder associations of the eight states in Northeast India, including hoteliers and tour operators. We as stakeholders encounter many problems and challenges in the tourism sector. Tourists coming to the mountains constitute about 20% of all tourists. This is a fairly large number considering the total number of tourists is around 700 million to a billion individuals.

Even 50 years ago, very few tourists would visit the mountains. In Northeast India, it feels like tourism started just yesterday. Even 20-30 years ago, you would find very few tourists visiting Northeast India. When we would ask people why they are not visiting Northeast India, they would say there are security problems, insurgency, lack of connectivity, absence of good accommodation, etc. We were also not geared to receive visitors in Northeast India. However, times have changed. The advent of the internet and social media has allowed people to appreciate the beauty of these places, people, culture, the mountains and tourism assets. Now you have many tourists coming to the mountains, including Northeast India. However, local communities have to learn a lot of things. They have to be professional in whatever they are doing and be at par with professionals in other parts of India as tourism is a service industry. This will require a lot of capacity building and training for local communities.

We are now emerging from the COVID-19 pandemic, which forced people to change their thinking in the tourism industry. The 2022 theme of world tourism is 'rethink tourism'. The word 'rethink' has come because of COVID-19. The pandemic was a big blow to tourism. We had to learn

ways to survive the pandemic. First, they are thinking of re-viving tourism and now the focus is shifting to rethinking tourism. Everyone has to be a stakeholder if we are thinking of tourism. This is because tourism impacts everyone's lives especially in the IHR. We cannot have big industries in this region. Thus, tourism is one of the main sources of livelihoods in these areas.

What we lack is convergence of government as the facilitator of tourism, various stakeholder groups, knowledge partners (institutions offering tourism courses), and security forces. We cannot do tourism without convergence. For instance, the government cannot develop tourism infrastructure without incorporating the views of all stakeholders. We also need monitoring to ensure that tourism projects are completed well before time and are of the highest quality. For instance, the services that were offered in a hotel or a guest house about 20 years ago are very different from what is offered today.

In addition maintenance of assets created is very important. For instance, viewing points are built in mountain regions but they are rarely maintained and within a few years they are no longer useable. This is due to the lack of belonging emerging out of a lack of convergences between different stakeholders. Tourism cannot be sustained unless it benefits the local community. It is important that all services and businesses are owned and operated by local communities. One can have business-to-business connections but this must benefit local communities. About 10% of the global GDP comes from tourism. However, I was surprised that in 2018 when a million visitors visited Meghalaya, the actual contribution of tourism to the state's GDP was below 5%. This is because many activities have been taken over by travel agencies from outside. If the entry and exit points fall outside your area, outside agencies will be able to offer the services at a cheaper rate and they will send their vehicles to your area. This means not only will you not generate an income but also payments to the government in terms of registration of vehicles, etc., will not take place, which are reflected in the GDP.

Generally, local tour guides are the best source of information about a place. There have been several instances of independent travellers getting lost or reaching places after

dark because they relied on information from the internet and navigation information on their phones.

Some years back, the United Nations had launched a programme called Safe and Honourable Tourism, which

required local communities to sign a pledge. Here safety is meant for visitors as well as local communities. So the local community members sign this pledge along with tourists that they will not spoil anything.

The social aspects of tourism **Shri Parvez Diwan**

*Former Secretary
Ministry of Tourism, Government of India*

■ There was a Chief Secretary who has earlier served as Deputy Commissioner, Leh. He was highly educated and was also against tourism. He did not want tourism to become a predominant economic sector especially in Kashmir and the rest of the state. He insisted that it led to the introduction of bad elements. This is true for some parts of India and the world. In fact, some of the oldest tourist sites in India were pilgrimage sites that were famous for conmen. However, Katra has no social evils and it receives more than one crore (10 million) visitors each year. So it is not tourism that creates social evils but the kind of tourists. For instance, sometimes single male travellers travel to specific places with just one thought on their minds and this results in social evils. Katra has people coming in families. Ladakh has people coming in pairs. So in Ladakh you do not observe these social evils. There are many other problems. I was responsible for helping open Pangong, Tsomoriri and parts of Dah-Hanu for tourism. At the time, I thought it was one of my biggest achievements. Today, I have regrets because of the plastic and waste that has been generated. So that is one of the social evils of tourism.

Throwing open places like Pangong might not be a very good idea. At the same time, the Bhutan model cannot be adopted for all of J&K. We should at least adopt it for Pangong and Nubra. Just as tourism brings garbage with it, it also clears garbage. I remember in 1986-87 students from Cambridge would travel to Nepal to remove garbage left behind by tourists. Tourism is a double-edged sword.

Ladakhi architecture is unpolluted and it should certainly be encouraged. But we should understand that today's tourists also want air-conditioning and simple things like lifts. This requires a judicious blend. The definition of local architecture is not important. But in Kashmir it is not so clear. One of the best buildings in Kashmir was a blend of Kashmiri, British and other western styles. When I visited Assam and Shillong I noticed a similar architecture. I had worked at Raj

Bhawan in Srinagar and Jammu. The Raj Bhawan in Jammu was thought to be Dogra architecture. Then I saw Mysore Palace, which was called the Lalita Mahal Palace Hotel, and it had the same architecture. Later I learnt that the architect and contractor for both structures were the same Englishmen. In Kashmir, some of the most beautiful buildings have a British influence. Kashmiri houseboats are about 700-800 years old though they have undergone a British-French transformation with some Kashmiri features.

In Ladakh, the impact of literacy has been unbelievable. We can compare Leh and Kargil as there was no mass tourism in Kargil for a long period. Now Kargil is getting a good number of visitors. However, 20 years ago they were facing some resistance to mass tourism. This was reflected in the levels of development too. Then there was a movement to encourage education. At one point, Kargil was ranked 13 of 14 districts in terms of literacy. At the time Leh was third after Srinagar and Jammu towns in the state. This we can attribute to some extent to outside influence in Leh, which Kargil did not receive till later. All NGOs are not benign however, some of them do good work. For instance, some NGOs in Leh transformed architecture with the introduction of the trombe wall some 40 years back and it has been a great success. Some NGOs have contributed significantly to local education and architecture.

The ideal architecture for Leh and Kargil would be local architecture with some modern conveniences especially in the toilet. I have spent considerable amount of time in Tibet comparing its architecture with Ladakh. In Tibet too the same thing is underway. A concrete building is made and then carved wooden elements are added to give it a Tibetan touch. I feel that the ideal would be local Ladakhi architecture. Often the labour comes from outside and you do not get labour from Ladakh due to the prosperity experienced over the last 40-50 years, Ladakhi labour have out-priced themselves.

Nowadays Ladakh has its own produce. There was a time when most of the produce consumed in Ladakh was sourced from Chandigarh. I was posted in Zangskar for a year. There was no local produce in the market. People produced for their own family. I was the Sub Divisional Magistrate and I used to have no greens to eat as there was nothing available in the market and there was a barter economy and not a monetised economy. There was no vegetable or fruit market.

Leh had a vegetable market even then. This is not only about Ladakh but also about the rest of the country. Should we give tourists our food or the food they want? I have been to various ministries in Government of India where we had this debate. One argument was to give foreigners Indian food to give them a taste of India. A lot of foreigners cannot eat Indian food. I think the balance would be to put a buffet or menu in front of them and let them decide what they want to eat.

The biggest impact of tourism is on employment. We have been marketing Ladakh for 12 months a year but tourists choose to visit in the summer. Another impact of tourism is on local handicrafts. One of the bitter truths about it is that at one point Ladakh did not have a marketing surplus for handicrafts. A lot of the handicrafts were done by Tibetans settled in Ladakh and outside.

I am one of the authors of LAHDC Act, 1995. I know that they have had nominated councillors. This may not meet the 50% criterion. At the same time, Meghalaya seems to be making decisions for themselves. I had the honour of heading the Tourism Department in 2013 and I had insisted that we must expose Meghalaya to the rest of the world. I am the author of Shillong Rocks, which was our music festival in October 2014 in which we brought journalists and tour op-

erators from around the world to Meghalaya. Of course the organisation was done by local tourism department and we in Delhi only provided the money. The results were spectacular. There was double digit growth in international tourists coming to Meghalaya. Rajasthan and Ladakh are two good examples where tourists come to see local architecture.

One of the good impacts that tourism has had on Leh is alternate energy especially solar energy. We have been going in for alternate sources of energy since the 1970s. I already mentioned the trombe wall. We got the first solar panels in Leh. We also had some windmills in Leh. The average person in Leh is exposed to the outside world.

Ladakh is another example which has experienced a revival of local architecture and dress. The first time the tourism department of J&K started a tourism festival in the state was in Ladakh. During one of the festivals, a family in Leh had invited me for dinner. They suggested that people should wear local *goncha* for such festivals. We did that and next year everyone came in the local *goncha*. I tried unsuccessfully to replicate this in Kohima, Shillong, and Guwahati. I would recommend that at least during tourism festivals, we should wear local clothes, display local handicrafts, sell local foods and use local architecture styles.

Technical session 3: Environmental sustainability

Eco-restoration and carbon neutrality for sustaining high altitude environments

Dr G. S. Rawat

Planning Board, UT Ladakh

■ Mainstreaming environmental sustainability through tourism and any other developmental planning is crucial for addressing the degradation of resources on which tourism and other activities are based. One of the most important resources in this regard is the vast alpine landscape that encompasses rangelands, high altitude wetlands, glaciers,

snow peaks and other features of the landscape, which are also home to unique cultures and biodiversity.

These high altitude rangelands are important carbon sinks and also provide numerous ecosystem services. There have been concerns about excessive use and diversion of land in these landscapes, including rangelands and wetlands in the form of off-road driving, fragmentation of landscapes, degradation of habitats and rapid expansion of built environment. These are important concerns.

Recently, the Administration of UT of Ladakh formulated a plan for the management and development of rangelands in the region, which includes plans for the scientific management of these rangelands to increase primary productivity of the land, restoration and improve herding practices.

Tourism, sustainability and carbon neutrality

Dr Rajan Kotru

Redefined Sustainable Thinking

■ Most people regard Ladakh as being ecologically fragile. I would not use the word 'fragile'. Instead I would use the term 'delicate' as Ladakh is dominated by rangeland ecosystems. In fact, around 40% of the world's ecosystems are rangelands and pastures. They are a very important ecosystem. The rangelands of Ladakh make it very different from other Himalayan ecosystems.

It is ironic that the Alps receive 150 million tourists each year but it remains neat and clean. On the other hand, Ladakh receives around 3 lakh (0.3 million) tourists and it is struggling with plastic waste, various forms of pollution and over-extraction of natural resources.

It is very important to make tourism sustainable. There are various plans and vision documents but at the end of the day, there are little or no restrictions in Ladakh. Each time the word 'regulation' is used, someone or the other protests. We seem to forget that places around the world use regulations to manage the negative impacts of tourism.

I would argue that access to Pangong lake and other wetlands in Ladakh should be regulated. It is important to choose the kind of tourism you want and the kind of livelihoods people want in rural areas.

Carbon neutrality includes strategies to sequester carbon. In this regard, maintaining the integrity of rangeland ecosystems is an important strategy to fixing carbon. Carbon neutrality also includes reduction of greenhouse gas emissions. An IPCC report from 2020 claims that 23% of all emissions comes from land use change. This includes land use based on natural resource management, rangelands, forests, wetlands, and peat-lands, which are important ecosystems in Ladakh and sequester large amounts of carbon. As these land use patterns change, carbon is released in to the atmosphere, which contributes towards climate change. Such emissions can be reduced through planning and regulation of land use change.

Several reports on climate change over the last two decades have stated that most of the world's ecosystems have degraded and must be retrieved and restored. There is thus a need to invest in ecosystem restoration and rehabilitation of degraded agricultural and rangelands. However, ecological restoration does not mean changing land use types or ecosystem parameters say by planting trees in a desert or wetland area.

These are issues that will need to be considered in Ladakh with regard to long-term rangeland management and carbon neutral tourism. If we are looking for nature-based

solutions, then we have to look for what was traditionally done in these areas and how value can be added to those practices. Can the same technology be used in a different way and can value be added to the management of farms? These are important questions. The concepts of food insecurity, climate change mitigation and adaptation are mutually inclusive. If one does not mitigate climate change, then adaptation costs will increase multi-fold.

Tourism is estimated to contribute around 8% of total greenhouse gas emissions. In Ladakh, this is probably higher as there is a positive correlation between number of tourists and emissions. ICIMOD had conducted a study of rangelands in eight countries including Tajikistan, Afghanistan, Pakistan, India and China. They identified a range of ecosystem services provided by rangelands in these regions. Currently, we do not recognise the ecosystem services provided by these rangelands including biodiversity, carbon storage, soil minerals, income through tourism, natural beauty and water resources. Now artificial systems such as solar panels are also being added to this landscape to generate energy though their impacts have not been studied yet.

Unfortunately, very limited research has been conducted on rangelands in this area. It is difficult to estimate how much carbon is stored in 1 hectare of rangeland in Ladakh or in western Tibet, which has a similar landscape. It is important to study and monitor changes taking place in rangeland ecosystems. Climate change is already having an impact on the landscape and we must be prepared for the impacts of a temperature increase of 2.5 degree or even 3 degree Celsius by 2050. In this regard, we must be realistic as different policies have been drafted and adopted in the past with an implementation deficit in Ladakh.

All major climate change-related agencies recommend a landscape-based approach to management. Ladakh is a classic example that requires a landscape-level approach for management. However, it is very important that policies are developed through multi-stakeholder dialogues. This cannot be left to one or two government departments or tour agencies. It must involve every department, civil society organisation as well as other stakeholders. In addition to planning, one also requires monitoring, which will help determine future courses of action.

Watershed management and disaster preparedness in the context of climate change

Shri S. T. S. Lepcha

Chairperson

Sustainable Development Forum of Uttarakhand

Former Principal Chief Conservator of Forest, Uttarakhand

Fresh water availability is limited and nearly 97% of the Earth's water resources are in the oceans and unusable. Water remains a critical resource for all life-forms. In addition to local communities, the tourism sector also requires water to support a large floating population. Similarly, many mountain regions in the IHR are experiencing internal and international security issues, which require the presence of security forces. Thus, water resources will remain a critical resource in these areas for the foreseeable future.

Uttarakhand is an interesting case study in terms of water resources. It receives rainfall and snowfall in different parts. However, even if we are able to harvest around 4.3% of the total rainfall received by the state, it would be sufficient to meet the demand of the whole state.

In this regard, community participation is crucial for water conservation. For instance, the Jahnvi Naula in Kumaon, Uttarakhand was constructed in 1263 CE and is still function-

ing well as people continue to use it. The important thing is that people have ownership over this spring. In contrast, when the government builds a water management system, people do not have the same sense of ownership and this often leads to failure. This is why we need to integrate community participation from an early stage of any water conservation initiative.

Spring development and watershed development is very critical and a multi-sectoral activity. Generally, convergence is difficult in the government system. NITI Aayog recommended that states form a Spring-shed Management Consortium. Based on this, Uttarakhand created its Spring-shed Management Consortium in 2018. It has 22 members including NGOs, line departments, experts etc. Since 75% of Uttarakhand is under forest, the Forest Department has taken the lead in this consortium with other departments following.

As part of this we did a state-wide survey. Public Health Engineering Department provided data on springs that were dying. This data revealed that an estimated 1,000 to 2,000 springs were dying in the state. Around 95% of the springs were located in reserve forests and the Forest Department has a budget head for such activities. Thus, the Forest Department used its Soil and Water Conservation budget to address this issue. However, the problem was geo-hydrological survey for which the Forest Department did not have the

required manpower. Here, various NGOs came forward to help. These types of convergences are necessary.

Similar organisational structures have been developed in Sikkim too. In Nagaland, the leading department is Land Use Department, while in Meghalaya the lead was taken by River Basin Department and the leading department in Arunachal Pradesh is the Science and Technology Department.

However, there is no need to copy any state in this matter. The structure should be developed organically as per the norms and structures in the state. There are still many gaps related to technology, finance, institutions, trading, capacity and policy. In order to address these gaps, we propose a

four-tiered structure for the Spring-shed Management Consortium:

1. Secretariat level with the Chief Secretary leading
2. Department level from where the command goes to the district level
3. District level, which delegates responsibility to the operational level
4. The operational level is at the Gram Panchayat level

In my opinion, scaling of this activity can be done easily once the structure is in place. In addition, Government of India should also have a similar Spring-shed Management Consortium at the national level.

Land use planning and ecological restoration Shri Reuben Gergan

United Nations Environment Programme

Let me start by discussing the global agenda on ecosystem restoration. This largely comes under the UN Decade on Ecosystem Restoration that was launched in 2021 with a proposal of action by over 70 countries to step up restoration efforts worldwide. The UN Decade on Ecosystem Restoration is co-led by the UN Environment Programme along with the Food and Agricultural Organization of the United Nations with supporting partners around the world and implementing agencies on the ground.

This in turn comes in the backdrop of the 2019 report by the Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services (IPBES). This was a landmark report and it sounded alarm bells about biodiversity loss across the world. It reported that the Earth is at a point of a mass extinction with over one million species of the known eight million species being threatened with extinction over the next few decades. It also recognised that 80% of the assessed targets under the SDGs could be undercut because of the current trends of biodiversity and ecosystem service loss.

It is estimated that two billion hectares of land globally offers potential for restoration. Out of that, about one billion hectares has been pledged by different countries for restoration. That is a little larger than the surface area of China and is in fulfilment of the 2030 SDG agenda.

While these pledges have been made, the UN Decade for Ecological Restoration recognises that it does not match with action on the ground due to various barriers to restoration. These global barriers are also evident in the Indian Himalayan landscape.

These barriers include:

1. Limited awareness across societies on the negative effects of land degradation and conversely the benefits of ecological restoration.
2. There is very little or very limited investment from the public and private sectors into long term restoration projects.
3. There is a scarcity of legislation and policies, including tax incentives and financial incentives for ecological restoration.
4. There is limited technological knowledge on designing, implementing and monitoring large-scale restoration initiatives. There are small restoration initiatives but we currently lack the knowledge to scale these up to the landscape level.
5. There have been limited investments into long term research on ecological restoration.

Three different pathways have been identified under the UN Decade for Ecological Restoration to overcome these barriers. This includes raising awareness on the benefits of ecological restoration, integration of financial mechanisms for ecological restoration with discussions in schools and colleges, especially best practices of restoration, and the need to sustain a political discourse to enable leaders to champion restoration processes.

After the 2010 floods, there was a plan in Leh town to demarcate 'no development zones' and flood prone areas were actually marked out. However, over time infrastructure development in these areas has actually increased. Until and unless there is political will, regulation of land use practices will not work. The same is true for biodiversity management plans, which will not be implemented until there is a political push to acknowledge fragmentation of habitats and the long term implications of ecological degradation. This is not the responsibility of the Department for Wildlife Protection or Forest Department alone. It is a cross-sectoral issue and we need to promote and build capacities across sectors.

The Post-2020 Biodiversity Framework is currently being negotiated for the final convention in Montreal in December 2022. One of the most important aspects is Goal A that looks at increasing ecological integrity, connectivity and area under protection. The target is set at a 5% increase in the area under protection by 2030.

We must recognise that when we are talking about progress in the Indian Himalayan Region, we are heavily reliant on infrastructural development. Many times, natural and anthropogenic processes are in opposition to each other. This means we need to look at the larger system to resolve such issues. For instance, there have been efforts to promote solar water pumps in Ladakh. However, this initiative has not looked at the larger system. On the one hand, we provide energy security as there is no cost associated with pumping water using solar pumps. On the other hand, the amount of water that is actually extracted in a water scarce region is going to have real implications on water scarcity in

the region. This can have a cascading effect. A farmer may respond to improved access to water in the short-term by opting for water intensive crops with higher evapotranspiration rates. This in turn will disrupt the ecological balance that existed in the region prior to the introduction of solar water pumps.

The Himalayan landscapes are largely fragmented. One of the things that need to be done, especially with tourism planning, is the adoption of a landscape-level approach. This will force us to take a long-term view along with a spatially integrative approach to infrastructure development. We will also need to identify essential and non-essential infrastructure that will be required over the next 20-30 years.

While smaller projects and changes are often done without much planning and evaluation, there is a need to contextualise how such changes, especially roads and infrastructure development, fragment the landscape and push us towards greater biodiversity and ecosystem service loss.

Energy security in resource scarce mountain regions of IHR Smt Kunzes Dolma

Reykjavik University, Iceland

As part of the larger discussion on sustainability and tourism at this summit, I want to discuss the Happiness SDG pyramid (Figure 2). There are 17 UN SDGs with each of them focussing on a specific aspect of development ranging from poverty and energy access to gender equality, peace and security. When these 17 SDGs are arranged in the form of a pyramid, the base includes 10 SDGs that provide an important basis for any kind of sustainable development. This includes poverty, hunger, right to education, gender equality, access to clean water, access to clean energy, sustainable cities and solutions and so on.

I will focus on one of these SDGs i.e. SDG7, which focuses on energy security. However, one cannot look at energy security in isolation and it needs to be seen in the context of the energy-food-water nexus (SDG2 and SDG6). All three of them are inter-related with food security being directly co-related to energy security.

The IHR has been identified as facing moderate food insecurity by the Food and Agriculture Organization. This is partly due to the lack of energy security. The IHR is energy deprived and faces energy insecurity. This is also true for the larger Hindukush region that includes Kazakhstan, Pakistan, and Nepal.

In my opinion, women are the primary victims of energy insecurity. Women perform various forms of household and physical labour including caring for children, rearing livestock, agricultural work etc. Their physical labour exceeds that of men. Since women are using their energy and strength to perform these tasks, they are often deprived of access to nutrition. Studies in Ladakh have shown that women are more prone to being anaemic than men.

Energy insecurity thus amplifies different forms of gender inequality as access to energy is directly related with the ease of working. For instance, if one has electricity, one can use a washing machine to wash clothes. However, if one does not have access to energy or water (in winter, for instance) then one is forced to go to a stream or boil water to wash clothes by hand. This is time and energy intensive and is generally a task performed by women.

Thus, energy insecurity is also co-related to gender inequality. If there is energy access there is a higher chance of achieving gender equality. The absence of women representatives in decision making roles has probably contributed to this situation.

It is ironic that the IHR is energy insecure as the region has enormous amounts of energy resources especially renewable energy sources such as solar, hydropower, hydrogen and geothermal. However, we have to be careful about how we use these energy resources in the context of environmental and social sustainability. In this regard, decentralised energy generation solutions are ideal for the IHR. This will not only provide access to energy but also prevent the need to develop large-scale infrastructure to transmit electricity.

For instance, Changthang in eastern Ladakh is rich in solar energy and well-suited for small solar power plants rather than large solar power plants that cause environmental degradation by their sheer scale. Similarly, Himachal Pradesh is rich in terms of water and small hydropower projects can be developed there. The idea is to prevent over-exploitation of natural resources while still ensuring energy security. One has to take care of the environment as well as the energy needs of the people. Such decisions and policies must be

taken in consultation with local stakeholders. In this regard, there is need to increase participation by women in these processes as they account for half the population and suffer to a greater extent due to energy insecurity.

As regions become energy secure, they will also make progress towards food security and reduce rural-to-urban migration. Less migration will boost agricultural practice and prevent over-crowding and over-extraction of natural resources in urban areas.

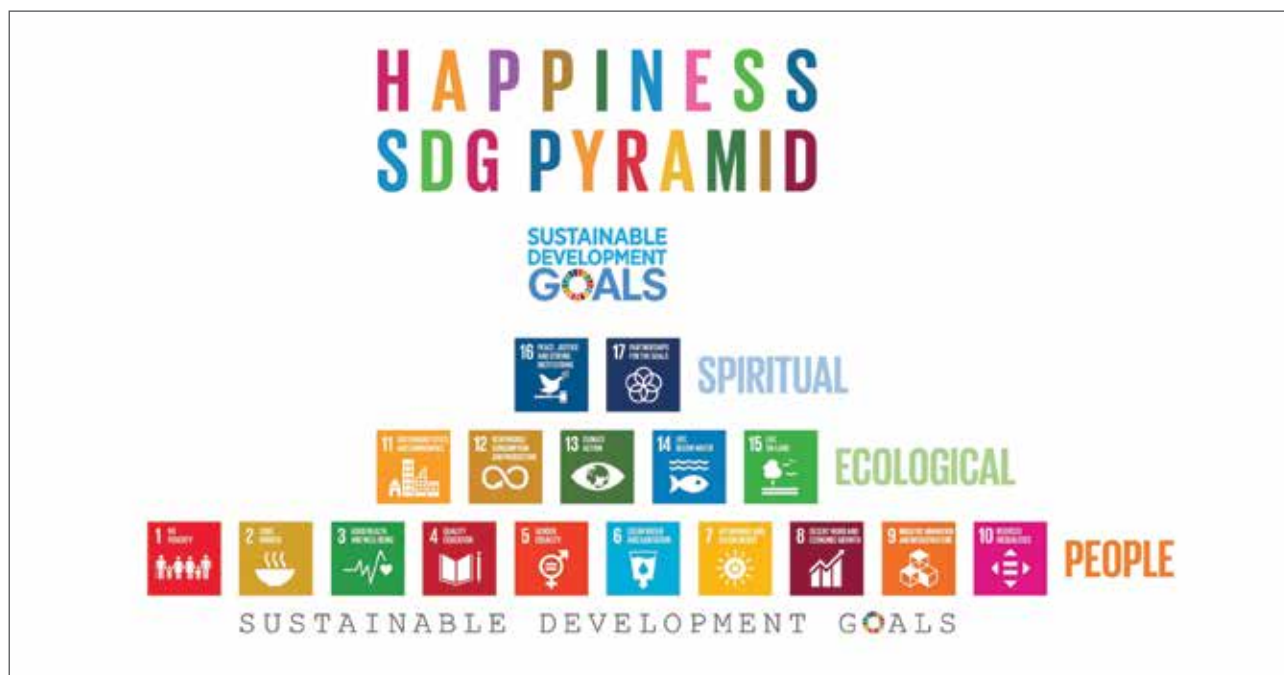


Figure 2: The Happiness SDG pyramid

Water resources and waste management systems in urban spaces

Shri Stanzin Odsal, Smt Phunsok Angmo

Ladakh Ecological Development Group

According to the 2011 Census, Leh town has a population of 30,870 and latest projections put the current population size somewhere between 45,000 and 50,000. The town is spread across 9.15 sq. km. About 92% of potable water supplied to the residents of the town is extracted from ground water out of which 29% is extracted from private bore-wells and 63% from public or government bore-wells. The remaining 8% of potable water is sourced from natural springs.

There are about 25,000 bore-wells in the 9.15 sq km of Leh town, which is more than 200 bore-wells per sq km. Most of the commercial establishments in Leh have private bore-wells. These are among the biggest water consumers in

Leh town. The number of households with bore-wells also continues to grow.

A study was conducted in the summer months with Technical University of Munich, which found water turbidity and hardness to be higher than acceptable limits at many sampling sites. Around 90% of the samples had traces of E. Coli and nitrates in them. This contamination is due to poor onsite sanitation systems or presence of agriculture and live-stock in the area. Around 70% of the wards had high levels of nitrate concentration, which supports the hypothesis of widespread groundwater contamination.

Leh is in a valley with a gradient from north to south and groundwater flows along this axis. Pollutants and contaminants too flow from north to south. Areas in Lower Leh have a higher concentration of contaminants and pollutants as compared to samples collected from Upper Leh. Different land use and settlement patterns also determine contamination levels with very high levels detected in areas with high population density and tourist footfalls, especially in terms of guesthouses and hotels.

Some key issues related potable water management in Leh includes tourism and inequitable distribution of water. While Leh has a population of around 30, 870, the number of tourists often exceeds this number three times over. This needs to be taken into account while planning infrastructure development. Inequitable distribution of water is an issue as some wards have household-level water connections while others are served by private tankers.

Around 95-97% of the water supplied by PHE is non-revenue water. This is due to real losses, apparent losses and unbilled authorised connections. Also, water resources are shrinking rapidly due to climate change, receding of glaciers and melting of permafrost. There is no regulation of groundwater in Leh.

Various measures can be taken to address these issues. In the short-term, strategies include capacity building programmes, involvement of communities in decision-making processes, planned process and improve the quality of servers. In the mid-term, appropriate measures need to be taken to insulate water pipes to ensure that they do not freeze in the winter, the PHE laboratory should conduct regular checks on water quality, implementation of water safety plan for Leh town, mandatory water auditing, waste water management needs to addressed, and restructuring of water tariff each to

make it more responsive to demand and usage. In the long-term, diversification of sources needs to be done, integrated urban water management systems need to be developed in collaboration with different stakeholders, develop Leh town as a sustainable tourist destination with a special focus on water conservation, and make Leh a water-sensitive town

Waste scenario in Leh

We used Waste Flow Diagram to study the solid waste management system in Leh. We collected data once in summer (July 2022) and once in winter (November 2021). While we are still analysing and comparing the data, there are some preliminary findings especially from the winter survey. Leh generates about 0.47 kg per capita per day. This is relatively high when compared to larger mountain towns such as Shimla and Shillong. The accepted norm for urban areas with more than 100,000 residents is 300g per capita per day. The results from Leh are significantly lower than the national average of 0.67 kg per capita per day. However, we estimate that the summer projection will be much closer to the national average.

In total, Leh generates about 9,925 tonnes of waste each year and only 3,350 tonnes are collected and 54% of the waste ends up in dumpsites or landfills while 46% of the waste is collected at a Material Recovery Facility and recycled.

Technical session 4: National security and sustainability

Shri Ram Madhav

India Foundation

■ National security was understood in a very conventional way in the past. However, this has changed now. The concept of national security involves many different things today such as climate security, water security, food security, cross-border rivers, water bodies in the mountains, glaciers, space, science technology, artificial intelligence, cloud seeding etc. It is a vast area. It has huge implications for mankind in general. It also has serious and important implications for the Himalayan region including Ladakh. This region has witnessed the consequences of weaponisation of development. Weaponisation of development is a new form of warfare. As part of it, dams are built to deny water to people downstream, dams are broken to flood people downstream, clouds are seeded to inundate cities downstream with water etc. They change the characteristics and direction of rivers so that arable lands downstream

become deserts. I have observed the Brahmaputra entering Arunachal Pradesh and the water was thick and brown. This water remains un-useable for months. We know about flash floods in Uttarakhand, Himachal Pradesh, and Ladakh. This should draw our attention to how development can become a major threat to sustainability. While it is an opportunity, it is also a threat for sustainable human existence.

In this context, a new concept called sustainable security is developing in the western world. Sustainable security has three components: Defence, diplomacy, and development. These three together constitute sustainable security. We need to push the world in that direction.

Unfortunately the Himalayan region faces many challenges due to an uncooperative neighbour. Those threats not only have a military dimension, which our armed forces and government are tackling. They also have other dimensions that threaten the life of people in this region, lead to the loss of grazing land, forced migration, abandoned villages and so on. So a new thinking is needed. We need to bind countries together under certain conventions that focus on development but also handle this threat. That is why I said sustainable security is the future.

Capt. Alok Bansal (Retd)

India Foundation

■ Sustainability is a long-term concept. We all need to work towards sustainability. However, sometimes it seems as though under the garb of sustainability we want to remain where we are and not develop. Evolution is a natural process and essential. We need to protect our heritage and culture but evolution cannot be stopped. Human beings cannot be treated as museum pieces. They have to evolve. Certain development and changes will take place and is inevitable. The only thing we have to ensure is that our footprint is minimal. Development will take place and a certain amount of degradation will also occur.

We have to ensure that this is sustainable. This is where sustainable development comes into play. One of the best definitions for sustainable development is from the Brundtland report of 1987 that said, "Development that meets the needs of the present generation, without compromising the ability of future generations to meet their needs." This is important. We have to exploit certain amounts of resources while ensuring that future generations do not miss out on their share. This was also the report that for the first time talked about the issue of sustainability with regard to national security. The report for the first time encouraged the application of sustainability to state security. Subsequently, the 1994 UNDP report spoke of state security in terms of human security and environmental sustainability. The environmental aspect was earlier not considered to be a part of security. Today, security encompasses everything. It is no longer a military concept. You have human security, climate

security, and environmental issues.

We have seen in the recent past that environmental and climatic concerns have led to chaos in many countries. For example, according to a 2011 report, 80% of the population in Afghanistan was dependent on natural resources, which means natural resources are being extracted before they can be replenished. Consequently, the report added that 75% of Afghanistan is heading for desertification. The conflict in Afghanistan and political instability to a great extent is the result of this shrinking natural resource base. In Pakistan, recently, half the country was flooded. A country that is already suffering from a lack of economic resources was inundated. These are important issues. Now an internal conflict is brewing with provinces holding each other responsible for the damage. For instance, the people in Sindh are accusing people upstream for breaching river banks to protect their standing crops, which led to flooding of some cities. This sort of internal conflict emerges when environment degradation is taking place.

We have a big neighbour across the LAC. One of the biggest man-made environmental disasters was the Great Leap forward. There are reports that more than 3.5 million people died in this period. There was a time when Chairman Mao said to kill sparrows. This resulted in sparrows being killed across China. Some sparrows managed to take shelter in embassies in Beijing but they were also killed. However, the Polish embassy denied access and so people outside started beating drums that caused the sparrows to die.

Some people would argue that national security is the avoidance of war. War is actually an extension of national

policy by other means. War leaves the largest footprint on climate and the environment. This is evident in the Russia-Ukraine war, which has a huge footprint. It is damaging climate and environment with long-term implications.

Security forces are generally posted in remote locations. The requirement to sustain them actually requires harnessing of resources. However, in Ladakh we have done phenomenally well. The development of grid electricity has made diesel generators redundant. Remote locations are being provided with eco-friendly huts and solar panning is also being done. The new airport terminal in Leh is being developed with a carbon neutral design. Even security forces involved in hard-core military duties are doing their bit to incorporate sustainability to ensure that their presence does not degrade the environment in Ladakh.

In this sense an extreme of anything is bad. I recently read the life-story of Bhikkhu Sanghasena from Ladakh. He said that meditation and prayer can only come after basic necessities of human life are met. Thus, absence of tourism will not achieve anything. We need to continue with normal activities and ensure that basic human security needs of the population, and environment requirements are met without degrading the environment. For this, people have to be sensitised. We cannot mandate what people should wear, eat, do, but people should understand on their own and come forward and ensure that minimal degradation of environment takes place and we harness the resources only to the extent that future generations have enough resources to meet their requirements.

Shri P. Stobdan

*Ladakh International Centre
Former Ambassador*

I am a classical security student. I deal with hard security issues. The contradiction between development and security is a very old debate. There used to be a debate about security and peace too and both were seen as exclusive of the other. Similarly, development versus security has also been debated endlessly after the end of the Cold War. Europe had all the security, nuclear weapons and missiles but it could not protect itself. One school of thought argued that it is useless to spend money on security and it should be spent on education, health, development, factories etc. The other school of thought was that without security nobody is going to invest in a business, in economic projects, and so security is necessary.

I remember immediately after the end of the Cold War, I had written a piece in the Indian Express where I argued that in the case of Ladakh, security still works for development because there is no development without security. In this regard, Ladakh is a unique case in the world where security stimulated economic growth. Issues such as sustainable security and sustainable development emerged after the Rio conference to focus on saving the environment and addressing climate change. So, it is a relationship between the state, the people and the environment. That relationship highlights the sustainable development idea and perhaps one day we will start speaking of environmental governance. You have to actually govern the environment and not govern the city, people, region or district.

While sustainable security is a good idea, it is an evolving idea and is still maturing. I don't think it is working. In the first week of October 2022, there was a gas leakage in the Nord Stream that killed trillions of marine life. It is born out the security issue of the Ukraine conflict. Some people regard it as sabotage. The point is that it has damaged the en-

vironment, environmental security and energy security. The European energy security is at stake now. No one is going to study this right now but in the long-term we will know the scope of the damage. This is a classic example of how security impacts sustainable development.

The Ministry of Environment, Forest and Climate Change is clearing all environment files related to security projects. The latest being Nyoma airfield that will now be developed as a full-fledged airport. I remember in 2007, the Supreme Court of India used to scold the Ministry of Defence telling them that it is not the environment law but problems with the ministry and its inter-departmental coordination. The Ministry of Defence used to be held up. The Supreme Court of India used to be very strict in this regard. Things have changed now. In fact, the Supreme Court is now saying that environment concerns can never override security issues. Security consciousness has become very crucial to our thinking as a nation.

In Ladakh, one may talk about tourism and other sectors but security imperatives will remain the key factor for sustainable development irrespective of whatever else is done. In the absence of security, nothing will move. The first two Five-year Plans were not even applied to Ladakh. There has been nothing called perspective planning in Ladakh. People speak of growth perspective and planning perspective. The Ministry of Defence has a PP division and Ladakh also must have a PP division. For many years, Ladakh has not has a PP division. In many ways, it was not required as it was war that brought development to Ladakh. The 1948 war led to the opening of Zoji-la. The 1962 war led to the development of roads. Ladakh has military related economic development.

There was a policy or mind-set on border development. Former Minister, A. K. Antony once explained in Parliament in 2007 that building roads along the border has been avoided. The thinking was that once you build roads, the Chinese would come and use them. It is very easy for the Chinese to come up to Leh. So building roads was avoided. That has been reversed now. The thinking has changed. All investments in Ladakh are ultimately used for dual-use infrastructure. Building an airport, a logistical system, a hospital etc. is not just for security but also for development. Importantly, whatever the military has brought to Ladakh, it has run parallel to civilian needs. Apart from actual weaponry, the logistical system that the military has developed in Ladakh since the 1940s and 1950s is used by civilians while the military primarily uses them during a conflict.

Economic impetus is a sub-issue of development. Education has been a late starter in Ladakh. There was no focus on education in Ladakh during my childhood. Modernity was not known. Technological interventions were not known. The military was the only agent of change in Ladakh. As Ladakh Scouts was founded and ITBP contingents were created, they started recruiting hundreds of young boys each year. They became important agents of change. They were

exposed to technology, vocational education, machines, management systems, skills, and returned to the village after serving in the military. The intrinsic nature of Ladakhi social, economic transformation has been through the military. This is true for all of Ladakh. Even the boys and girls studying in Bangalore today are products of the military system. Tourism might stop tomorrow but Ladakhi boys will be serving in the army for the foreseeable future. In 2022, I saw the big celebration for 300 retiring servicemen. The celebration was very big with queues of vehicles. Thus, they remain important economic and social transformation agents. In addition, whatever entrepreneurship we are seeing in Ladakh to a large extent is due to military intervention.

Military has also been responsible for breaking down rigid social structures in Ladakh. We used to practice polyandry in an extended family system where brothers lived together. The younger brothers started getting jobs in the army and this changed the employment, economic and farming pattern. What I am trying to say is that security is fundamental to sustainable development in Ladakh.

Given the limited resources we have in Ladakh, the security forces are the most important institution in Ladakh. Furthermore, given the tendencies of the Chinese, they will militarise more in the coming months and are unlikely to go back soon from eastern Ladakh.

Militarisation of Ladakh is going to intensify. A lot of things will take place in eastern Ladakh and northern Ladakh. From that point of view, infrastructure and road building must be done with sustainable development in mind. Even the simple act of establishing the Field Research Laboratory (FRL), which is now called DIHAR under DRDO, has catalysed a mini-green revolution in Ladakh. Everyone would take a sample from FRL to their villages and expand their farming.

I am not saying that without the army things would not change. However, in the case of Ladakh, things would certainly have been delayed without the army. The process of sustainable development would also have been delayed for a long time. Moreover, two years ago when the Galwan incident took place, I asked a lot of Ladakhis about the Chinese threat. They did not seem concerned and said that they had a sense of security. It is the army that gives this sense of security to the people.

The mountains are where the boundary and territorial disputes also take place. These glaciers and water sources are within a political territory of a state. This is where the conflict takes place. We have a conflict with Pakistan on Siachen glacier to control the glacial system and the Indus water system, which is the true nature of this conflict. If you read the papers of ISI and Pakistani military the whole debate around Siachen revolves around water security. We have a problem with China in Brahmaputra over water. So it is about resources and not just about the boundary line. Essentially the political and bureaucratic class focus on the boundary dispute.

We do not get into the other aspects that the boundary cuts across glacial systems or river systems. Therefore, we are at a critical juncture. In case there is a conflict over Brahmaputra in the eastern Himalayas over water, then a conflict in Ladakh is inevitable for the security of the Indus.

The DBO-Shayok road has now been built. I read an old book and Gazette of Ladakh by British Army that says that there was a proposal by British diplomat, Robert Shaw to build the Durbuk-Shayok-DBO road but it was shot down due to concerns over expenses. Thankfully, this road has now been built.

In my calculation, 82% of Ladakh is not environmentally and administratively governed. Only Leh, Choglamsar,

Phyang, and Spithuk are governed. The rest of Ladakh is not governed. When I mentioned this to senior officials in the UT Administration, they asked which regions I was referring to and I mentioned Dipsang plains. I was told that nobody lives there. I responded that there are lizards, marmots, hares, flora, and fauna. The Chinese are counting them but we do not send anyone to survey them. Taking care of territory is important. It is a challenge for sustainable development in terms of precipitation, forestry. We don't even have a police station north of Shayok or north of Saser Kangri. Just because there are no people living there does not mean we should forget about it. Then Nepal should forget about Mt Everest because nobody lives there!

Lt Gen. Anindya Sengupta, AVSM, YSM,

*General Officer Commanding
14 Corps
Indian Army*

■ While security is our speciality, I would argue that we are a part of the environment in the IHR. There are arguments that security and development have to be sustainable. In Ladakh, security sustains development.

Ladakh has been the confluence of various lines that have resulted in security issues: The Johnson line, the McCartney line, the LAC, and the perception lines. Defence forces have been in Ladakh from the time of the Namgyal dynasty's rule followed by the Dogra period, and post-independence when Pakistan started annexing territory southwards from Gilgit. The Nubra Guards came into being and we stopped the invasion. Since then, there has been a tradition of every family sending a son to become a soldier. Every family in Ladakh has had a soldier.

The Indian Army has had a very rich heritage in Ladakh. Heroes like Col. Tsewang Rinchen who fought in two wars and was awarded an MVC in both, which is very rare. While we are seen in large numbers in Leh, we actually exist in remote mountains across the IHR. This is why I say that we are a part of the environment in the Himalayas. We are responsible for what goes right and wrong in these areas and we want to reduce what goes wrong.

The strategic importance of Ladakh is due to its proximity to both adversaries. We have participated in all the wars in Ladakh and this has been a virtual battleground in every conflict since India's independence. Territorial integrity has been the most important part of our strategy in Ladakh.

There are threats and challenges that have led to a larger deployment in the current situation. While the western frontier with Pakistan has been somewhat quiet, in the north and east there has been a very uneasy peace since 2020. A large force is deployed in Ladakh since then and has worked to stabilise the situation to what it is now. We have disengaged in certain areas and we have opened a lot of areas for tourists and pastoralists. This is in keeping with our national security agenda, which I shall explain. While this remains the inflection point for a number of mutually exclusive interests, and has the potential for a conflict that has been underway since the Great Game between the British and Russia in Central Asia. This led to the development of the four lines I mentioned earlier, especially the Johnson line, which runs long the Kunlun range in Aksai Chin while the McCartney line runs along the Karakoram range. Therefore the potential of a conflict always exists and will exist until these boundaries are clearly demarcated. Therefore the security situation remains complex.

Borders, skirmishes, face-offs, confrontations, are part of the simmering issues of conflict in Ladakh. Despite this, we have assured the border regions of a stable situation where they can pursue activities such as tourism. In relation to development, whether it was the conflict of 2020 or the Kargil War in 1999, development of this region has continued at different paces.

The courage and conviction of the community has kept their culture intact and they should be praised for it. Ladakh's formation as a UT will spur growth further. The tourist influx in 2022 is a sign that a large number of people believe that the situation is stable and many of them visited places along the Pakistani and Chinese frontiers, which the UT Administration has opened for tourism to an extent. This tourist influx has also given a spur to the growth here. It is not the army alone. The development of this region has to occur because that is what will pose a challenge to China.

There is a place called Shayok, which leads up the Shayok valley. It is the last inhabited place about 180 km south of Karakoram pass. It is in the Shayok valley where the river bends towards meeting Nubra river. There no humans stay beyond this. If you go north of Shayok, you will find kiangs, snow leopards, antelopes, and us. Therefore these regions need to be developed. While the security framework is being provided by the Indian Army, ITBP and the police, we need to have police posts, medical posts, tourist infrastructure, and maybe conduct surveys and scientific development in these regions.

Eastern Ladakh is on a remote single road access. Going to Demchok for hydrotherapy, observing Chota Kailash, visiting Hanley Dark Sky Reserve and the astronomic observatory is feasible. The roads remain a challenge. The Indian Army has taken a lot of initiatives to encourage tourism in concert with the civil administration and the various developments that are taking place in border areas. Inner-line permit has been removed from most of the area by the civil administration to encourage tourism. The army has encouraged patriotic tourism with the establishment of war memorials in Drass, Siachen Base camp, Rezang-la near Chushul, and near Leh. Adventure tourism is something we encourage because a lot of our soldiers are into mountaineering, river rafting, trekking, cycling, paragliding and that we believe has given a spurt to local agencies too.

Around 10 new trekking routes in Kargil have been opened up as well as Umling-la and Demchok. Basic amenities at Khardong-la are being provided by the army and certain initiatives have been taken to develop these in the future. We are planning to develop Demchok as a model village as it dominates the LAC. As more tourists visit it and more people settle there, it is better strengthens India's territorial integrity. Similarly there is a village called Punguk near Hanley, which must be developed to improve access to Chumur in the future.

Tourism is the catalyst to development in Ladakh and will reinforce our control and claims to various areas. We have to beat the adversary in various domains. In the perception domain, if the world feels this is a free area and across is a restricted area, then we have won half the battle. We work in tandem with the civil administration, and we hope we will be able to meet most of the goals we have laid down for ourselves.

Some words about the promotion of sustainable accommodation, energy and deployment. This is related to the fact that we are holding a remote fragile area in large numbers we. We have developed shelters, which are solar heated

shelters and do not require energy for heating even in the winters and draw power from solar panels. In winters, the soldiers can stay inside in t-shirts and can have better rest. Fuel cell technology is being encouraged so that somewhere in the future we can remove various generators that are lying in various glaciers and posts. Off-grid solar and wind plants have been made so that we are able to remove many generators from our grid. These will take some time to come up till we figure out the batteries sustenance; as battery capabilities to hold power is very limited due to low temperatures. We are building sustainable architecture in the remote areas of DBO, Shokshalu, so that we are able to sustain troops at 17,000 ft amsl, minimise waste, have composters in conjunction with IIT, Rourkee and this will possibly lead us to a better state of accommodation and less drain on local resources. We are exploring 3D printing to reduce the non-working season and to achieve faster construction and avoid movement of heavy vehicles on the roads. We have reduced sulphur in kerosene and will experiment with it this winter. This will possibly reduce pollution to an extent. A mega solar project has been established in Partapur, Nubra, and another one is coming up in Base Camp. These two locations, which house around 4,000-5,000 troops each will be 100kVA power, which is currently derived from generators. The Leh garrison is no longer using generators and is now connected to the national grid through a 66kVA line courtesy the civil administration. Medical infrastructure is a major requirement in Ladakh. Many people suffer AMS due to the altitude. Medical infrastructure in Leh and surrounding areas require further improvement. Telecommunication infrastructure is a challenge due to the low population and requires further improvement. We are also exploring alternative heating methods such as geothermal, heat pumps, and house construction. We are encouraging winter sports. Ladakh Scouts remains the national champions in ice hockey for several years. We are encouraging it so that Ladakh has a sport that is linked to it.

Security is a prerequisite for growth. As the civil administration takes on more responsibility, development will not be on the charter of the Indian Army. Our charter lies further away. We would continue to be a part of the community as we have been all along. A number of baby steps have been taken by us and a number of steps have been taken by the UT Administration. While we are committed to carrying out our work towards green Ladakh, we are also working towards a very secure and stable Ladakh. We assure you that the belligerence of either neighbour is not going to affect the development here.

Discussion

Shri Ram Madhav: There is a perception that needs to change that Ladakh means security area. Then Ladakh can have big opportunities. Ladakh's development is not just for the people of Ladakh but should be for the entire country. And it should be in a position to help development around the world. If the Arabs can produce and export watermelon, and Kutch can grow and export dates, then why not Ladakh? Similarly, if Ireland can have the IT storage facility for large companies, then why not Ladakh? Problem is in the perception. This has to change. The army will do its bit but the leaders have to take the lead to achieve sustainability, development and security.

Q: India has left behind its mountain regions. Delhi has had its own schemes and plans geared for the plains of India. The Himalayas are different. Government of India needs to realise that the Himalayas needs a separate policy. It needs a policy dictated by defence, diplomacy and development. The lack of development is why we have ghost villages in Uttarakhand. Young people are migrating from the border regions to other parts of the country. Across the border, they are populating border regions. So India needs a separate policy and action plan for the Himalayas.

Shri Ram Madhav: Well taken.

Q: Recently under the chairmanship of the Hon'ble Chairperson/CEC of LAHDC, Leh, Adv Tashi Gyalson we had a session on plastic waste and pollution. Someone pointed out that army-related issues were not being discussed with regard to waste management. How is the army managing its waste, especially plastic waste and its

disposal? In many places the army dumps its waste in specific sites where locals go to pick up things they can use. This is a health hazard. LAHDC Leh has the Tsangda Project to pick up and process waste before sending them for recycling. Can this be extended to the army?

Lt Gen Anindya Sengupta: We have got seven stations. Stations are our administrative areas. Each administrative area has a conservancy contract. This contract is for a year and could be worth around INR 3 to 4 crore (INR 30-40 million) depending on the strength of the station. Local vendors bid for it. They separate the dry and wet waste and dispose it. We have certificates from the civil administration, and Sarpanch of the area where waste is being dumped and how it will be disposed. Then there are remote areas that are not in stations. In areas where there are glaciers, disposal of waste remains a challenge as nothing can be disposed there. To carry waste down is logistically impossible. However in other areas certain measures have been taken to dig deep pits. Hazardous waste is being disposed in separate kilns. We will explore possible collaborations with such agencies.

Q: It was said that perception needs to change about people who come to Ladakh from outside. However, the rest of the world also needs to recognise that Ladakh has its own identity that has to be protected. Otherwise there is a sense of threat from the rest of the country and world. So how do we communicate this perspective with the right intention and direction?

Shri Ram Madhav: First of all, stop

feeling threatened by tourists. They will bring a lot of prosperity. You have to keep in mind the environmental and other costs of development even in tourism. The idea that the arrival of outsiders threatens my identity is depriving Ladakh of great opportunities in development. We must ensure that the identity of the people of Ladakh are not threatened. At the same time, we must have a way to attract greater investments and industrialisation in Ladakh. Countries like the UAE have attracted massive investments without losing their identity. They have safeguarded their identity, their culture is intact, they have maintained their customs, and rules that are applied to whoever comes to the country. Yet, they have been able to achieve super levels of development and prosperity today. I appreciate the worry and we have been hearing about it for many years. You should not be threatened. Every step should be taken to ensure that this identity of Ladakh is protected. It should not lead to a situation where Ladakh remains backward and perpetually dependent on what the army gives. That situation should change and the people of Ladakh with their progressive and dynamic leadership are able to find that balance. So please remove that fear. Nobody wants to destroy the cultural identity of the people of Ladakh. In fact, Ladakh is the pride of our country and nobody shall be allowed to cause any harm to it. At the same time you should welcome more development, progress, industrialisation so that the people can become more prosperous and lead happy lives. I agree with your concerns but I think you should change your perception.

Dr R. S Tolia Memorial Lecture 2022
Dr Harshwanti Bisht

I pay my tributes to the great visionary Dr. R. S. Tolia who was a top bureaucrat, social scientist, historian, social activist, social reformer, mentor, author, founder of IMI, and an inspiration for me. Whenever I faced any challenges in the work I was doing for different mountain regions and I approached him, he would always encourage me and say, "Since you have started something, now you need to fight and progress!" He was an inspiration for the people of Uttarakhand and beyond.

The theme for SMDS-XI is 'harnessing tourism for sustainable mountain development'. Over the last 30 years I have also been working in this regard though while also working as a teacher in a college. I was working for the conservation of the Gangotri-Gaumukh area.

I have worked in that area for the last 30-35 years when I started my mountaineering training. I realised that while people are earning money and gaining employment, there are certain environmental issues that needed to be addressed. I was given a research project by the then Ministry of Environment and Forest, Government of India to study the impacts of tourism. I realised that it was not just tourism that was taking place in the area. The pilgrims visit the area for religious reasons. So the area has pilgrimages as well as trekkers. The mountaineers are also there. All types of people were going up there. I found that the economic impact was good as were the employment opportunities. However, logically everyone was losing due to environment degradation.

I realised that the forest cover was being destroyed by the people despite being declared as a national park but nothing was done seriously. Firewood was being collected from there. Garbage was collected there. In 1984, I went on an expedition to Mt Everest and saw the good work done by Sir Edmund Hillary in terms of environment conservation, schools, dispensaries, hospitals etc. I thought that I was not capable of starting schools and dispensaries but felt I could study the area and identify the negative impacts of tourism and pilgrimage and find ways of addressing it. So I started working on this, along with my students and friends.

In addition, I started doing repeat photography in the area. In 1866, Samuel Brown visited the area. So I bought some pictures taken by him and repeated them in 2010 to understand changes in the mountain.

In 1866, there was a very small temple in the area, the Bhagirathi river and the forest. In 2010, a big temple had been built in addition to new settlements, and reduction of forest cover. Buildings have been constructed beyond Gan-

gotri too to provide night shelter to people. People then started coming to stay there for a few days. So, a lot of changes have taken place in 140 years.

In 1877, T. G. Spark visited the area. His photograph shows the small temple and no other development. Images from 1993 show the Gangotri temple and the growing township around it. In 1993, the roofs were made from the barks of trees and fewer buildings had been constructed. By 2010, new buildings are visible and a helipad had also been built. These structures cater to pilgrimage and tourism.

In 1866, Samuel Brown photographed Gaumukh, which we compared with images from 2010 and found that the snout had receded by 2.5 km. In addition, we also noticed an increase in crevasses and water pools on the glacier due to climate change. We found such glacial lakes even in the high reaches of these glacial systems. We started doing plantations in this area and fenced them to allow them to grow without being damaged by wild animals.

There are impacts of unplanned tourism in Gangotri. I am saying unplanned as there was no one to direct the process. It is important that mountain states do not repeat the mistakes of other states. Instead we should learn from each other's mistakes. Many pilgrims do not carry their own sticks and they cut the trees to create walking sticks. Horses and ponies were allowed in the area for pilgrims to ride. In addition, villagers from the area used to send their horses and ponies for grazing in the alpine zone. In the 1980s and 1990s shabby tea shops popped up along these routes and they were also burning wood they collected from the forest, especially juniper and birch. Haphazard pilgrimage and tourism resulted in these impacts. This was happening across the region.

We raised the issue and people went to the court. The Hon'ble Supreme Court restricted the number of people entering the area. Otherwise endless numbers of people were entering the area. If we are going to spoil our potential areas for tourism for fast money, and we don't care for our resources then a day will come very soon when the court or the government will say that we are spoiling the area and restrict access to it. This will have a negative impact on employment and income.

I had trained in the area and felt that something should be done for the area. We sat and discussed and decided to raise plant nurseries, replant trees, organise awareness campaigns and plantations. We also planted some medicinal plants. We tried unsuccessfully to regenerate birch from cuttings and decided to go with seeds. In 1996, we started the plantation on sloped areas to avoid camping areas.

Do not be in a hurry because hill states do not have the topography for huge production units and industries. The only thing we do have is tourism. If we are going to develop tourism in an unscientific manner then it will spoil the area. Then the area might end up being closed and this will hit the local communities hard. We have to be sensible. Do not give

a chance to anyone to say it will be closed. A good example of this is Nandadevi, which environmentalists campaigned and closed for 10 years in 1982 but still continues.

We have to become guards of these valuable places and resources. So that we can say that we are guarding it ourselves. We have to do this practically and ensure that nobody imposes any restrictions unreasonably. I still remember in 1981 local boys and girls were carrying our loads. We used to ask them what they did and they would say that they were earning money to fund their education and were not taking

any money from our parents. I wonder what happened to them and their self-esteem. We also do not know what has happened to the environment and ecology of the area. Few people visit the area and claim that it is still dangerous to open the area. My request to people across the IHR is please do not spoil your areas. So that no one gets an opportunity to say that it should be closed. It is very dangerous to continue this type of tourism. Be sensible and only use scientifically-tested systems. Only then can we say that we are doing sustainable tourism. Otherwise it will remain empty talk.

Summary of recommendations, SMDS-XI

The Sustainable Mountain Development Summit XI, Leh with the theme 'Harnessing tourism for sustainable mountain development' recognised the potential of tourism and the need for sustainability for the Indian Himalayan Region including Ladakh. The need for all stakeholders to delve deep into tourism and sustainability gave rise to some key insights that are collated below as recommendations of SMDSXI.

"At the COP20 meeting at Glasgow, the Hon'ble Prime Minister had spoken about how the world needs to move toward Mission LiFE, which refers to environment friendly lifestyle and focuses on mindful consumption of resources instead of mindless utilisation. The solutions will not come from outside. They are in our culture, ethos and traditions. We now need to adopt them. Ladakh and the Himalayan region are not just tourism areas but also areas of peace, culture, harmony with great ecological and social values. We should link tourism with our fragile environment and promote aspects such as sports, mountaineering, cycling, and peace. Tourism models that focus on nature, spirituality, and adventure should be explored as it will preserve the uniqueness of the Himalayan region. However, in addition to environment-friendly tourism, one should also promote environmentally responsible tourism. The involvement of local stakeholders is critical without which it will be incomplete"

Dr Bhupendra Yadav

Minister MoEFCC, at the inaugural session of SMDSXI

"The people of Ladakh have been experiencing the impacts of climate change and global warming on a daily basis. In this context, there is an urgent need to control and address the environmental degradation that Ladakh has been experiencing. The Hon'ble Prime Minister of India, Shri Narendra Modi has articulated his vision to make Ladakh carbon neutral."

Adv Tashi Gyalson

Chairperson/Chief Executive Councillor

Ladakh Autonomous Hill Development Council, Leh

"As a remote and inaccessible region, the Himalayas face multiple environmental, social and developmental challenges. India is a largely a tropical country. Thus, Government of India's projects, programmes, rules and regulations need to be customised for mountain regions such as the Himalayas."

Shri Jigmet Takpa, IFS

Principal Chief Conservator of Forest, UT Ladakh

President, Sustainable Development Forum of Ladakh

"The term 'sustainable tourism' is an oxymoron. There cannot be sustainability if you experience a tourism boom. There are people who think sustainable tourism is possible if you are able to create ecological benefits through tourism. We need to evaluate different perspectives in this regard. We need to explore how the natural environment can be used for tourism in a way that does not disturb its integrity and the ecosystem services it provides."

Shri P D Rai

President IMI

Exploring new avenues in tourism within beautiful, biodiverse and rich cultural landscape of the Indian Himalaya Region

- Astro-tourism
- Wellness, spiritual tourism
- Wildlife and nature-based tourism
- Heritage and cultural tourism
- Exploring local food cultures
- Adventure tourism

Ensuring equity and environmental sustainability in tourism is critical for the well-being of peoples and planet

- Social inclusion and gender equity is made integral tourism plans and actions
- Youth participation and inclusion is made central to all tourism plans and actions
- Tourism that promotes entrepreneurship and innovation is implemented
- Tourism that upholds cultural values, heritage as well as crafts that emerges of the traditions are promoted
- Community based homestays are promoted and marketed with policy and resource allocations
- Promotion of high value tourism with low impacts
- Caps and limits to number of tourists is decided based on carrying capacity studies
- Innovative scaling of tourism with the lens of equity and sustainability

Landscape level actions that intersect with sustainable tourism

- Carbon neutrality and tourism
 - ❖ Promote solar power/renewable energy usage
 - ❖ Undertake water conservation actions
 - ❖ Landscape management and restoration plans and action
 - ❖ Land use regulation and ecological integrity
- Waste
 - ❖ Evidence based waste management plans and actions
 - ❖ Reduction
 - ❖ Reuse and refillables revolution
 - ❖ Collection centres linked to recycling
 - ◆ Waste beyond urban spaces and include religious, forest and defense establishments
 - ◆ Extended Producer Responsibility for plastic waste made effective and implemented in the mountain

Indian Himalayan Youth Summit-V

Entrepreneurship in the Himalayas
Sindhu Sanskriti Kendra, Leh
8-9 October, 2022

The Indian Himalayan Youth Summit (IHYS) is a special event organised for the youth of the Indian Himalayan Region under the aegis of the Integrated Mountain Initiative (IMI). The Indian Himalayan Youth Summit (IHYS) V was held in Leh on 9 October, 2022 with the theme Entrepreneurship in the Himalayas. IHYS-V provided insight into innovative and sustainable business models and appropriate financial systems to meet the specific needs and aspirations of youth entrepreneurs in the Himalayan region. The objectives of IHYS-V were:

- Provide a platform and opportunity for Indian Himalayan youth to share and learn about challenges and opportunities for entrepreneurship in mountain regions;
- To bring together voices from the Indian Himalayan youth and channelise their ideas, concerns and recommendations in the form of an Indian Himalayan Youth declaration on sustainable entrepreneurship.
- Explore solutions to the lack of financial services and address poor awareness and avenues for young entrepreneurs to seek financial support.
- The need to create awareness and facilitate access to not just traditional but also non-traditional financing and business options.

IHYS-V explored the importance of behavioural change required to create a sustainable business model. This will enable youth from the IHR to work towards sustainable development while generating a livelihood and enabling them to counter negative impacts to the environment and society. IHYS-V focussed on marketing, finance, mentoring, networking and upscaling. Special emphasis was given to marketing and finance, which were identified as key challenges faced by young entrepreneurs in the IHR.



Shri R. K. Mathur

*The Hon'ble Lieutenant Governor of Ladakh
Administration of UT of Ladakh*

■ The biggest stakeholders in the Himalayan region, as with anywhere else in the world, are the youth. It is the future of the youth that everyone is discussing. The Himalayan region is one of the most ecologically important areas in the country but its development needs and ecological challenges do not get adequately highlighted or factored in at the national level policymaking. The main objective of IHYS should be to document their deliberations and present it to the government and the general public.

The Himalayas literally determine the ecological welfare of the country. If the mountains suffer damage, it will hurt the entire country as the monsoons will get disturbed, rivers will have less water, etc. It will impact the livelihood and well-being of the entire country and perhaps the entire world. Therefore it is important to highlight that challenges faced by the Himalayan ecosystem is not just a local concern and responsibility but one that impacts the future of the world. This needs to be highlighted in every possible fora.

The main Sustainable Mountain Development Summit-XI is focussing on tourism and sustainability. This is extremely important. There are instances where you get stuck in traffic jams just to reach hill stations such as Shimla and Mussoorie. This is going to become increasingly worse. In this regard, I would say that sustainability and tourism just do not go together. I don't think it is possible that tourism can be a sustainable activity and I will venture to say that it can never be made a sustainable activity in the mountains. If we have five lakh tourists coming to Ladakh, it is providing livelihood with around 50-60% of the population engaged in tourism-related activities. But is it sustainable? In this regard, World Tourism Organisation defines sustainable tourism in terms of three aspects: Environment, economy and socio-cultural aspects. Let's look at each of these points.

We know that tourism can hurt the environment in terms of emissions from aeroplanes and motor vehicles. I am sure other parts of the Himalayas face similar situations. This pollution accumulates as soot on glaciers and speeds up melting processes. Thus, the arrival of tourists automatically has an impact on the environment. Once tourists reach their destination, they require water, food and various forms of support systems, which are primarily transported from outside. This increases pollution and other emissions. While receiving more than 500,000 tourists, as Ladakh did in 2022, is good from an economic point of view, it is a problem for the environment. This issue and the form that tourism should take place in these regions must be discussed and addressed by the youth of the region as tourism remains a major source of income in the IHR.



Secondly, tourism is definitely beneficial in terms of the economy. It is good for the mountain systems to have a source of income and livelihood generation. However, should the tourism be mass tourism that relies on high foot-falls or should it be exclusive wherein there is a limit to the number of tourists without compromising on the income generated by tourism. This is the economics that Ladakh must consider. This has an impact on everything. Should hotels cater to low-end tourists or provide premium services for a select number of people? This is an economic dilemma. On the other hand, how should the economic benefits be distributed within society? Should it reach as many people as possible or should it be confined to a limited number of people in society? Every society has to grapple with such economic dilemmas and the youth of the Indian Himalayan region should deliberate on such issues.

Thirdly, tourism has an impact on the socio-cultural processes. Tourists invariably bring their own cultural values with them along with various bad habits too. They also bring some good things. In this regard, society needs to judge which values are acceptable and which are not. Tourism can have a positive impact on cultural preservation. For instance, it can provide an incentive to support the cultural heritage of each village along with their monuments and traditions in terms of music, theatre, and so on. It is important that every region in the Himalayas recognise, accept and propagate their own culture. Today, tourists are not just looking at the beauty of the landscape but also want to interact and learn about people and their culture and traditions. This in turn strengthens the cultural roots of each society.

All three aspects: environment, economic and socio-cultural factors need to be balanced if we are to achieve sustainable tourism.

That said, I want to propose an alternative way of thinking too. The Himalayan region is rich in natural resources and instead of focussing on tourism alone, perhaps we should focus on what is ecologically sustainable. For instance, in Ladakh if we are able to do value addition in terms of various products, medicinal plants, and aromatic plants, it would help create a sustainable form of livelihood without damaging the environment. For instance, Sikkim is generating income from the export of flowers. Obviously this must not damage the culture and the environment of the region. I think youth must deliberate on the direction for future livelihoods, their strengths and weaknesses, and the need to strengthen primary sectors of the economy especially animal husbandry, agriculture, horticulture, floriculture, medicinal

plants etc. Given that the population in the Himalayan regions is low, there are tremendous livelihood opportunities in these sectors. It is possible that the scope for economic growth in these sectors is more than the tourism sector.

In the context of Ladakh, youth are looking for job opportunities in the government and private sectors. This is a natural aspiration. The Administration of UT of Ladakh and the two Hill Councils are aware of these issues and working on various solutions. Already 600 recruitments have taken place in Ladakh and over 700-800 people have been engaged through outsourcing. Similarly, growth is taking place in every sector including tourism, which is generating more employment and opportunities. This is also reflected in the fact that we still have youth living in remote villages.

The Administration of UT of Ladakh is encouraging and promoting entrepreneurship in the region. A number of training programmes have been organised and I have met many young people who have developed products from sea-buckthorn, pashmina, and so on. It is youth who are exporting apricots outside India. Similarly, now Ladakh is also producing and selling flowers. The youth of Ladakh are coming forward and are taking risks to develop their own potential, expand the economy, and change the future of Ladakh.

Such efforts need to be accelerated to help youth from the Himalayan region become a productive asset for society and a productive asset for themselves to support their family and make money. The Himalayan region is rich in natural resources and the youth in these regions have much better opportunities than other parts of the country. We need youth, government, private sector, and all other stakeholders to work together to develop these opportunities.

Adv Tashi Gyalson

*The Hon'ble CEC/Chairperson
LAHDC, Leh*

The Sustainable Mountain Development Summit is a unique platform to discuss many things, learn, and debate policies and challenges faced by the people in mountain states. I attended SMDS-X in Darjeeling and found the summit to be useful, important and informative. Along with former CEC, Shri Rigzin Spalbar, I requested that the next summit be held in Ladakh. I am thankful to IMI for agreeing. I also express my gratitude to the Hon'ble Lieutenant Governor and the Administration of UT of Ladakh for supporting this summit.

Environmental issues are happening everywhere. Climate change is real. Ladakh is experiencing its impacts on a daily basis. For instance, as a cold desert region, we are supposed to receive more snowfall. But now, we are receiving less snowfall in winter and more rainfall in summer, which creates a lot of problems in the summer during sowing season. Besides this, we are also facing challenges related to waste management and depletion of natural sources due to increased tourist arrivals.

We decided to explore various solutions to address such challenges and hope that SMDS-XI will provide us with insights. In this regard, youth must take centre-stage to push for a change in policy and behaviour. The summit will serve as a platform for youth to interact and learn about other mountain states. The youth from Ladakh are doing well and we are very proud of them. Many young entrepreneurs are doing outstanding work especially with regard to sustainability of this mountain state.

Shri Rigzin Spalbar

Former CEC/Chairperson, LAHDC, Leh

Governing Council Member, Integrated Mountain Initiative (IMI)

IMI is a civil society-led network and platform with a mission to mainstream concerns of the Indian Himalayan region and its people in the development dialogue of India. It functions as a platform to integrate the knowledge and experiences of multiple stakeholders working across the Indian Himalayan region and uses this to inform and influence policy at the national and state level. IMI operates through an ecosystem of state and regional chapters who are aligned to IMI's vision of 'Making India proud of our mountains'. IMI has four missions.

1. Informing and influencing policy
2. Creating a platform for all stakeholders
3. Integrating knowledge and experience
4. Generating action on ground

The Indian Himalayan Youth Summit (IHYS) is a platform for youth as an important stakeholder to tackle the challenges faced by youth of the Indian Himalayas including lack of employment opportunities. The summit is a platform to build capacity, provide access to opportunities outside the local pool and explore conventional and non-conventional methods. IHYS-V will specifically focus on entrepreneurship and discuss green businesses to provide exposure, insights and a platform for youth delegates from the Indian Himalayan region.

Indian Himalayan Youth Summits so far

Smt Namrata Neopaney

Integrated Mountain Initiative

So far, four Indian Himalayan Youth Summits have been held. They are:

- IHYS-I in 2013 at SMDS-III in Kohima, Nagaland.
- IHYS-II in 2017 at SMDS-VI in Aizwal, Mizoram.
- IHYS-III in 2020 at SMDS-IX (online) in Dehradun, Uttarakhand.
- IHYS-IV in 2021 at SMDS-X in Darjeeling.

IMI comprises of 11 states and two Union Territories. The delegates of IHYS-I in 2013 continue to collaborate on different platforms. We speak to each other before each summit to discuss themes and ideas. As alumni of IHYS, we make an effort to provide support to the next generation of youth even as we continue working in a diversity of fields. The social bonds and networks developed through each IHYS are now sustained through technology and social media. Through this network you always know someone or the other in every mountain state in India.

The discussions and deliberations of each IHYS are put together in the form of the youth declaration for that summit. This declaration is then presented to legislators who attend the Mountain Legislator's Meet (MLM) and forms a part of the proceedings of the respective SMDS. This is an important platform for youth and we have observed a lot of positive outcomes in terms of policy changes.

Some of the important issues highlighted through the youth declarations include:

- There is need for youth empowerment in the Indian Himalayan region.
- A need-based approach should be taken for policies in the Indian Himalayan region as each region has its unique terrain, topography and socio-cultural context.
- Facilitation of a strong local market.
- Government support for loans and schemes should be more accessible to youth.
- Better drainage and infrastructure in the Indian Himalayan region.
- Regulation and monitoring of illegal migration in regions that have international borders.
- Better healthcare facilities with improved connectivity and accessibility.
- Provision for clean drinking water across the Indian Himalayan region.
- Conservation of unique biodiversity and traditional knowledge of each region.

Each youth summit must check progress on each of these issues and move forward with these and other issues. In addition, a stronger youth network is needed in the IHR. So far, there are around 500 delegates who have participated in youth summits but we need to diversify this in terms of expertise. In addition, a more structured network would facilitate better engagement and interactions.

Problems and challenges of entrepreneurship

Shri Stanzin Chospheh

Executive Councillor, LAHDC, Leh

■ It is important that Himalayan states focus on their strengths, which is the primary sector, especially agriculture. Our strengths include flowers, agricultural products, medicinal plants, and niche products unique to the Himalayas

In this regard, Sikkim is a good example as it has been recognised as an organic state. Ladakh is aspiring to become an organic UT too. There are immense opportunities in the agricultural sector and there are a growing number of agri-entrepreneurs in Ladakh. These youth have been torch-bearers in opening the agricultural sector for entrepreneurial ventures. Many of them have received national and international awards in recognition of their vision and efforts. In my opinion, places like Ladakh cannot develop unless entrepreneurs step in and take the lead.

The youth are facing many problems, especially accessing capital funding. In Ladakh, we are trying to provide incentives to agri-entrepreneurs in the form of INR 10 lakh (INR 1 million) that they can avail free-of-cost wherever required. We have started stressing on capital component for entrepreneurs based on meetings where students and entrepreneurs highlighted the importance of accessing capital funding. So we decided to keep a dedicated component of INR 1 crore (INR 10 million) from 2022 for entrepreneurs in

the agricultural sector and applicants will be screened based on set guidelines.

Most people in Ladakh, especially in villages, are dependent on agricultural and pastoral activities. They might also work in the tourism sector, but agro-pastoralism remains their main source of livelihood. In this regard, we must support entrepreneurs to develop and this in turn will help our farmers develop in terms of creating remunerative products. We are providing capital subsidy support to entrepreneurs. While we have around four to five agri-entrepreneurs as of now, we hope that this will increase to 10-20 in the near future.

Besides the government, other organisations are also making an effort to promote entrepreneurship. One such effort is the Naropa Fellowship initiated by HH the Gyalwang Drukpa. Their vision is to support new entrepreneurs who promote local products at the national and international level. The Naropa Fellowship would choose 20 people from Ladakh and other parts of the Himalayas and provide them with rigorous training in various fields before allowing them to focus on an entrepreneurial idea of their own choosing. We must remember that every youth will not secure a government job and we need to develop other areas too.

Opportunities and challenges for entrepreneurs in Ladakh

Shri Moses Kunzang

Administration of UT Ladakh

■ Many countries promote Micro, Small and Medium Enterprises (MSME) to create employment, reduce poverty and expand their economy. We not only need to create an environment for MSMEs to grow but we also need to support the enterprises and entrepreneurships. Therefore, the focus should be on the fundamentals of job creation by supporting enterprising youth. Many countries such as the Netherlands, Finland and the UK regard supporting such enterprises as a key component of economic development.

India has adopted the National Policy for Skill Development and Entrepreneurship, 2015, Start Up India, Prime Minister Employment Generation Programme, Prime Minister Formalisation of Micro Enterprises etc. Such policies and schemes are overseen by the Ministry of Micro Small and Medium Enterprises, Government of India,

There are different definitions of entrepreneurship. I use the one proposed by EC Benchmark in 2002. It says that en-

trepreneurship is above all a question of mentality. It can be considered as an individual's capacity to seize an opportunity to produce new value of economic success.

In the context of Ladakh, one can ask about the need to promote entrepreneurship in Ladakh. Ladakh was self-reliant before the roads connectivity was developed in the 1960s. We used to produce what we consumed. There are different milestones of change in the development of Ladakh since. The first was in the 1960s when Ladakh emerged as an important geostrategic area that shares borders with China, Pakistan and Afghanistan. As a result, we started building roads and this improved connectivity and infrastructure.

A second milestone was in 1974 when the region was opened for tourism. This increased external influence on our society, especially on youth.

The third milestone was the introduction of the Public Distribution System through which rice and wheat was provided

to the people of Ladakh at a subsidised rate. This disrupted the agricultural system in Ladakh and changed the lifestyle with rice becoming a part of the staple diet in the region. The fourth milestone was the establishment of the Ladakh Autonomous Hill Development Council for Leh and Kargil. The fifth milestone is in 2019 when Ladakh became a Union Territory.

In the past, the people of Ladakh worked collectively. Although the first generation of entrepreneurs in Ladakh emerged over the last few decades, I would argue that entrepreneurship is in the DNA of Ladakhis. This is because Ladakh was an important part of the famous Silk Route trade and people from Ladakh would travel between Central Asia, Tibet and the plains of the Indian subcontinent to trade pashmina, grains, tea, salt, and various manufactured goods. So, the entrepreneurial spirit is in the Ladakhi DNA. The private sector is a relatively new development as the people of Ladakh would work in collective systems in the past.

At the global level, Organisation for Economic Cooperation and Development (OECD) identified some of the challenges faced by entrepreneurs. This includes regulatory barriers, competition, policy, bankruptcy and so on. In Ladakh, we identified a different set of obstacles including skill gaps, lack of infrastructure, lack of role models, and remoteness from the market. However, the main obstacle remains cultural attitude. In terms of cultural attitude, people in Ladakh aspire for government jobs. The main challenge is to find ways for Ladakhis to be self-reliant and create wealth to prosper in a modern economy.

The overall environment for economic growth and entrepreneurship in Ladakh has improved. For instance, transportation systems in Ladakh have improved tremendously including the quality of roads and connectivity, which is important for entrepreneurs. Similarly, the power sector has also improved over the last few years. There is 24×7 power connectivity with a gradual shift to renewable energy sources.

With regard to human resources, literacy rate in Ladakh is around 79%. We have around 1,000 schools, six colleges, and industrial ITIs though we still lack quality technical education, which is being addressed now. Telecommunication services have also improved over the years, which is crucial for entrepreneurship. In terms of finance, we have 85 banks, mainly Jammu and Kashmir Bank and State Bank of India. When I checked the data earlier in 2022, the deposit base in Ladakh was INR 7,762 crore (INR 77.62 billion), with advances of INR 2,905 crore (INR 29.05 billion) and a credit ratio of 37%, which is still low.

Several sectors have untapped entrepreneurial potential. One such important sector is agriculture and agribusiness. Ladakh's remoteness and climate are an advantage in this regard. Agriculture in Ladakh has been mostly organic by default in a disease and pest free environment. Ladakh produces some unique high quality products such as seabuckthorn, apricot etc. In this regard, there are opportunities in food processing, commercial greenhouses, oil extraction, floriculture, and natural dye products. There are gaps with regard

finances in this sector but this is currently being addressed. Other gaps include packaging, marketing and branding, which are also being developed.

Another sector with tremendous potential is travel and tourism. Ladakh is one of the few high altitude areas in India and a very popular tourism destination. It still has a lot of opportunities in adventure tourism, culture tourism, community-based tourism, education tourism, spiritual tourism, and health tourism. There are some gaps in this sector especially the seasonality of tourism though efforts are underway to promote year-round tourism in Ladakh. In addition, there has been poor promotion and marketing of Brand Ladakh, limited impact of economic benefits and the absence of a reliable database on tourism.

Third sector with entrepreneurial potential is handloom and handicrafts. Ladakh has a very rich tradition of handicrafts including some of the best pashmina products. In addition, Ladakh also has a rich diversity of unique motifs and natural dyes and traditions of Thangka painting, copperware, and wood carving to name a few. The gaps include lack of value addition, marketing, branding, and quality assurance.

One sector that has not received much attention is health and biotechnology. Ladakh has ideal conditions for the cultivation of various medicinal herbs. Though a lot is being done in this sector it still has a lot of unexplored facets. In addition, the Tibetan medicine system (Amchi) has also become very popular. Health tourism needs to be developed and promoted. This includes hydro therapy, cultivation of herbs, commercialisation, institutionalisation of Amchi medicine, and commercialisation of medicinal baths and health spas.

Another sector in Ladakh that has potential for entrepreneurship is non-conventional energy. Ladakh records 300+ days of bright sunlight and its geography is conducive for tapping various non-conventional energy sources. Entrepreneurship opportunities include private generation, energy distribution, franchising, and consultancy services. Gaps include lack of skill, risk management, and maintenance.

Several efforts are currently underway to promote entrepreneurship in Ladakh. A special scheme is being developed for Ladakh called Industrial Development Scheme, which is supposed to be rolled out soon. This is exclusively for Ladakh and provides a lot of incentives. In addition, the Sustainable Industrial Policy of Ladakh is also in the final stage of development and will be adopted soon. Similarly, the Industrial Land Allotment Policy is also being developed under which six to seven industrial estates have been earmarked, some of which are already functional. There are a number of plots available, which will be given to entrepreneurs. Furthermore, we have PMVGP programme and PMFME, which are being implemented in Ladakh. Also, the District Export Hub and Vandhan Vikas Kendra under the Ministry of Tribal Affairs are also being implemented in Ladakh.

A lot of investments have been made in developing infrastructure in Ladakh since it became a UT. Older industrial



estates are now being developed. Similarly, a new international standard craft market is being developed in Shey at a cost of Rs. 35 crore. In addition, common facilities centres are also being created. In the handicraft sector we are replacing old looms with the latest ones.

As part of the one district, one product scheme, Administration of UT of Ladakh is promoting apricots from Kargil and seabuckthorn and pashmina from Leh. Once these products are popularised, others will also be prioritised. After Ladakh became a UT, there have been efforts to develop collaborations with national institutes to tap their expertise. In this regard, the administration is collaborating with National Institute of Design to document various products and develop new designs. Similarly, an MoU has been signed with National Institute of Fashion Technology in Delhi and Srinagar. The Central Leather Research Institute has visited Ladakh, and

conducted a baseline study and held training workshops. In addition, discussions are underway with National Institute of Food Technology in Panipat, which Ladakhi entrepreneurs have visited and their faculty have visited Ladakh. Baselines studies are being conducted as part of all these collaborations. At the same time, exports are also being explored through the Handicraft Export Promotion Council and Agro-processing Export Development Agency. As part of this, Ladakh participated in the Dubai Expo. A programme called Enchanting Ladakh is held each December at Delhi Haat to promote Ladakhi products. A Ladakh emporium is under construction in New Delhi to promote Brand Ladakh. Finally, an application has been submitted for Geographical Indication (GI) tag for pashmina, apricot, and seabuckthorn. A pashmina laboratory is also being established at a cost of INR 4-5 crore (INR 20-50 million) to test pashmina and support entrepreneurs.

Youth and entrepreneurship in IHR

Shri Neichute Duolo

The Entrepreneurs Associates

Indigenous communities around the world have taken time to understand the market economy. Until they grasp the dynamics of the market economy, many indigenous communities around the world aspire for government jobs and discourage business. In 2006, I visited Kenya and was impressed that most of the ministers were below 35 years of age. Then I realised that business in Kenya is controlled by people of Indian origin. One of the most powerful messages I heard during that trip was from the youth secretary at a meeting. He said, "Our forefathers thought they would get money by selling their women as slaves. Our fathers thought they would get money by selling their lands. We thought we would become rich by getting a job. And today we know that we can become rich only if you do business."

I come from Nagaland. We do not have a history of trade like Ladakh. Due to various socio-political factors, a lot of resources have been invested in the state. As a result, Nagaland

has the highest government employment ratio. Out of every eight persons, one is employed in the state administration. Out of a population of 20 lakh (two million), 144,000 people are employed in the state establishment. And yet people still want more. A similar situation prevails across the whole Northeast region with limited businesses owned by indigenous communities.

Most mountain societies have encountered the market economy fairly recently. Since the indigenous communities in mountain regions primarily had a subsistence economy, they struggle to understand entrepreneurship.

People have different understandings of youth self-employment and entrepreneurship. Some consider that it should provide a INR 10 lakh (INR 1 million) income per annum. If this were true, then the person might as well just get a job. Others consider that it should provide INR 15 lakh (INR 1.5 million) income per annum. In this case, the person



might as well study for 16-18 hours a day for four years and take a competitive exam. If successful, you will keep getting promotions till you retire. There is nothing wrong with such jobs but this is not business. On the other hand, if you want to reach INR 1 crore (INR 10 million) in a year, then you have to be self-employed.

Generally, people start as a micro-entrepreneur. If one aspires to generate INR 10 crore (INR 100 million) in a year, one will have to develop a small business system and employ around a number of people depending on the kind of business. If one wants INR 100 crore (INR 1 billion) per annum, then one has to build a robust business system and employ at least 100 people. This is still micro-entrepreneurship.

As of July 2020, there are 103 unicorns (a privately owned start up with a valuation greater than USD 1 billion) in India, which are valued at around USD 334 billion. That is not small. In mountain regions, Rs 10 crore seems like a large amount but it is not a very large sum in a market economy. Thus, the way we look at the market economy and business needs to change. Thus, in terms of entrepreneurship, the first challenge is to change our mind-set. Unless we change our mind-set, a lot of people in rural areas will have low aspirations for various kinds of low-paying government jobs. Those with higher education may aspire for better paying government jobs. I have been working in this sector for more than 20 years and the biggest challenge I have seen is in changing mind-sets of the family, society and youth. Many youth think that without a government job they have no future. I keep telling them that they are not growing because of government jobs! I have nothing against government jobs but such aspirations are literally killing the dreams of youth across the mountain states of India.

It is important to change our mind-sets because of the education we receive in India. The curriculum is from the time of the Industrial revolution about 150 to 200 years back. Our education is programming us for a job. There is a big difference between the mentality of a job provider and a job seeker. The Entrepreneurs Associates has supported

more than 18,000 individuals in Northeast India to take up business. This includes giving them a loan (from INR 50,000 to INR 2,500,000) training, and mentorship. One of the biggest challenges is to unlearn what we have learnt. Thus, if youth want to become entrepreneurs, then they have to unlearn what they have learnt. One of the best ways to do this is by reading a lot of books on business and associating with people who do business. The scope of our achievements will depend on the scale of our ambition. Business will require hard work and making sacrifices.

For instance, I sold newspapers in Kohima when I was 19-years-old. I was the first to sell ice cream in Kohima in 1992 even though it was still cold in those days. I sold a lot of things to learn how to conduct business. However, I am a social entrepreneur. I am now planning to become a business entrepreneur. It is a question of mind-set.

Speaking of changing mind-sets, Northeast India is one of the biodiversity hotspots in the world. The mountains are full of trees but there are no fruits from the region in the market. Nobody had imagined dragon fruits and avocados would grow well in northeast India. So we have now designed a flagship programme to plant 1 billion fruit trees across Northeast India, which will require lakhs of micro nurseries. Already one of our farmers in Nagaland who is illiterate has earned INR 14 lakh (INR 1.4 million) by selling fruit tree saplings. Planting 1 billion fruit trees will have a positive impact on the environment and the economy. For instance, 1 billion fruit trees at the rate of Rs 1,000 per tree means 1 lakh crore for the local economy. This will also require food processing industries, warehousing facilities and logistics because when you plant fruit trees you have to sell the fruits.

Anyone can do business but business is not meant for everybody. If everyone does business, then we will not have administrators, drivers, police personnel, army personnel etc. So, everyone will not be in business but definitely anyone can do business. And when one does business, it is important that we also conserve our ecology and environment. There are ways for us to plan for the planet and do well.

Mind-set change also means that when we think about opportunities, we cannot always look at the government for solutions. Entrepreneurs give answers to the government be it in Ladakh or New Delhi. The problem with developing countries like India is that we think government will develop the country. Initially, the government did try this approach but it has now gradually shifted its economic gears after 1991.

If the credit ratio in Ladakh is 37%, it means that people have not learnt to play with bank's money and without this skill one can never do business. Grant Gordon once said, "Rich people use that which is a loan to leverage investments and grow cash-flows. Poor people use that [loan] to buy things that make rich people richer." If we don't have an entrepreneurial mind-set, we will be buying things from other places and only make them richer.

I would like to end with what author Napoleon Hill, said, "Render more service than for which you are paid and you will soon be paid for more than you render." He posed this as the law of increasing returns. If we want to succeed, it does not matter whether we run a small hotel or a small homestay. At Entrepreneur Associates, we have found that when locals manage their own economic resources, it cre-

ates a sense of confidence in them.

The future is in an entrepreneurial mind. If you look down on entrepreneurship, it is your choice and you will remain poor and dependent. But if you decide that entrepreneurship can generate wealth and opportunities, please take it up. You do not need anyone's permission to do it. People may laugh at you but that is their problem, not yours.

I want to leave with you what Oscar Wilde once said, "When you are 20, you care what everyone thinks, when you are 40 you stop caring what everyone thinks, when you are 60 you realise that no one was ever thinking about you in the first place." So you should not worry about what you think people think about you. If you want to be worth INR 100 crore (INR 1 billion), please think about business.

I am an Ashoka fellow and when I once met its founder Bill Drayton, he said that the divide is not between haves and have-nots but between who can learn and those who do not. I find this very compelling. We must realise that the market economy is real. If we don't change, we will be changed. And if we do not want to become rich, we will be finished off. The indigenous communities, especially mountain communities have to change and become more ambitious.

Sources of funds for entrepreneurs in the IHR

Shri Simranjeet Singh Negi

State Bank of India

Loan Manager, State Bank of India

■ It is important to know about various sources of funds, how to get it and basic things one should know about what bankers expect when someone applies for a loan. The most basic concept in this regard is a margin, which is the promoter's contribution. For example, when you apply for a loan to buy a car that costs INR 10 lakh (INR 1 million), the bank will never finance the whole amount. It will ask the promoter to put in some amount, which is the margin.

Secondly, there are two types of loans: Term loan and working capital. A term loan is sanctioned at one time for a set period. For example a car loan is a term loan that the bank gives once and you are required to repay through monthly instalments. Banks give such loans for investments in plant and machinery, which are purchased once and then repaid over a set number of years.

In a business, one requires raw material on a periodic basis depending on the operating cycle. One gets the raw material, processes it, packs it, sends it to the market and it may take a month or more for the product to liquidate and get converted into money. Meanwhile the manufactur-

ing process cannot stop. This is why one requires working capital. Banks would generally take a maximum exposure of say INR 10 lakh (INR 1 million) as working capital. The promoter can withdraw from this INR 10 lakh to buy raw material to keep the unit running and put money back when they have liquidity. So if one withdraws INR 5 lakh (INR 0.5 million) from a working capital of INR 10 lakh, then the bank will charge interest only on the INR 5 lakh. Then, 10 days later the promoter receives payment of INR 2 lakh (INR 0.2 million), which is deposited in the working capital account. Now, the bank will charge interest only on the INR 3 lakh (INR 0.3 million) loan. These kinds of loans are sanctioned for only one year. The bank reviews the promoter's financial performance each year and decides on increasing or decreasing the limit.

In addition, there are a number of schemes meant to encourage entrepreneurship. I will speak of three such schemes. The first scheme is called Pradhan Mantri Mudra Yojana. This is for existing and new units. Under this scheme, the bank will sanction a loan of up to INR 10 lakh in the

form of working capital or term loan as required. There is no margin for loans upto INR . 50,000. Irrespective of the kind of project, this scheme will finance 100% of it up to INR 10 lakh, which is the maximum for this scheme. The margin investment is 10% of the project cost. The remaining 90% will be financed by the bank. No collateral security or guarantee of any third person is required to avail this scheme. A promoter only needs to invest the 10% margin. These loans are secured under credit guarantee scheme called Credit Guarantee Fund for Micro Units (CGFMU) and the promoter is charged almost 1% annually for this scheme.

The loan under Pradhan Mantri Mudra Yojana is sanctioned for a maximum period of five years. The bank can include a moratorium period of a maximum of six months. The moratorium period is the time required for the promoter to get the unit to break-even point and become profitable. The rate of interest in these loans are linked to the base rate i.e. External Benchmark Linked Rate (EBLR), which is linked to Reserve Bank of India rates. This rate changes whenever RBI changes its bank rates. However, the bank's margin or profit remains the same during the tenure of the loan. A one-time processing fee of 0.5% is charged for this scheme.

The next scheme is called Stand Up India, which is only given for establishing new units i.e. greenfield projects. This loan is provided as working capital or term loan. The loans are given for amounts between INR 10 lakh to INR 1 crore (INR 10 million). The loan is meant for borrowers from reserved categories including Scheduled Caste, Scheduled Tribe or women. Benefits include a lower rate of interest and a margin of 10%. No collateral security is required. This loan would be covered by a credit guarantee fee scheme close to 1% annually. That is 1% of the outstanding loan. For instance, in the first year the promoter is given a term loan of INR 15 lakh (INR 1.5 million) then the fee will be charged on INR 15 lakh. Say the following year, the promoter repays INR 5 lakh, then the loan outstanding is INR 10 lakh only and interest will be charged on this amount. The maximum period for this loan is seven years including a moratorium of 18 months and the processing fee is 0.2%.

In the Stand Up India scheme, loans are sanctioned for trucks, pickups, and taxis too. So a person interested in buying a vehicle for a commercial activity including carrying passengers or any other business can also avail a loan under this scheme.

The third scheme is Pradhan Mantri Employment Generation Programme (PMEGP). This loan scheme carries a margin subsidy. The other two schemes do not include a subsidy. This scheme is administered by Ministry of Micro Small and Medium Enterprises (MSME), Government of India and implemented by Khadi and Village Industries Commission (KVIC). Under this scheme, loan is sanctioned for employment generation. The borrower will establish a unit and provide employment to other people as well. In terms of subsidy, a beneficiary from general category has to invest

10%. In urban areas 15% would be given as subsidy and in rural areas this increases to 25%. In addition, those who belong to SC, ST, OBCs, minority communities, women, ex-servicemen, differently-abled people, and residents of hill and border areas, will receive a subsidy of 35% and the promoter investment will be 5% instead of 10%.

The maximum project cost under PMEGP in the manufacturing sector is INR 50 lakh (INR 5 million). The project cost can be more than INR 50 lakh but the subsidy will be given only till INR 50 lakh. The maximum project cost for business and service sector is INR 20 lakhs (INR 2 million). One can also avail a second loan under PMEGP, which will also get subsidy component subject to conditions including that it is meant for upgradation of existing unit and completion of three years since sanction of the first loan with subsidy component having been given to the promoter. In the manufacturing sector, additional sanction can be up to Rs 1 crore and in the service sector it would be INR 25 lakh (INR 2.5 million).

The eligibility criteria for this scheme are that it will be given to just one person in a family who is over 18 years and has completed education till Class 8. Minimum project cost for a manufacturing project is INR 10 lakh while in the business and service sector the project cost should be more than INR 5 lakhs. Existing units under any other government scheme with a subsidy component cannot avail subsidy under PMEGP. Other eligibility criteria is capital investment, which means the promoter must purchase some plant and machinery and cannot just start a trading business.

Cost of land cannot be included in project cost. However, if a long lease agreement has been signed then the rent can be included in the project cost. The subsidy is required to be liquidated after three years if the unit is running successfully. All new viable units can avail of a loan under the scheme for activities that are permitted by local government authorities.

Retail trading such as sales outlets is permitted in North-east India, Andaman and Nicobar Islands and left-wing affected areas. Trading outlets selling Khadi products or from other PMEGP units as certified by KVIC are also financed under this scheme. In retail outlet business, maximum project costs can be INR 20 lakh, which is similar to the service sector. Transportation activities can be financed although a maximum of 10% of the loan can be sanctioned for transportation activities. Others need to be business upgradation of existing units.

The bank will sanction a composite loan. There will be two loan accounts against one application. In the manufacturing sector, working capital cannot be more than 40% of the project cost. If project cost is INR 10 lakh, then the maximum amount for the working capital is INR 4 lakh and the remaining INR 6 lakh will be for plant and machinery. For service sector, maximum working capital is 60%.

In cases where the borrower does not avail full term loan

for working capital that was sanctioned by a fixed time frame of say three years, then the bank can downgrade the initial amount as the business has not matched its estimates and met its projections as per project report for the unit. In the end, subsidy will be given for the amount that is sanctioned at the end of three years. If there is any balance of the subsidy component left with the bank, it is returned to PMEGP.

The subsidy component is kept in a fixed deposit/term deposit (FD/TDR). The interest is not given to the promoter. Instead, the loan account is not charged for the amount of the FD. The bank charges interest on the loan amount minus the subsidy component.

Applications for PMEGP can only be made online. The promoter has to upload their details, photograph, caste certificate, AADHAR card, project cost, and any other certificates, such as environmental clearances and quotations related to the project including completing of training. Once these documents have been uploaded on the PMEGP portal, an acknowledgment certificate is sent to the promoter. A representative of KVIC department will contact the promoter within 48 hours to get additional information, make corrections, seek other documents etc. The project is run through a scoring model and if it exceeds the threshold, then the application is forwarded to the bank.

Once the bank receives the proposal, it will get access to whatever has been uploaded to the portal. The bank will then process the loan application within a maximum of 30 days to either sanction or reject it. This time is used by the bank to discuss the application with the promoter, evaluate its merits, and then take a decision. After the loan is sanctioned, the sanction letter is uploaded to the same portal. The borrower will also receive an SMS and receive a call from

the bank. The borrower is then required to visit the bank within 30 days for final documentation and submission of margin money to allow the bank to disburse the loan. Once the loan is disbursed, the disbursement certificate is uploaded to the PMEGP site and the bank receives the subsidy within 24 hours to a week. Once the subsidy is received by the bank, it is put into a form of a fixed deposit. The day this is done marks the start of the three year period for the loan. In three years, if a unit is running in profit and the sanction has not reduced, then the bank will visit the unit, upload the physical verification form to the portal and seek permission to liquidate the FD into the loan account.

Some of the activities that are not allowed under this scheme include meat-processing and canning, production of intoxicating substances such as beedi and paan, a hotel serving liquor, and if you are manufacturing polybags, then there are strict guidelines on their minimum thickness etc. The application is screened against the list of banned activities by KVIC. If it falls in this list, then application is rejected during the screening process itself and does not reach the bank.

In addition to these three schemes, there is another credit guarantee scheme for loans up to INR 2 crore (INR 20 million) for which banks do not take any collateral. Under this scheme, the bank will finance loans up to INR 2 crore although the rate of interest will go up by 0.35%.

These government schemes are designed in such a way that banks do not have much control over the sanctioning process. There is a set of scoring sheets used by the bank to evaluate the proposal and generally if there is nothing critically wrong in the project report, the loan does get sanctioned.



Ecotourism based on entrepreneurship among youth

Smt Deachen Spalzes

University of Ladakh

■ Tourism is a socio-cultural process. It is critical that Ladakh focusses on ecotourism. Ecotourism is responsible travel that emphasises the protection of the environment and culture while also exploring new paths of creativity and livelihood for young Ladakhis. In this regard, tourism must focus on providing an experience of authentic local products, food and homestays.

In this regard, it is encouraging to see so many young entrepreneurs emerging in the handloom industry to produce a diversity of products including pashmina, which has attracted people from all over the world. Ladakh produces about 13,000 kg of raw pashmina fibre, which are harvested from pashmina goats in Changthang and reared by Changpa nomads. Tapping the potential of pashmina is an important step towards making Ladakh self-reliant.

Similarly there are young entrepreneurs who are exploring the potential of new and emerging sectors such as organic farming and Ladakhi cuisine, which can be an important component for ecotourism based entrepreneurial initiatives. Ladakh produces approximately 1,999 tonnes of apricots

each year and is the largest producer of dried apricots in India. This apricot is now being sent to different parts of the country and also being exported outside the country. This has encouraged many rural families to invest in apricot farming. Now we have several new platforms in Ladakh and outside to sell indigenous local products. Apple is another important product and several young entrepreneurs are exploring the potential of this fruit too. For instance, we have apple chips being sold, which is an innovative product and will hopefully reach the mainstream market in due course. Similarly, there are new restaurants emerging that provide variations of local Ladakhi cuisine.

In addition, there is activity-based tourism such as nature walks, heritage walks and snow leopard treks that can strengthen ecotourism initiatives in Ladakh. Ecotourism is perhaps the most pragmatic way forward to a sustainable future for a region such as Ladakh. The government and the private sector must encourage young entrepreneurs exploring ideas that support this vision for a more sustainable future.

Lessons from an entrepreneur

Smt Rigzin Wangmo Lachic

Hatti Ladakh/Dolkhar Ladakh

■ I am trained as an IT Engineer and lived most of my life outside Ladakh. During our childhood, we would come to Ladakh for holidays and my grandmother would ask about what I was studying, how it would help Ladakh and if I would ever be able to work with it in Ladakh. These questions have stayed with me over the years.

In 2017, I decided to give up my job and moved back to Ladakh. I saw huge potential in the tourism sector. However, I wanted to do something more consciously and more responsibly. This is when I decided to establish Dolkhar, which is a boutique stay and is named after my grandmother. The main objective of Dolkhar is to promote and preserve Ladakh's history and tradition through art, architecture and food. We had a 150-year-old house that we were not able to restore due to structural issues as it had been built by four different generations. So we dismantled the whole structure and created a new one inspired by the old house.

We repurposed all the wood and material from the old

house. We have only used local and natural materials to build the structure with the most important materials being mud and wood. We used traditional forms of construction and architecture. Dolkhar is inspired by Ladakh's people, culture, and traditional values. It is a boutique stay that integrates a little piece of Ladakh with the rest of the world while staying true to values of conscious and contextual travel. Dolkhar comprises of seven villas, which have been built in my grandmother's apple and apricot orchard.

While constructing Dolkhar, we worked with a lot of local artisans. It was very difficult to find people who were still using these techniques of construction. For instance, there is Meme Angchuk from Ney who has been constructing monasteries and palaces since he was 12-years-old. He is probably the most experienced person to replace a beam (dungma) in an old Ladakhi house. Such practices are being forgotten and dying out.

During the process of building this place, we ended up



working with a network of about 40 local artisans. For instance, the carpets are woven by weavers from Kharnakling. In the dining space and rooms there are metal spoons that have been hand-crafted by metal-smiths in Chilling. The wash basins in Dolkhar have been created by a stone artisan in Turtuk who is probably one of the last stone artisans left in Ladakh now. The waste wood and willow from the construction process has been re-used to make switch boards and other fixtures. We repurposed everything that came out of the construction process.

Initially I had intended to source materials from local artisans to support their skill and experience. Then I realised that a one-time support was not enough. That is when I decided to go a step further to create a sustainable platform for them. So I worked with B  reng  re Guillon, who was the landscape artist for Dolkhar, to create a platform called Ladakh Hatti for local artisans of Ladakh. This was an initiative to preserve and promote traditional skills by providing a platform to sell their products through this small shop in the market. It is also used to conduct workshops for tourists and locals alike.

At Dolkhar, we also started 'Tsas, which translates as 'garden' and was the name of the orchard. 'Tsas is a hyper-local plant-based restaurant located in Dolkhar. The menu incorporates produce from Dolkhar's kitchen garden as well as local and ethically sustainable producers to showcase a reimagined modern Ladakhi cuisine. The restaurant is built around respect for nature and seasonality, which means the menu changes each season. We try to incorporate as many local ingredients as possible. The dishes are not 100% authentic Ladakhi dishes but are an effort to evolve recipes

from different households. It would probably be more accurate to call it a local ingredient-driven restaurant as Ladakh has a lot of resources in terms of food.

I became an entrepreneur at a fairly young age. I was only 26 years when I started working on these initiatives. Initially, I did not receive much support or encouragement. Most people thought I had gone crazy for quitting my job and moving back to Ladakh. It took people, especially those close to me, to realise what I was trying to do.

As entrepreneurs we all have ideas and the biggest challenge is possibly funding. That was the initial challenge for me. I knew I wanted to do this but I did not have the funds for it. That is when I applied for the entrepreneurship funding through J&K Development Financial Corporation that gives you a loan at a subsidised rate once the project was approved. It was not an easy process. It took me 4.5 years to build the place and we finally opened it in 2022. We now employ 25 people.

My message to youth considering entrepreneurship would be to dream as big as possible. There is nothing that can stop you from achieving what you want to do. You have to be consistent and focussed. If you have the right ideas and intentions, then things will fall into place. As an entrepreneur a lot of things can be discouraging. For me, it was the paperwork in Ladakh. I remember at one point I was spending more time visiting government offices for paperwork as compared to the amount of time I was spending at Dolkhar. So a lot of things can be discouraging but it's not impossible. So dream big, thoughts turn into actions, and actions turn into things. Do not let anyone tell you otherwise!

Lessons from an entrepreneur

Shri Joshua Hishey

Alaya Studio, Dehradun

■ My grandparents were originally from Ladakh. I completed my schooling from Moravian Mission School, Leh and am currently based in Dehradun. I still have family in Ladakh and my ancestral home in Saboo village, which my cousin and I are converting into a home-stay.

I have learnt a lot from Ladakh. I remember an incident when I was in sixth standard. My brother asked me to make an omelette for him. I apparently did not do a good job of it and he threw it in the bin. My mother saw this. She picked it up and gave it to our cat. At that age, I found this very embarrassing, especially in front of my friends. I wondered why my mother was being so cheap. In retrospect, my mother's upbringing in Ladakh at a time when things were scarce meant she appreciated the value of the egg. That really taught me a lot and it was a big life lesson.

In 2006, I returned to India from the US—a decision many people questioned but I really wanted to return and dedicate my life to local communities in India. We established an office in Dehradun and have now opened a little café where people can just relax. I am a designer by training and when I started out, I was designing bamboo furniture. I worked with people in rural areas and provided skill training. I had an opportunity to work with the World Economic Forum. As part of that collaboration, I led a small initiative called Mauka for youth from disadvantaged backgrounds. I have often found that designs are often out of reach for people. Through this initiative we conducted photography workshops and graphic designing classes after school hours for these youth in Dehradun.

I soon realised that in Northeast India there is a whole culture of working with bamboo. We invited artisans from Tripura and Agartala to Dehradun to train people who did not have the skills to work with bamboo. Besides bamboo, we worked with other crafts in Uttarakhand including copperware and grass baskets. We also worked with women from slum areas in Dehradun and trained them to reuse fabric discarded by people to create cloth bags that they could then sell. We also worked with nettle and hemp.

As an entrepreneur, I have tried to use every opportunity I have found to create livelihoods for different communities. For instance, we worked with rag pickers in Dehradun who are an integral part of our urban community. This is a very important sector and a lot of youth should explore opportunities in the waste recycling sector.

Similarly there is a lot of talk about electrical vehicles (EVs). We forget that we are still using coal generated electricity, especially in mainland India. We also do not have a system to process discarded batteries, acids and chemicals.

We need to think about problems and solutions at the same time.

So who is an entrepreneur? An entrepreneur is very different from someone who simply does business, say trading or retail. In the 1800s, the English used the word 'adventurer', which makes sense. So, an entrepreneur is also an adventurer who takes risks, who is courageous, who thinks big but operates lean. One does not need a fancy big office that will simply drain resources. Operating lean is the key to a successful entrepreneur. In today's world, where everything is online, one needs to be social media savvy. One has to recognise talents in others as well as one's limitations and strengths to be able to develop meaningful partnerships. In current times, the more we work as a team, the more we grow, especially in a small place like Ladakh. And lastly, we have to be conscious of the environment.

Ladakh is an environmentally vulnerable region and has a unique culture including traditional ways of farming and resource use. As the tourism industry grows, it will definitely harm the environment and there is an urgent need to evaluate the sustainability of current approaches. These are issues that youth in Ladakh must consider along with key steps they would want to change. Some of the important challenges resulting from the current form of tourism includes waste generation, increased pollution, traffic congestion and population growth,

We are currently following a non-integrative approach to development. For instance, a lot of garbage is being generated and the solution is to install an incinerator to burn the garbage. This is not a solution as it creates other problems. The same thing is relevant to EVs too. We need to be conscious of the source of electricity being used to charge an EV and systems to dispose of waste such as batteries that will emerge from the use of this technology. These systems have to be put in place right now. These are good opportunities for young Ladakhis to explore. Integrative thinking means we need to think about a problem and a solution that meets many different ends and helps people.

Then there is the issue of sustainability, which most people limit to the environment and exclude its economic and social aspects. In terms of economic sustainability, one needs to consider food consumption patterns, public infrastructure and housing, and processes of change. The people of Ladakh were primarily a farming community that ate what was grown or available locally. This has now changed and people are buying food from grocery shops. While this is convenient, it has undermined the farming system. In this

regard, one needs to consider if the people of Ladakh are changing when tourists come visiting or are the people of Ladakh influencing these visitors.

For instance, if someone wants to work to support traditional crafts, they must first recognise that making a craft product is very expensive and does not compare favourably in terms of price with machine made products. The challenge here is to educate customers about the value and reasons why hand-crafted products are more expensive.

I think farming has a lot of potential. I am reminded of vertical farms in urban areas such as Bangalore that are supplying salads and other products to restaurants on a daily basis. This is something that you can explore in Ladakh too. I appreciate young Ladakhis in the food industry, hospitality, music, crafts and souvenirs, food processing. Ladakhis have

a clear goal.

I got into entrepreneurship organically. I faced a lot of challenges including not understanding taxes. One thing that can be done to support entrepreneurs is to create a list of trustworthy, sensitive and efficient CAs. People are generally trained to think in a certain way and need to challenge themselves to think out-of-the-box. An entrepreneur needs to be clear on how they function and have the right kind of support.

Innovation is key! Ladakh is dependent on tourism but what happened during the COVID-19 pandemic? There was no work and everyone had to depend on something else. Thus, innovation is key including creative use of technology.

The importance of networking

Shri Jasmeet Singh

Margshala

Most entrepreneurs fail within three years of starting their operations and 98% of businesses fail within 10 years. There is one important thing to being an entrepreneur: Energy. I work for an organisation where we train young entrepreneurs in Uttarakhand where people aspire for government jobs and girls are not allowed to work after a certain age as they are married off. Our goal is to make them self-sustaining individuals.

One thing I want to highlight is that there are technological tools available to assist entrepreneurs. Technology has the potential to completely transform an industry. If mountain entrepreneurs are going to be worth Rs 100 crore, they have to explore the use of technology. Just as everyone is using social media, the internet can be used to generate income. In this regard, youth need to explore opportunities in the digital space, where products can be transported very easily across vast spaces.

One of the major constraints faced by a business when it has just started is funds. It limits the entrepreneur in three ways: Lack of price competitiveness, absence of a marketing budget, and it limits scalability. While banks and other institutions will provide loans, it requires a strong concept, plan and execution. In this regard, the answer is networking.

The term networking is made from two words: Net and working, which means your net is working for you. The net is the people we know or the people that we can know but how do we make our net, work for us? That is the key. For instance, if an entrepreneur can get 100 people to talk about

their business wherever they go, it will have a big impact on the business. This is networking. These are people who become brand ambassadors for the business. But how does one achieve this? There are people in our lives for whom we would do anything for reasons such as love, caring, responsibility, compassion, and they would reciprocate.

Thus, anybody for whom we create value has created a lot of value for us in the first place. So the only way for our net to work for us is that we first need to create value for them. One first needs to create value for these 100 people who will become brand ambassadors for the business. The value can be understood in different ways. This can be by motivating somebody, helping someone when they are down, listening to someone etc. Each of this creates value for them. Similarly, when one helps someone meet a contact who may have value for their business, one is creating value for that person.

There are three steps to creating such value: First, people know you. Two, people like you. Three, people trust you. In this, trust is the most important factor but likeability is the essential factor. So if those 100 people like you and you have created value for them, they will create value for you.

There are two ways to do this. One is called GIVC where GI stands for Genuine Interest and VC for Value Creation. We often have experiences when someone is talking to us but we are not really listening but framing responses in our head. When we are not listening, people realise this at some level. One way to take genuine interest in someone is to listen to them when they are speaking and this helps forge a

deeper relationship with them. If one is not taking genuine interest, then they will also not take genuine interest. This happens at a very subtle level. So you have to take genuine interest in people. Start ups generally do not have a marketing budget. So it really helps to take genuine interest in people who will then take genuine interest in your business. You have to do this constantly. You have to keep asking yourself what can I do for this person? As a business person, we generally think of what can I get from a person. But value creation is about what you can give. This is a simple way of understanding what we can do to create a network. Every start up has to look at a network to generate their revenue and sustain themselves.

The second approach to create likeability is to be a solid content creator online. Some social media platforms have immense potential. We can reach any one in the world through these platforms. We have to learn the art of using these platforms instead of being used by them. It is important that your stories are told online. One never knows where good fortune will come from if you create value for others.

Finally, in the social sector people often forget the aspect of money. It is crucial and we need to think big. The money you will earn will be used for good causes and is important for sustainability of business as well as social value.



Appendix A

Leh Declaration

We, the youth, representing the Union Territories of Jammu & Kashmir and Ladakh, states of Meghalaya, Nagaland, Sikkim, Uttarakhand, Arunachal Pradesh, Himachal Pradesh, Manipur, Tripura, Darjeeling and Kalimpong districts of West Bengal, Dima Hasao and Karbi Anglong district of Assam have participated in the 5th Indian Himalayan Youth Summit on the 9th of October 2022, with the theme of 'Entrepreneurship in the Himalayas' and with much deliberation present these following recommendations:

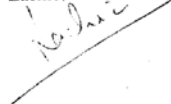
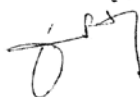
- Form a strong youth wing under the aegis of IMI to enable effective communication and networking platform. This would facilitate us to organise frequent meets and stay connected for better coordination.
- Capacity building and skill development programs for aspiring entrepreneurs of IHR to be organised on a regular basis.
- Entrepreneurship and Financial literacy to be embedded in the education system as a policy decision.
- Recommending of policies to strengthen the logistics and transportation in the IHR.
- To push for the setting up of viable and effective incubation centres in the IHR. Revamping of the existing centres to facilitate the single window system and ease of doing business.
- Embedding responsible entrepreneurship through utilising the natural resources in balance, while keeping in mind a healthy ecosystem and generation of inclusive social benefits.
- IMI must recognise and incentivise the youth entrepreneurs from the IHR who are mitigating ecological and social challenges through their businesses.

Mr. Neichute Doulo

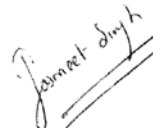


Miss. Rigzin Wangmo, Mr. Joshua Hishey

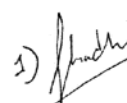
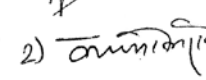
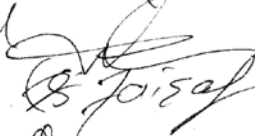

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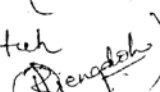
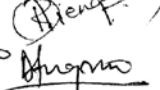
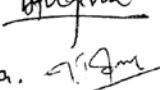
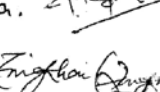





Jasmeet Singh



State Youth Reps:

- 1)  (Abishik Pandhan, DHI)
- 2)  (Kapil Roka)
- 3) Enoch Spalbas Enoch Spalbas
- 4) Stanzin Delex Cherdon (St. Delex)
- 5) Dorjay Namgyal
- 6) Faisal Qadir 
- 7) Chewang Motup 

- 10) Yukta Acharya (Yukta)
- 11) Rae-Anne Pytuh 
- 12) District Angmo 
- 13) Ysewang Dolma 
- 14) Mashumini Zinghai 
- 15) Matruka Ghimray 
- 16) Tungeing Khaleng 

- (19) Tiston Debarana (Tiston)
- (20) Deno Dolie (Deno Dolie)
- (21) Vireen Sakhuie (Vireen)
- (22) Reika Millikpi (Rmk)
- (23) Shelly Tago (Shelly Tago)
- (24) Hajira Bano (Hajira Bano)
- (25) Stanzin Dorma (Stanzin Dorma)
- (26) Stanzin Paljor (Stanzin Paljor)
27. Ramesh Baidya (Ramesh Baidya)
28. Usha Thakur (Usha Thakur)
29. Tajam Bhandari (Tajam Bhandari)
30. Mukesh Garbhal (Mukesh Garbhal)
31. Kato Bedal (Kato Bedal)
32. Sonam Chorol (Sonam Chorol)
33. Zangskit Palmo (Zangskit Palmo)
34. Uyas Phunchok (Uyas Phunchok)
35. Rigzen Dorjay (Rigzen Dorjay)
36. R. Ledzisa (R. Ledzisa)
37. Mahesh Rongtang (Mahesh Rongtang)
38. Cuxhori Chero (Cuxhori Chero)

Mountain Legislators Meet 2022

EPR: From Policy to Practice

Sustainable Mountain Development Summit – XI, Leh 2022
Assembly Hall, LAHDC, Leh
11th October, 2022

The Mountain Legislators Meet (MLM) plays an important role in institutionalising deliberations of the Sustainable Mountain Development Summits. It is a structured meeting of elected representatives from across the Indian Himalayan Region (IHR) who share a platform to discuss sustainable mountain policies and explore how these policies can be taken forward at various levels of legislative action in the country.

The MLM is facilitated by Integrated Mountain Initiative as part of each Sustainable Mountain Development Summit. In 2022, the MLM was host as part of the Sustainable Mountain Development Summit-XI and hosted by Ladakh Autonomous Hill Development Council, Leh (LAHDC, Leh), Sustainable Development Forum of Ladakh (SDFL) and Integrated Mountain Initiative (IMI).

The theme chosen for MLM 2022 was Extended Producer Responsibility (EPR): From Policy to Practice. This theme was chosen as waste management, especially plastic waste, has emerged as a major concern across India, though it has special significance in the context of the fragile ecology of mountain regions.

Mountain Legislatures Meet 2021 at SMDS-X, Darjeeling held a discussion on Pathways for plastic waste management in the Indian Himalayan Region. The MLM 2021 resulted in the Darjeeling Declaration that acknowledged the need for policies on plastic waste for a vision of Zero Waste Himalaya; supporting the call to ban single use plastic; and advocacy for an EPR policy that is mountain sensitive.

The policies to check plastic pollution are largely not-connected and contextual to the IHR. The MLM 2022 was an attempt to fill the gap between such policies and the IHR region by bringing legislators of the IHR together to specifically discuss the Extended Producer Responsibility 2022 within the Plastic Waste Management Rules 2016.

The IHR is one of the 34 global biodiversity hotspots, which hosts invaluable ecosystem goods and services, biodiversity, supporting 50 million people and constituting about 16.2% of India's total geographical area. The Himalayas is the source of water for the Indo-Gangetic plains and the In-

duus basin and this complex socio-ecological system is in the midst of a waste crisis, especially with regard to plastic waste.

The waste crisis has been exacerbated with rapidly changing production and consumption patterns along with an increase in tourist footfalls. Even remote regions in the IHR are impacted by plastic pollution. Solid waste is predominantly dumped unsegregated in landfills, thrown down mountainsides or streams and rivers and burnt. Collecting and linkages to recycling units is limited, which means most of the plastic waste ends up in the environment.

The Himalayan Clean up from 2018 to 2022, which included waste and brand audits show an increasing amount of plastic waste, especially non-recyclables being produced in the IHR. This included single use plastics: Multi Layered Plastics (MLP), disposable utensils and PET bottles. The Himalayan regions need a systemic approach to the waste crisis and cannot continue to resort to an end of the pipeline solution.

In this regard, Extended Producer Responsibility (EPR) promulgated in 2016 under the Plastic Waste Management Rules resulted in a significant shift as it put the responsibility on producers to manage plastic waste in India. Successive amendments have been made to the EPR Rules with the latest version in 2022, but so far there is no EPR amendment that is specifically for mountain regions. Barring Uttarakhand and Himachal Pradesh, no other mountain state in India has implemented any form of EPR. Even in these states, organisations involved in EPR face many challenges. EPR fails to recognise problematic waste such as MLP, which cannot be recycled.

EPR is located within the Solid Waste Management Rules 2016 and the legal framework of Waste Management Rules does not address issues specific to the Indian Himalayan region. Thus, there is an urgent need to amend the current EPR and SWM Rules for India's mountain regions to address the growing waste management challenges in these areas.

Thus, MLM 2022 focussed specifically on framing the main challenge related to waste management in the Indian Himalayan region and the specific amendments required to ensure that the current EPR and SWM Rules are relevant and applicable to the mountain regions of India.

EPR: From Policy to Practice

Location: Secretariat, LAHDC, Leh

Chair: Adv Tashi Gyalson, the hon'ble Chairperson/CEC, LAHDC Leh

Date: 11th October, 2022

The inaugural address for the Mountain Legislators Meet was delivered by President of Integrated Mountain Initiative (IMI) and former Member of Parliament from Sikkim, P. D. Rai. He explained that in keeping with the vision and aims of IMI and after consultation with members of IMI, Chief Executive Councillor/Chairperson of LAHDC, Leh, Adv. Tashi Gyalson, President of Sustainable Development Forum of Ladakh and Principal Chief Conservator of Forest – Ladakh, Jigmet Takpa, IFS and others, it was decided to focus on Extended Producer Responsibility: From Policy to Practice as the theme for the SMDS-XI Mountain Legislators Meet.

Executive Councillor at LAHDC, Kargil, Phuntsog Tashi spoke about policies such as Sarva Shiksha Abhiyan and other schemes sanctioned for the region. He stated that specific policy for the mountain states should be made as it is difficult to implement many national policies in mountain regions such as Ladakh unless they are amended for mountain regions.

Several speakers spoke about various aspects of the waste issue in the Indian Himalayan region, the scale of the problem and potential amendments and solutions to current policies to address these issues. These talks provided a context for the Leh declaration on mountain specific amendments required in EPR and SWM Rules.



EPR: A policy tool for plastic waste management

Dr Sumit Sharma

United Nations Environment Programme (UNEP), New Delhi

■ Plastic waste can be managed through EPR and mountain states too can implement it. However, we first need to understand the global scale of the problem.

- Around 9 billion tonne of plastic has been manufactured around the world since 1950.
- Between 9 and 14 million tonnes of plastic ends up in the oceans—that is about 60-70% of the marine litter that enters in the oceans.
- Around 80% marine plastic pollutants originates from land.
- Micro-plastics are broken down by the Sun and can have a huge impact on human health, as many pollutants can get inside the body and cause damage. An estimated 5g of plastic is ingested by humans each week.
- There are challenges in Indian Himalayan region with rapid change in production and consumption patterns especially with increased tourist footfall along with weak waste management infrastructure.
- The United Nations Environment Assembly discussed resolutions with member states and on 2nd March 2022, the United Nations passed a resolution to 'End Plastic Pollution' through international legally-binding mechanisms.

The EPR Authorisation and Rules, 2022 includes several new elements, including:

- a) Compulsory registration of entities
- b) Four categories of plastic packaging:
 - Category 1: Rigid plastic packaging
 - Category 2: Flexible plastic packaging
 - Category 3: Multi-layered plastic packaging
 - Category 4: Plastic used for packaging and carry bags (compostable plastic)
- c) Producer responsibility includes brand owner, importer, and plastic waste processor.
- d) Brand owner: Collection targets will apply to anyone who produces plastic
- e) Minimum level of recycling of plastic packaging (category 1 to 4).

f) Mandatory use of recycled plastic in packaging

g) Non-recyclable plastic to be sent for disposal in various sectors such as road construction and co-processing energy creation.

- Producers can establish recycling facilities, plastic waste and plastic collection points and Material Recovery Facilities (MRF) on their own or in collaboration with others. They can also collect plastic from Urban Local Bodies.
- The EPR certificate mechanism gives recyclers EPR credits if they recycle more than they produce, which serve as offsets against EPR targets and obligations from previous years. These credits can also be sold and purchased and carried forward for subsequent years. More details are available on Central Pollution Control Board of Government of India (eprplastic.cpcb.gov.in/plastic/)
- Some relevant models for implementation of EPR in India include, fee-based model, collective model (organisation), individual model (agency), deposit refund and buy-back model such as machines that give incentives to return plastic waste.

EPR implementation should be designed for the environment with sound monitoring and verification of targets and implementation, intergradation of the informal sector, data collection and informed expansion of EPR coverage, and creation of awareness through communication and training. There is need for development of science-based decision support system, processes to generate data and develop science-based waste minimisation and management solutions, behaviour change awareness creation among key stakeholders, reduction of plastic consumption, segregation, development of re-use ecosystems, regular clean-ups, capacity building of Urban Local Bodies and inclusion of the informal sector, health workers, implementation of the ban on single use plastic, science-backed investment for cost effective and sustainable infrastructure, EPR implantation mechanisms designed for mountain regions, and strengthening of CSR activities to manage plastic waste.

Policies for plastic waste management

Shri Jigmet Takpa, IFS

Principal Chief Conservator of Forest – UT Ladakh

President, Sustainable Development Forum of Ladakh

In order to understand the evolution of Extended Producer Responsibility (EPR), one must understand previous rules, especially Plastic Waste Management (PWM) Rules, 2016. In 2017, single use plastic was banned but there were issues with the implementation of the rule. Then, PWM Amendment Rules, 2022 was enacted to make the law more practical. The Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India amended PWM Rules, 2016 EPR to regulate plastic packaging.

The amendment developed mechanisms whereby generators of plastic waste have to take measures to minimise plastic waste generation. In addition, reuse of rigid plastic packaging has been mandated along with mechanisms for plastic recycling and recovery under EPR rules.

The amendment also chalks out clear responsibilities for producers, importers and brand owners (PIBOs). This includes registration on the EPR portal, full obligation for recycling, the use of recyclable material and engagement in collection and recovery of plastics, submission of annual returns, re-use of materials, end-of-life disposal and submission of action plan.

The policy also introduces the EPR Certificate, which allows for the sale and purchase of surplus Extended Producer Responsibilities certificates. This will establish a market-based mechanism for plastic waste management. It also sets year-wise targets for PIBOs (2021-22: 25%, 2022-23: 70%, 2023-24: 100%)

There has been a big lacuna in this regard and the ban of plastic has to be undertaken phase-wise to be more effective. The government must introduce specific amendments for



mountain regions in India and such a discussion has already been initiated by the MoEF&CC. These amendments will not only hold the producer responsible for the waste generated but also the distributor who will have to register on the EPR portal and report the amount of products being shipped in and the waste products being processed.

A blanket ban will not stop manufacturers from producing single-use plastic products and it is important to find substitutes for use-and-throw plastic. At the same time, there has to be provisions to provide alternative livelihoods for producers, waste pickers and other groups involved in reverse supply business. The policy must incentivise producers to promote and

transit to more sustainable products instead of only imposing fines for not adhering to guidelines. In addition, the policy requires mechanisms to monitor, track, collate data and analyse data-backed policy decisions and promote responsible consumerism. This will need to go hand-in-hand with behavioural change for not littering and encourage waste segregation and waste management. Furthermore, it would help to classify regions based on consumer products distribution networks, EPR responsibilities, logistics and cost implications, processing and by-product market and demand. This will then provide clarity for extending incentives and cross subsidies across classified regions such as hilly regions and rural areas.

Brand Audit: A tool to demand EPR in the mountains (The Himalayan Clean Up 2022) Findings from Ladakh

Smt Priya Shrestha

Secretary, Integrated Mountain Initiative

Smt Preeti Chauhan

Little green World

Smt Rinchen Dolma

LAHDC, Leh

Administration of UT of Ladakh

Sustainable Development Forum of Ladakh

Mountain regions in India face a monumental waste management crisis. Given the limited land availability in these regions, waste management is not only a geographical issue but also an environmental, social and economic challenge. There are issues related to linkages due to high transportation cost to retrieve material from mountain regions, which are often distant and remote. This results in one-way traffic for plastic, which are shipped to mountain regions but not removed, and keep piling up. Unfortunately, the ecological fragility of mountain regions has not been recognised in national-level policymaking.

Brand audit of waste is a valuable tool to identify the individual companies that earn profits from the consumption of products that generate waste. It helps identify companies responsible for waste generation and the types of plastic they use. Brand audit is generally conducted by collecting waste from popular public locations. The collected waste is then audited for the material and brand of the company that produced it.

The Himalayan Clean Up has been conducted every year since 2019. In 2022, data was collected from 65 sites by 3,336 volunteers. In total, 114,376 waste items were collected of which 105,995 were plastic and 8,381 were non-plastic.

The plastic waste collected, represented different categories of plastic including PET (16.3%), high density polyethylene or HDPE (2.8%), low density polyethylene or LDPE (8.9%) and polypropylene (5%). A majority of the plastic waste collected (72%) was non-recyclable and only about 28% was recyclable. Furthermore, most of the plastic waste (82%) is generated from food packaging.

Around 27.3% of the plastic waste generated was from unbranded sources while 72.7% were from branded sources. The top 10 polluters in the Himalayas in 2022 identified through the brand audit exercise were:

- a. Pepsico
- b. Choudhary Group
- c. Perfetti
- d. ITC
- e. Parle Agro
- f. Coca-Cola
- g. Nestle
- h. Unilever
- i. Mondelez
- j. Dabur

This exercise was also conducted in Ladakh in 2022 and 14,890 items were collected of which 14,094 (95%) items were plastic and 796 (5%) were metal items. The plastic items represented different categories of plastic including PET (20%) and high density polyethylene or HDPE (3%) and other plastics (76%). A majority of the plastic waste collected in Ladakh (77%) was non-recyclable and only about 23% was recyclable. Furthermore, as with the rest of the Himalayan region, most of the plastic waste (88%) generated in Ladakh is also from food packaging. The top 10 polluters in Ladakh in 2022 identified through the brand audit exercise were:

1. Amul
2. Coca-Cola
3. Nestle
4. Pepsico
5. ITC
6. Haldiram's
7. Parle
8. Hindustan Unilever
9. Dabur
10. Bikaji

In Ladakh, recycling is being carried out through the Tsangda project. However,

the waste composition suggests that the popularity of packaged food is not just creating waste but also contributing to increased incidence of non-communicable diseases through the consumption of food that is low in nutrition and high in salt, sugar and fat. Furthermore, the waste is being generated due to a design flaw in which 72% of the waste is non-recyclable multi-layered plastic.

Current provisions under EPR law sets targets for producers but the targets for mountain regions remain unclear. The policy must make it mandatory for companies to engage with Urban Local Bodies and Panchayati Raj Institutions to collect waste. Currently, there is limited access to information especially for mountain regions. In addition, the ecological fragility and higher access/higher costs means there are no incentives for the implementation of EPR in mountain regions in the absence of a mountain-specific amendment to the current policy. There is need to explore different sustainable options for waste management in mountain regions. Currently, non-recyclable plastic such as multi-layered plastic remain the biggest challenge for waste managers in mountain regions. In this regard, the global norms for waste management provide three clear strategies: Reduce consumption, invest in sustainable solutions, and switch to more sustainable alternatives.

In 2022, representatives from 175 nations signed a resolution at the UN Environment Assembly in Nairobi to forge a legally-binding international treaty by 2024 to end plastic pollution. There is need to focus on various measures throughout the lifecycle of plastics to effectively reduce their negative impacts.

Open discussion



Shri Stanzin Chosphe,
Executive Councillor, LAHDC, Leh:

Can Tsangda be registered as a company? And once registered, can it certify the work of other companies?

Smt Divya Sinha,
Additional Secretary, Ministry of Environment, Forest and Climate Change, Government of India:

Waste processors have two sources of income: Sale of products and sale of certificates. At this stage, there is no provision for the sale of certification in the policy. It is an innovative thought and if Ladakh starts doing recycling, it will be able to receive the certificate at some stage. There is a provision for local bodies, which can secure certificates. Local bodies can set up their own waste management system to collect waste and certificates can be allotted to them.

Shri Mohsin Ali,
Executive Councillor, LAHDC Kargil:
What are the alternatives to plastic?

Dr Sumit Sharma, UNEP India:

UNEP has an ongoing study to evaluate scientifically-developed alternatives to plastic whose results will be made public soon. There are some ready and environment-friendly alternatives to single use plastic.

Shri Sunil Uniyal Gamma,
Mayor, Dehradun, Uttarakhand:

A lot of products are packaged in plastic. We have made efforts to ban plastic

in Dehradun. Earlier, Dehradun was 84 in the Swachh Survekshan rankings and has now risen to 69. We are making efforts to become a cleaner city. We have so far reached out to 105 schools to create awareness about single use plastic and collected feedback. We are focussing on school students to ensure sustainable change. Each school has formed a committee to implement the ban on single use plastic, which needs to be supported by awareness programmes and inclusion in educational curricula. A single government department should be given responsibility for the implementation of this ban to ensure there are satisfactory results. We also found that traders came up with alternatives when we banned single use plastic.

Shri Tikender Singh,
Former Deputy Mayor, Shimla

I think this is a political question. We need to see this in an integrated manner. If we talk about sustainability in the mountains, it has to be an integrated process as mountains need a paradigm shift. For instance, in Shimla when we banned PET bottles, the CEO of Coca Cola India was able to develop an alternative solution.

Shri Skalzang Dorjay,
Chairperson, Block Development Committee, Leh:

1. Is there a particular research based project by IMI on alternatives to plastic?

2: Budgets have been enhanced since

Ladakh became a Union Territory. Each block has segregation centres now. Can we have a recycling project and what incentives can be provided to start ups in this sector?

3. Is there provision for subsidy for youth who might be interested in starting an initiative for recycling?

Shri P. D. Rai,
President, Integrated Mountain Initiative:

We can rely on existing research globally and integrate it into policy. This is what we are trying to do. About 80-90% of the waste collected cannot be recycled. Since we do not have a solution for the waste, it is important that we implement Extended Producer Responsibility (EPR). The best solution is to put the responsibility on individual companies producing these products but we need to make EPR more mountain-friendly.

Shri Thinles Nurboo,
Councillor, LAHDC, Leh:

What are the major challenges faced in formulating and implementing such policies?

Roshan Rai,
Darjeeling Himalayan Initiative:

EPR marks a major shift in the waste management system. It is a political phase that includes Urban Local Bodies and Panchayati Raj Institutions (PRIs). Companies are producing products that are not recyclable. We are often told that it is our responsibility but we actually need to shift the responsibility to the companies producing these products. We need to demand the implementation of EPR as it is our right. We need to recognise that while the individual is responsible, companies have a greater responsibility to manage the waste created through the consumption of their products.

Concluding remarks

Adv. Tashi Gyalson

*The Hon'ble Chairperson/Chief Executive
Councillor LAHDC, Leh*



■ If all mountain states work collectively, then Ladakh should be at the forefront in the resolution passed by the mountain states of India. After becoming a UT, Ladakh has a unique opportunity. In terms of waste, Leh district has initiated Project Tsangda, which is a rural mass waste management system. It is perhaps one of the best waste management systems in the country.

We need to consider what kind of support should be given to people who want to set up a recycle plant. In addition, we have signed an MoU with MRF Limited. Under this, Project Tsangda collects plastic waste generated in Ladakh and MRF has it picked up and taken outside for processing. Discussions are underway with another company to handle non-recyclable items generated in Ladakh.

We are also exploring a collaboration with Norway to replicate its Deposit Return System. If the project is implemented, we intend to provide good return rate to people who deposit their plastic waste. We also intend to use the environment fee for clean ups. In addition, CSR policy and recommendations should be made to ensure that at least 1% CSR funding is allotted to the region where the products are sold.

MLM 2022 ended with proposal, signing and passing of a resolution (Leh Declaration) titled 'EPR: Policy to Practice Declaration' (See Appendix A)

Appendix A



SUSTAINABLE
DEVELOPMENT
FORUM OF
LADAKH

MOUNTAIN LEGISLATORS' MEET - 2022 Sustainable Mountain Development Summit XI Leh, Ladakh

"EPR: Policy to Practice"

The Elected Representatives of the States, Union Territories, Autonomous Councils and Districts of the Indian Himalayan Region at the Mountain Legislators' Meet (MLM) 11 October 2022 as part of the Sustainable Development Summit XI, Leh 10 to 12 October 2022 recognise and acknowledge that Extended Producer Responsibility, 2021 under the Plastic Waste Management Rules (amended 2022) is a much needed narrative change in addressing the waste crisis in the Himalaya, the nation and the planet. It is responsive to the plastic pollution crisis and recognition of the materiality of plastic that does not go away with limits to recycling as a comprehensive solution.


Solutions to the plastic crisis need urgent focus more at the source - where plastic is being produced, rather than at the manager and consumer level or post disposal. There is an urgent need for extended producer responsibility to redress the Himalayan Waste Crisis.

We the elected representatives at the Mountain Legislators' Meet, 11 October 2022, Leh build on the MLM Darjeeling Declaration 11 November 2021 and hereby

1. Acknowledge the need to redress the Himalayan Waste Crisis in an urgent manner with circular economy lens
2. Support the Union Government's call for Single Use Plastic ban and expand it to be contextual to the fragility of the Indian Himalayan Region

3. Advocate for Extended Producer Responsibility that is mountain sensitive
 - a. Explicitly create EPR targets for the States, UTs, Autonomous Councils and Districts in the Indian Himalayan Region.
 - b. Special financial resources allocation from the PIBOs that take into account the geographical challenges and costs of implementing EPR the States, UTs, Autonomous Councils and Districts in the Indian Himalayan Region.
 - c. Create networks of collection, storage and transportation systems that cover all regions of the Himalayan States and UTs which includes urban, rural, forest and remote tourism and defense sites.
 - d. Call on the most polluting companies to implement EPR in the States, UTs, Autonomous Councils and Districts in the Indian Himalayan Region.
 - e. Promote reduction and refill systems that design out plastic waste from the system
 - f. States, UTs, Autonomous Councils and Districts in the Indian Himalayan Region. are empowered, strengthened and capacities built to implement EPR in the Indian Himalaya that include representation at the National Committees for EPR
 - g. Invest in research and design that remove non-recyclable plastics like Multi-Layered Plastic.

4. Converge waste interventions with:
 - a. Promotion of local food systems and the Eat Right Campaign that includes properly and easily understood front of package labeling.
 - b. Educational processes, institutions and mid-day meals


 11/10/22
 Tashi Gyatso (CEC)
 Tashi Gyatso E.C. LAHDC Kargil
 Tashi Namgyal E.C. LAHDC Leh
 STANZIN CHOSPHEL, E.C. LAHDC Leh.
 Ghulam Mehdi E.C. LAHDC, Leh.
 MOHSIN ALI E.C. LAHDC Kargil.
 DR ISHEY NAMGYAL PRESIDENT, M.C. LEH
 Asadul-Rahman Akhbar Councillor LAHDC Kargil

	P. S. TSEPAY	COUNCILLOR UPPER LGH	
2	Lendup Dorjai	Councillor	Stemsauram
3	Kasun Namdrol	Councillor	Korgok
4	Tserang Paldan	B.D.C	Thutogay
5	Sigmat Namdol	BDC	Rupsho
6	Ugyen Chandra	BDC	Rong Chumalay
7	Sigmat Younten	BDC	Serlot
8	Chhoring Phunok	BDC	Thutogay
9	Slangzin Chusphel	Councillor	Chuchot
10	Saire - Bomo	Championson BDC Chuchot	Saire
11	Rigzin Choral	BDC Nimoo	Nimoo
12	Dr. Stelgy Dorjay	Chairman BDC, Leh	Leh.
13	Dr. Houp Dorjay	Councillor	Lamaguru
14	Jhegy Spitzay	Councillor	nyoma
15	Dr. Vangchen Dolme	Councillor	Nominalist
16	Thinks Norbu	do	refining
17	Kondole Tserphel	Nominalist Councillor	refining
18	P. D. Rai	Former MP	Rai

Appendix B

Participants in Mountain Legislators' Meet, 2022, Leh

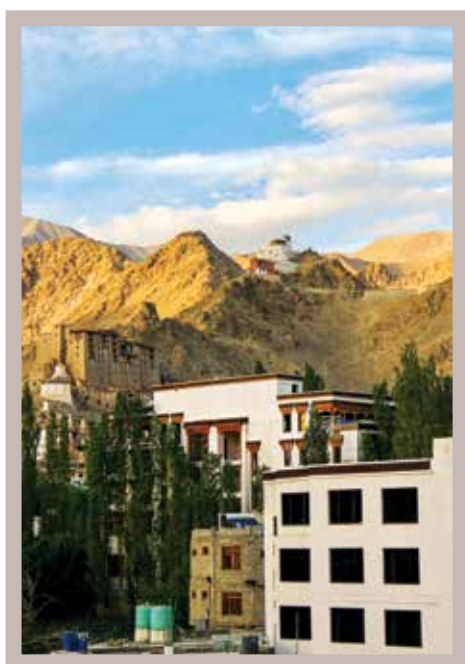
1. Adv. Tashi Gyalson, Chairperson/CEC, LAHDC Leh
2. Shri Punchok Tashi, Executive Councillor, LAHDC, Kargil
3. Shri Tashi Namgyal, Executive Councillor, LAHDC, Leh
4. Shri Stanzin Chosphe, Executive Councillor, LAHDC, Leh
5. Shri Ghulam Mehdi, Executive Councillor, LAHDC, Leh
6. Shri Mohsin Ali, Executive Councillor, LAHDC, Kargil
7. Shri Abdul Rahim Akhone, Councillor, LAHDC, Kargil
8. Shri P. S. Tsepag, Councillor, LAHDC, Leh
9. Shri Lundup Dorjai, Councillor, LAHDC, Leh
10. Shri Karma Namdak, Councillor, LAHDC, Leh
11. Shri Stanzin Chisphe, Councillor, LAHDC, Leh
12. Dr Morup Dorjay, Councillor, LAHDC, Leh
13. Shri Ishey Spalzang, Councillor, LAHDC, Leh
14. Shri Thinles Nurboo, Councillor, LAHDC, Leh
15. Dr Yangchan Dolma, Nominated Councillor, LAHDC, Leh
16. Ven Konchok Tsephe, Nominated Councillor, LAHDC, Leh
17. Dr Ishey Namgyal, President, Municipal Committee, Leh
18. Smt Saira Bano, Chairperson, Block Development Committee, Chushot
19. Smt Rigzin Chorol, Chairperson, Block Development Committee, Nyemo
20. Dr Skalzang Dorjay, Chairperson, Block Development Committee, Leh
21. Shri Tsewang Paldan, Chairperson, Block Development Committee, Thiksay
22. Shri Jigmat Namdol, Chairperson, Block Development Committee, Rupsho
23. Smt Urgain Chosdon, Chairperson, Block Development Committee, Nyoma
24. Shri Jigmat Yountan, Chairperson, Block Development Committee, Rong
25. Shri Tsering Phuntsog, Chairperson, Block Development Committee, Saspol
26. Shri P. D. Rai, Former Member of Parliament, Sikkim

The Indian Himalayan Photography Contest 2022

The Indian Himalayan Photography Contest 2022 was organised during the SMDS-XI in Leh, Ladakh on the theme of 'Impacts of Tourism in the mountains'. These issues are often complicate, which makes it challenging to capture them in a single frame. This is more than just a contest. It is about inspiring people to do more with their cameras, to think beyond the ordinary, to create images and films that stand out, create awareness and inspire action. The winners were declared during the valedictory session of SMDS-XI.



First place: Fayaz Ahmad (Ladakh)



Second place: Isaac Gergan (Ladakh)



Third place: Pokhraj Rai (Sikkim)

ORGANISERS



The Administration of the
Union Territory of Ladakh



PARTNERS



CONFERENCE PATRON

Shri R. K. Mathur

The Hon'ble Lieutenant Governor of Ladakh

STEERING COMMITTEE, SMDS-XI

Committee Chairperson:

1. Adv. Tashi Gyalson, the Hon'ble Chairman/Chief Executive Councillor, LAHDC, Leh

Committee Members

2. Shri. Jamyang Tsering Namgyal, Hon'ble Member of Parliament, Ladakh
3. Shri Umang Narula, Advisor, UT Ladakh
4. Shri Feroz Ahmed Khan, Hon'ble CEC/Chairperson, LAHDC, Kargil
5. Shri. P.D Rai, President, Integrated Mountain Initiative
6. Shri. Alemtemshi Jamir, Governing Council Member, IMI
7. Shri. Sushil Ramola, Governing Council Member, IMI
8. Dr. G.S Rawat, Governing Council Member, IMI; Member and Ladakh Planning Board
9. Smt. Binita Shah, Treasurer and Governing Council Member, IMI
10. Smt. Priyadarshinee Shrestha, Secretary and Governing Council Member, IMI

ORGANISING COMMITTEE SMDS-XI

Committee Convenor

1. Shri Rigzin Spabar, Governing Council member, IMI and SDFL member

Committee Co-convenor

2. Shri Jigmet Takpa, Principal Chief Conservator of Forest, Ladakh and Chairperson, SDFL

Secretaries

3. Smt Kunzes Dolma, Vice Chairperson, SDFL
4. Smt Rigzin Wangmo Lachic, Joint Secretary, SDFL
5. Dr. Zainab Akhter, Joint Secretary, SDFL
6. Smt Rinchen Dolma, Treasurer, SDFL
7. Shri. Reuben Gergan, Member, SDFL
8. Dr. Sunetro Ghosal, Secretary SDFL
9. Dr Enoch Spalbar, Joint Secretary, SDFL
10. Shri Stanzin Passang, Joint Secretary, SDFL

Committee members

11. Shri Smanla Dorje Nurboo, Hon'ble Councillor, Saspol, LAHDC, Leh
12. Shri Phuntsog Stanzin Tsepag, Hon'ble Councillor, Upper Leh, LAHDC, Leh
13. Shri Thinless Norbu, Hon'ble Councillor, Kungyam, LAHDC, Leh
14. Shri Stanzin Chosphel Hon'ble Councillor, Thiksey, LAHDC, Leh
15. Shri Lundup Dorjai Hon'ble Councillor, Skurbuchan, LAHDC, Leh
16. Dr. Morup Dorjey, Hon'ble Councillor, Lamayuru, LAHDC, Leh
17. Deputy Commissioner, Leh
18. Director, Tourism Department, Ladakh
19. Director, Urban Development, Ladakh
20. Director, Rural Development, Ladakh
21. Director, Environment Department, Ladakh
22. Director, Industries and Commerce
23. PS to Hon'ble Chief Executive Councillor, LAHDC, Leh

VOLUNTEERS AT SMDS-XI

Abass Ali	Padma Yangchen	Stanzin Lzadon
Abhijeet kalakoti	Padma Youtol	Stanzin Padma
Arif Ahmad	Phunchok Angmo	Stanzin Shakya
Ashish Panday	Prateek S	Stanzin Shatdup
Asiya Tabassum	Priyadarshan Pandey	Stanzin Skaldan
Chamba Tokdan	Rigzen Dorjay	Stanzin Targias
Choskit Dolma	Rigzen Angmo	Stanzin Wangail
Chuskit Angmo	Rigzin Angmo	Stanzin Yangdol
Dechan Chosdol	Rinchen Dolker	Stanzin Yangjor
Dechen Angmo	Saifreena Wahid	Tashi Dolker
Disket Angmo	Saira Parveen	Tenzin Motup Tahang
Dorjay Namgyal	Sajjad Akbar Khan	Tsering Angchuk
Farhat	Salman Khan	Tsering Chusket
Fatima Souqra	Skarma Lamo	Tsering Dolma
Imtiyaz Hussain	Skarma Saldan	Tsering Jigmath
Irfan Ali	Skarma Yangskit	Tsering Sangdup
Ishey	Skarma Yangskit	Tsering Stobgias
Jigmet Angmo	Sonam Angmo	Tsetan Wangchok
Jigmet Gyalson	Sonam Chondol	Tsewang Dolma
Jigmet Gyatso	Sonam Chorol	Tsewang Dolma
Jigmet Spaldan	Sonam Chosdol	Tsewang Dolma
Jigmet Stobdan	Sonam Chuskit	Tsewang Lamo
Kunzang Ladol	Sonam Geleks	Tsewang Laskit
Mohammad Abass Khan	Spalzes Angmo	Tsewang Namgial
Mohammad Umer	Stanzin Angmo	Tsewang Norbu
Morup Angmo	Stanzin Chosgyal	Tsewang OtpHEL
Namrata Neopaney	Stanzin Chosphel	Tsewang Thinles
Nayeema Manzoor	Stanzin Chotso	Tsewang Yangdol
Nilza Angmo	Stanzin Chuskit	Tsewang Yangjor
Padma Chorol	Stanzin Delex Chosdon	Urgain Phunchok
Padma Chozin Tahang	Stanzin Dolma	Zangskit Palmo
Padma Dolkar	Stanzin Dorje	Zomskit Dolma

The Administration of UT of Ladakh
<https://ladakh.nic.in/>

LAHDC, Leh
<https://leh.nic.in/>

Sustainable Development Forum of Ladakh
www.sustainableladakh.com

Integrated Mountain Initiative
<https://www.mountaininitiative.in/>