



Forests and Beyond:

Proceedings of the South Asia Regional Consultation
on Forest Landscape Restoration (FLR)

Challenges, Opportunities and Way Forward towards the Bonn Challenge Pledge

New Delhi, India, 29-30 August, 2017



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Dr. S.C. Gairola
Director General

*Indian Council of Forestry Research
and Education (ICFRE)*
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Dehra Dun - 248 006
Dec 20, 2017

Message

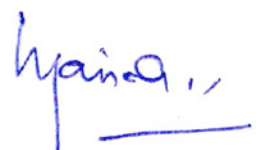
Desertification, land degradation and drought have severe implications for the livelihood and food security in developing countries where a large section of the rural population is directly dependent on the land resources for their subsistence. The Bonn Challenge is a global effort to bring 150 million hectares of the world's deforested and degraded land into restoration by 2020, and 350 million hectares by 2030. The Bonn Challenge envisages forest landscape restoration (FLR) approach, which aims to restore ecological integrity at the same time as improving human well-being through multifunctional landscapes. It further reaffirms our global commitments, including the Aichi Target 15 of CBD, the REDD+ goal under UNFCCC, and the Rio+20 land degradation neutrality goal.

In India, 69.6% of the total geographical area is under dry-land, comprising of arid lands (50.8 million hectares), semi-arid lands (123.4 million hectares) and dry sub-humid areas (54.1 million hectares). While About 32% of the total geographical area of India is undergoing various forms of degradation and 25% of the geographical area is affected by desertification. Degradation of these lands has severe implications for the livelihood and food security of millions. The Government of India has expressed its support to Bonn Challenge initiative by committing restoration targets of 13 million hectares of degraded lands by 2020 and 21 million hectares by 2030. ICFRE is taking this call further by research and extension inputs aimed towards landscape restoration.

Government of India's long term goal is to bring 33% of its geographical area under forest and tree cover. Major afforestation and reforestation programmes have been underway in India since the enunciation of the national forest policy in 1988. India is one of the few countries where forest and tree cover has increased in recent years transforming the country's forests into a net sink owing to national policies aimed at conservation and sustainable management of forests.

This regional consultation jointly organised by IUCN, Ministry of Environment, Forest and Climate Change, Government of India and ICFRE on forest landscape restoration on 29-30 August 2017 at New Delhi has brought together government representatives, non-governmental organisations, private sector representatives and multilateral agencies from India, Bangladesh, Bhutan, Nepal and Sri Lanka. I am optimistic that the conclusions from this important regional consultation will further facilitate the conservation of forest resources through forest landscape restoration approach in South Asian countries. I believe that all the South Asian countries need to work together to achieve the overarching and inspirational goal of reaching land degradation neutrality by 2030.

Efforts made by the dedicated team of IUCN for bringing out the proceedings of the regional consultation in an articulate manner are appreciated.


(Dr. Suresh Gairola)



*Mr. Pankaj Asthana
Inspector General of Forest
National Afforestation and Eco-Development
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Dec 20, 2017*

Foreword

India is a globally megadiverse country with new species being discovered every year. India also has 4 of 36 “global biodiversity hotspots”. The value of this biodiversity for sustaining and nourishing human communities is immense. For example, the ecosystem services from the forested watersheds of two great mountain chains, the Himalayas and the Western Ghats, indirectly support several million people in India. Thus, the potential for forest landscape restoration (FLR) approach in India is immense.

India’s Nationally Determined Contributions (NDC) has a target of creating additional carbon sink of 2.5 to 3 billion tonnes of CO₂ equivalent by 2030. Many of India’s National Biodiversity Action Plan targets align with the objectives of forest landscape restoration approach. This approach can also make the greatest contribution to Aichi Biodiversity Targets 5, 14 and 15, while being relevant to several others. The forest landscape restoration approach can also be a guiding thread between several Sustainable Development Goals (SDGs). The Indian Government also announced its support for the Bonn Challenge initiative in 2015, with a pledge to bring 13 million hectares of degraded and deforested land under restoration by 2020, and an additional 8 million hectares by 2030, thus becoming one of the first countries in Asia to join the global pledge.

The National Afforestation and Eco-development Board (NAEB) within the Ministry of Environment, Forest and Climate Change (MoEFCC) is responsible for promoting afforestation, restoration, and eco-development activities within the country. On 29-30 August 2017, NAEB and IUCN jointly organised a South Asia regional consultation on “Forests and Beyond: South Asia Regional Consultation on Forest Landscape Restoration (FLR)” with participation of government and non-government representatives from India, Bangladesh, Bhutan, Nepal and Sri Lanka, for sharing of restoration practices and deliberation on future strategies. These countries have similar landscapes, ecosystems, challenges and opportunities for restoration and are ideally suited to provide opportunities for cross-learning and transboundary exchange of knowledge. The Indian Council of Forestry Research and Education (ICFRE) was also a co-organiser for the regional consultation and provided technical expertise.

The two-day consultation at New Delhi, India, saw active and enthusiastic dialogue exchange and sharing of success stories from all five countries. Several recommendations were made which have been captured in this document.

I hope the dialogue on restoration initiated through the regional consultation gathers momentum and leads to the creation of a network for forest landscape restoration in the South Asia region.

(Pankaj Asthana)



Mr. P.R. Sinha
Country Representative



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Dec 20, 2017*

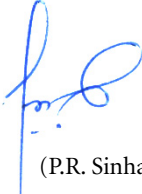
Preface

The Bonn Challenge is a global effort to bring 150 million hectares of deforested and degraded land into restoration by 2020 and 350 million hectares by 2030. It is overseen by the Global Partnership on Forest Landscape Restoration (GPFLR), with IUCN as its Secretariat. Underlying the Bonn Challenge is the forest landscape restoration approach. Forest landscape restoration is the ongoing process of regaining ecological functionality and enhancing human well-being across deforested or degraded forest landscapes. The Bonn Challenge is not a new global commitment but rather a practical means of realising many existing international commitments, including the CBD Aichi Target 15, the UNFCCC REDD+ goal, and the Rio+20 land degradation neutrality goal.

IUCN has been continually engaging with the Government of India on Bonn Challenge. This engagement culminated in India announcing its support towards the Bonn Challenge pledge at the Paris CoP in December 2015. India became one of the first Asian countries to express support for the Bonn Challenge initiative, pledging a restoration target of 13 million hectares of degraded forest lands by 2020, and 21 million hectares by 2030. IUCN has been supporting the Ministry of Environment, Forest and Climate Change (MoEFCC) in understanding the progress towards the Bonn Challenge restoration efforts since the pledge.

The international support towards Bonn Challenge has been growing with the launch of several regional collaboration platforms, such as the African Forest Landscape Restoration Initiative (AFR100) and Initiative 20x20 in Latin America, which aim to foster leadership and collaboration in support of forest landscape restoration in the respective regions. In Asia, the momentum has been growing as well with the first Asia Bonn Challenge roundtable held in May 2017 in South Sumatra, Indonesia, where the Bonn Challenge pledge crossed the 150 million hectare milestone with new pledges. As a follow up to this roundtable, the “Forests and Beyond: South Asia Regional Consultation on Forest Landscape Restoration (FLR)” was organised in New Delhi in August 2017 as a collaborative effort of IUCN with MoEFCC and Indian Council of Forestry Research and Education (ICFRE). Besides active participation of government and non-governmental organisations from India, Bangladesh, Bhutan, Nepal and Sri Lanka; private companies, and bilateral, multilateral and donor agencies also partook in the event.

IUCN would like to acknowledge the support of MoEFCC and ICFRE in making the regional consultation a success. I hope India, with its long history of restoration, will continue to lead the dialogue on forest landscape restoration and Bonn Challenge in South Asia.



(P.R. Sinha)



Group photograph of regional consultation participants

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Background and Introduction

The Bonn Challenge is a global effort to bring 150 million hectares of the world's deforested and degraded land into restoration by 2020, and 350 million hectares by 2030. The 2020 target was launched by world leaders at a ministerial roundtable in Bonn in 2011, and was later endorsed and extended to 350 million hectares by 2030 by the New York Declaration on Forests of the 2014 UN Climate Summit. The Bonn Challenge is not a stand-alone global commitment. Rather, it is a practical means of helping countries realise existing international commitments on sustainable development, climate change, biodiversity and land degradation, such as the Sustainable Development Goals (SDGs), Paris Agreement and Aichi Biodiversity Targets, among others. The Bonn Challenge is also helping countries fulfil their national needs and priorities, such as improving water and food security as well as rural development.

Underlying the Bonn Challenge is the forest landscape restoration (FLR) approach, which aims to restore ecological integrity at the same time as improving human well-being through multifunctional landscapes. The restoration of 150 million hectares of degraded and deforested lands in biomes around the world will create approximately US\$ 84 billion per year in net benefits that could bring direct additional income opportunities for rural communities. More information about forest landscape restoration can be found at: www.infoflr.org and www.forestlandscaperestoration.org.

On August 29-30, 2017, 85 delegates from India, Bhutan, Nepal, Sri Lanka and Bangladesh gathered in New Delhi, India for a South Asia regional consultation on forest landscape restoration (FLR). The consultation was hosted by IUCN in partnership with the Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India (GoI), and the Indian Council of Forestry Research and Education (ICFRE).

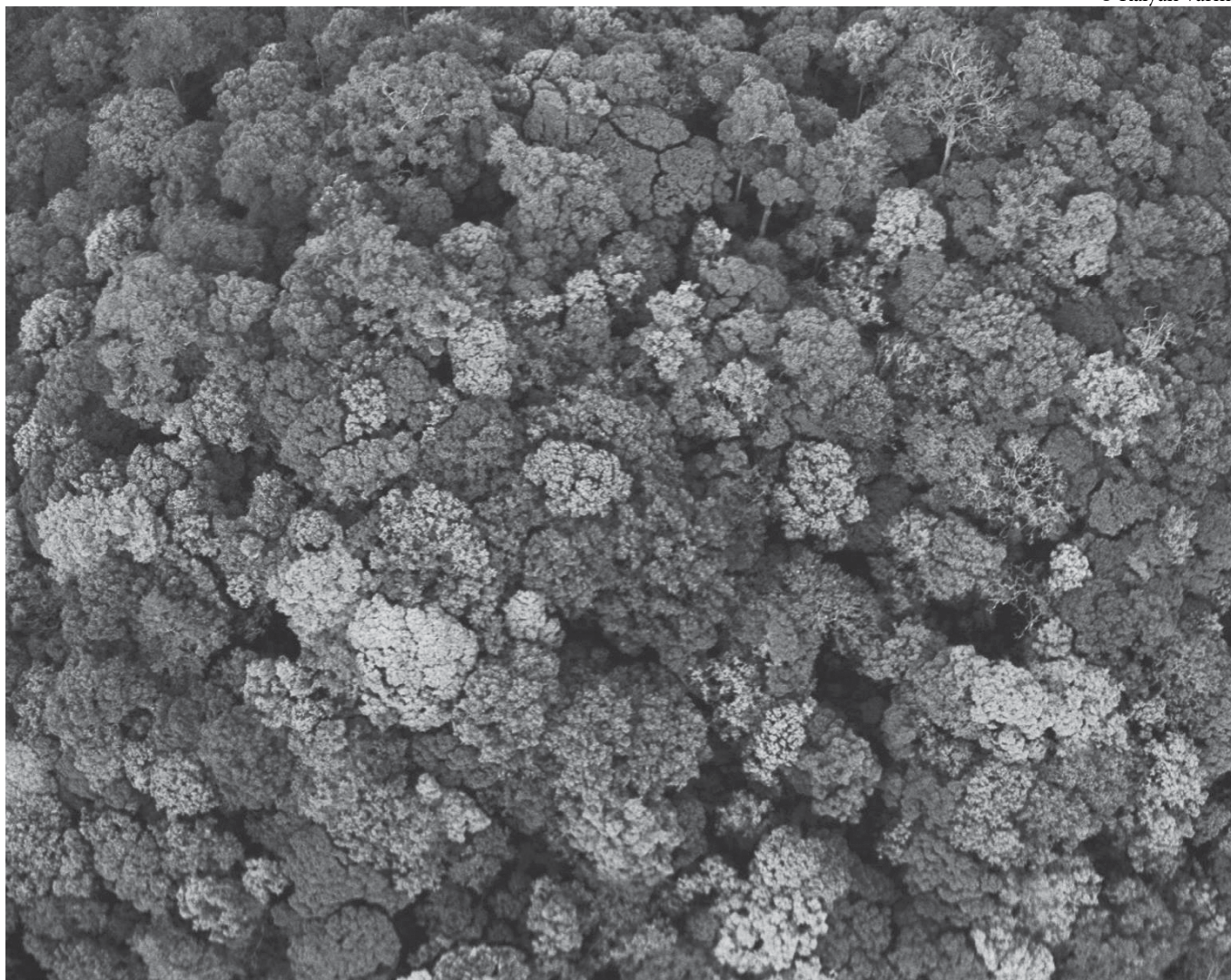
The consultation was developed as a follow up to the first Asia Bonn Challenge High-level Roundtable in South Sumatra, Indonesia held in May 2017, and was aimed at developing strategies for countries in Asia to meet their restoration targets. India has pledged 21 million hectares towards the Bonn Challenge. Bangladesh and Sri Lanka who are also part of the Bonn Challenge have pledged 0.75 and 0.2 million hectares respectively.

Objectives

The two-day consultation provided a forum for countries to:

- Showcase the progress they had made on their restoration commitments, both national and towards the Bonn Challenge
- Share their experiences on restoration, with a special focus on the tools, financial mechanisms and policies developed to support forest landscape restoration
- Identify gaps in communication, technical support and partnerships needed to accelerate action on forest landscape restoration
- Exchange key lessons on restoring unique ecosystems, such as mountains, grasslands and mangroves
- Explore the need for a regional platform on forest landscape restoration for inter-country cooperation and promotion of transboundary knowledge sharing.

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DAY 01

AUGUST 29, 2017

INAUGURAL SESSION

Mr. Pankaj Asthana, Inspector General of Forest, National Afforestation and Eco-Development Board (NAEB), Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India (GoI) welcomed the delegates and highlighted the importance of a diverse audience representing governments, non-governmental organisations (NGOs), the private sector and multilateral agencies. He spoke about his vision for the consultation saying, “The Government of India has pledged 21 million hectares towards the Bonn Challenge. To achieve it, we need to move beyond tree planting and consider landscape approaches to restoration that can yield multiple benefits. I hope these sessions can help us identify and address gaps in knowledge and implementation so that we can accelerate action on restoration”.

Dr. S.C. Gairola, Director General, Indian Council of Forestry Research and Education (ICFRE) in his opening remarks stated that the forest landscape restoration approach could play an important role in facilitating coordination among different agencies involved in land management. Addressing land sector restoration is one of the important components of Rio Conventions i.e. UNFCCC, UNCCD and CBD. He highlighted the importance of devising site-specific solutions and including multiple stakeholders. Dr. Gairola also shared the outcomes of the first Asia Bonn Challenge High-level Roundtable held in South Sumatra, Indonesia in May 2017, which was aimed at developing strategies for Asian countries to meet their restoration targets.

Dr. T.P. Singh, Deputy Regional Director, IUCN Asia Regional Office, thanked participating governments for attending the consultation and praised the political momentum created for Bonn Challenge in Asia. He spoke about the GoI's efforts to apply the Restoration Opportunities Assessment Methodology (ROAM) in Uttarakhand State with IUCN's support and highlighted restoration successes from Asia before

inviting Mr. Siddhanta Das, Director General of Forests and Special Secretary, MoEFCC, GoI to address the audience. Mr. Das provided a historical perspective of forest classification and governance in India and discussed how climate science and an increased understanding of the impacts of climate change have helped usher in a new appreciation of forests and the services they provide. He said, “Forests cannot be managed only as trees but as a combination of all components such as soil, water etc. Forest landscape restoration approach can ensure synergy between all components in the landscape”.

In his address, Mr. Ajay Narayan Jha, Secretary, MoEFCC, GoI, thanked IUCN for hosting the workshop and the delegates for their participation. “Countries in South Asia share a common heritage of protecting and restoring biodiversity. This is evident from the way forest policies have evolved to focus on restoring landscapes while ensuring that the associated benefits are available to people”, said Mr Jha. He identified the key challenges forests face in South Asia and noted the depleting quality of standing forests. He also said that there has been a shift from dense to open forests and increased encroachments in India. He emphasised that the situation could be rectified, pointing to the ₹500 billion available for restoration through India's Compensatory Afforestation Fund Management and Planning Authority (CAMPA) and a tax sharing mechanism proposed by the 14th Finance Commission to incentivise State-led efforts to sustainably manage forests.

Delivering the vote of thanks for this session, Mr. P.R. Sinha, Country Representative, IUCN India drew the audience's attention to the many ongoing restoration efforts by government, private companies and NGOs in South Asia. He encouraged ICFRE to enhance its role as a discussion platform for forest conservation in India and to extend it to South Asian countries. He noted a special thanks to the Department for International Development (DFID), United Kingdom for sponsoring the workshop and acknowledged the government and NGOs from Bangladesh, Bhutan, India,



Nepal, and Sri Lanka as well as the various private companies and multilateral agencies present for their active support and participation.

SESSION 1

PRIORITIES AND PROGRESS - KEY ISSUES FROM RESTORATION EXPERIENCES IN SOUTH ASIA

This session was co-chaired by Mr. Siddhanta Das, MoEFCC and Dr. S.C. Gairola, ICFRE. Participants shared their experiences of identifying restoration opportunities and addressing the challenges in implementation, with particular reference to the following issues:

- Country's restoration targets, and strategies in place for achieving the same
- Progress made so far on these targets
- Restoration priorities of the country
- Country-specific opportunities where forest landscape restoration may provide livelihood and food security
- Opportunities for strengthening planning and monitoring tools within restoration programmes of the Government.

Mr. Das noted that the Indian government has been working on projects that have produced results at a landscape scale, such as projects on habitat restoration. Focus on tigers and snow leopards as apex species, has enabled restoration of entire ecosystems. Mr. Das also mentioned the example of Bangladesh, which has an extensive mangrove ecosystem that supports threatened and endangered species, and is working on a systematic landscape approach to mangrove protection and restoration.

Mr. Das introduced the first speaker of the session, Mr. Uttam Kumar Saha, the Conservator of Forests for the Government of Bangladesh. Mr. Saha opened his presentation

by stating, "What we have lost in the past, we are trying to restore in the future", and acknowledged that forests are delicate ecosystems that are difficult to regain once lost. Bangladesh is experiencing rapid economic growth in the face of resource scarcity, natural hazards, population pressure, poverty, and extreme climatic events. Bangladesh is likely to be among the countries worst affected by climate change. The Bangladesh Government has committed to taking measures to protect the country from the adverse impacts of climate change, including through a pledge to the Bonn Challenge to restore 0.75 million hectares by 2020." Mr. Saha remarked, "The Bonn Challenge is the appropriate thing at the moment – if we fail to implement the Bonn Challenge, our future will be very difficult. So to meet the Bonn Challenge goal, Bangladesh has taken on a lot of new initiatives".

In his presentation, Mr. Saha mentioned a number of national strategies and programmes to support climate change adaptation and mitigation. The "Bangladesh Climate Change Strategy and Action Plan 2009" is based on the following six pillars: food security, social protection and health; comprehensive disaster management; infrastructure development; research and knowledge management; mitigation and low carbon development; capacity building and institutional strengthening. To realise the plan, the Ministry of Environment and Forests established the Bangladesh Climate Change Trust (BCCT), which is used to implement various projects throughout the country. Through BCCT funding, the government has carried out several rehabilitation programmes aimed at restoring forest landscapes. As part of a project titled, "Bangladesh Reforestation and Afforestation Project", funded by the Bangladesh Climate Change Resilience Fund (BCCRF) and the World Bank, a new "National Forest Policy" has been prepared and submitted for approval. At the same time, the "Forestry Sector Master Plan (1995-2015)" has already been approved. Both documents upheld a national goal for 20% of land to be brought under forest cover by 2015.

The coast of Bangladesh is one of the most vulnerable regions in the world. Climate change has exposed it to extreme weather events. In response to these conditions, the Bangladesh government started a reforestation programme in the 1980s, where large tracts of land were replanted as shelterbelts. Mr. Saha indicated that the shelterbelts have been a success. The Government of Bangladesh is also attempting to address knowledge and implementation gaps, through forestry sector capacity development and the enhancement of interagency coordination on implementation of forest restoration. The government is also committed to minimising policy barriers for smooth and easy implementation of restoration programmes.

To conclude, Mr. Saha stated, “This South Asia regional consultation will play a vital role in restoring the forest land that has been lost in the past”. He hoped that in the future it would lead to transboundary management of forests and co-management of knowledge sharing in an effort to strengthen landscape level restoration actions.

During the question and answer session following the presentation, Mr. Farhad Vania from the German Corporation for International Cooperation (GIZ) asked a question about the shifting emphasis from forest restoration to landscape restoration, which is a complex mosaic of regulation and land. Mr. Saha addressed the question by using the example of Bangladesh. He said that there are often legal issues over land ownership; for instance, when the survey department in Bangladesh carried out a land survey, sometimes they considered papers from the Forest Department and sometimes from other sources. Mr. Saha added that apart from community participation, inter-ministerial cooperation was crucial for forest restoration efforts to be impactful and effective.

The session’s second speaker was Mr. Lobzang Dorji, the Chief Forestry Officer, Department of Forests and Park Services, Government of Bhutan. Mr. Dorji began his presentation by stating that in the Bhutanese context, forests have been identified in both legal and technical terms. Any land that is not registered under a private person is legally defined as State forest reserve land, while the FAO definition of forest is used as the technical definition.

In July 2017, the Department of Forests and Park Services launched the Land Use and Land Cover map of Bhutan. The map found that 70.77% of the country is under forest cover and that shrubs cover 9.74% of Bhutan’s land. Mr. Dorji affirmed that, “As part of our national policy, we are committed to remaining carbon negative. We are committed to keeping the forests as forests”.

Mr. Dorji mentioned some key issues that must be considered when restoring landscapes, including area delimitation, budget constraints, fire risk, site conditions such as soil type, water availability, terrain, and the social aspects of restoration, which includes managing human-animal interactions. Mr. Dorji indicated that budget constraints are a key issue in restoration, as the Bhutanese government has a minimal budget for forest restoration, and international NGOs tend to focus on charismatic wildlife like tigers, instead of forest restoration. A survey conducted by the Bhutanese government in 2016 revealed that habitat restoration would have the added benefit of protecting wildlife, given that more wildlife is present in forested areas. Following Mr. Dorji’s presentation, Mr. Das noted that Bhutan is a rare example of a carbon negative country, as most other countries struggle to be carbon neutral.

During the question and answer session, Dr. Chetan Kumar of IUCN asked Mr. Dorji how the restoration of meadows is being handled in Bhutan. (Restoring meadows is a challenge at higher altitudes, often due to the invasion of trees or through plantation of tree species). Mr. Dorji responded that the Bhutanese Government is currently not converting grasslands and meadows into forests. He added that the locals often use protected areas to grow fresh grass which is used for livestock such as the yak. The technique involved burning the land, which creates a tussle between the villagers and Forest Department. Mr. Dorji commented that, “Meadows are difficult areas because it is important for the livelihood of the people, and therefore the Forest Department isn’t looking to change this. If at all, we need to look at shrub lands. This is because shrubs in our definition still contain forests, but are degraded areas. Some say grasslands are better for water conservation and storage, others say trees are better. So there is disagreement, but at the moment we are satisfied with the forest cover that we have”.

The third speaker was Mr. Pankaj Asthana, the Inspector General of Forest, National Afforestation and Eco-Development Board, Ministry of Environment, Forest and Climate Change, Government of India. Mr. Asthana started his presentation by stating that India is one of the 10 most forest-rich countries in the world. Currently, 24.16% of India’s land is under forest and tree cover. The “National Forest Policy” (1988), aims to bring a minimum of one-third of the total land area of the country under forest and tree cover, which would require the plantation of another 28.58 million hectares of forests.

In terms of international commitments, India’s Nationally Determined Contributions (NDC), presented during the Paris COP in 2015, requires the plantation of between 25 million to 30 million hectares, while India’s Bonn Challenge says India will bring under restoration 13 million hectares by 2020 and 21 million hectares by 2030.

The afforestation achievements of the Government of India are monitored under the Twenty Point Programme, with MoEFCC as the nodal agency. It includes all cross-sectoral programmes and schemes of the Central and State governments as well as externally aided projects (EAPs). From 2011-2017, the yearly average afforestation achievement has been 1.5 million hectares, for a total of 9.26 million hectares during the period.

MoEFCC is implementing several schemes to manage natural resources such as the National Afforestation Programme (NAP), the National Mission for a Green India (GIM), Compensatory Afforestation Fund Management and Planning Authority (CAMPA), among others. Other key

strategies and policies include National Agroforestry Policy, National Bamboo Mission, and the National Green Highway Mission. NAP was launched in 2001 with the broad objectives of ecological restoration, environmental conservation, eco-development in consultation with village level organisations to manage the natural resources in and around villages. Nearly 15% of the country's afforestation efforts are undertaken by NAP. It also works to supplement livelihood implementation processes of forest dependent communities in close to 42,000 villages. Another important scheme is National Mission for a Green India (GIM), one of eight missions under the "National Action Plan on Climate Change" in India which got operationalised in 2015-16. Its objectives are to increase forest/tree cover to the extent of 5 million hectares and improve quality of forest/tree cover on another 5 million hectares of forest/non-forest lands; to improve/enhance ecosystem services like carbon sequestration and storage (in forests and other ecosystems), hydrological services and biodiversity; along with provisioning services like fuel, fodder, and timber and non-timber forest products (NTFPs); and to increase forest based livelihood income of about 3 million households. Some of the constraints to afforestation programmes that Mr. Asthana mentioned were the non-availability of land outside of forest areas, the lack of high quality seeds, repeated encroachment into forested areas, and the trend of budget allocation reduction towards afforestation schemes.

Mr. Asthana concluded his presentation stating that from 2005 to 2015, forest cover in India, contrary to the world trend, had seen an increase. He added, "India is appropriately positioned to meet its commitments under the Bonn Challenge, and I am hopeful that we will be able to stay on schedule".

The fourth speaker was Mr. Buddhi Rijal, Forest Officer (Under Secretary) from the Department of Forests, Government of Nepal, who stated that Nepal has a forest cover of 6.61 million hectares, which accounts for 44.74% of land area. A recent forest resource assessment claimed that reclaimed forest area increased by 5% from 1999 to 2015. Mr. Rijal used supporting policy documents to affirm that the Nepal government had prioritised landscape restoration.

One such document is the "Agriculture Development Strategy (ADS) (2015-35)", which aims to restore 1.6 million hectares of degraded land, out of 3.2 million hectares, by 2030. The outputs envisaged by ADS include subsistence production-based forestry developed into competitive, agriculture-friendly and inclusive forest management practices, with holistic and community-based landscape approach to natural resource management and livelihood improvement. Another important policy is the "Forest Sector Strategy (2016-25)", which aims to promote landscape approaches well as conservation corridors

in order to manage, restore, conserve, and improve habitats while strengthening biodiversity at the ecosystem, species, and genetic levels. The strategy looks to restore watershed resources with a direct impact on sustainable productivity, environmental services such as soil and water conservation, and climate change resilience to improve the livelihoods and food security of the Nepali people. The Nepal Government published the "Forest Policy" in 2015, which aims to conserve and manage forests, plant resources, wildlife, protected areas, and watersheds; initiate and strengthen community-based forest management regimes; engage the private sector in the conservation and management of the forest sector; and strengthen forest sector governance. There are several other policy-related documents in Nepal, including the "Aquatic Animals Protection Act 1961", "National Parks and Wildlife Conservation (NPWC) Act 1973", "Forest Act of 1993 and Forest Regulation of 1995", "Environment Act 1997", "Integrated Landscape Planning Directives 2012", and the "Nepal Biodiversity Strategy and Action Plan 2014 – 2020".

Nepal's strategies and policies are bolstered by important programmes. One of them is the "President Chure-Madhesh Conservation Programme", which was initiated in 2015. The programme has a target to restore 21,000 hectares of degraded forestland within 5 years, integrated with other Ministries to implement integrated watershed management and livelihood promotion activities. Another key programme is the "Community Forest Development Programme", which will restore 1.8 million hectares, accounting for about 27% of Nepal's total forest area. The programme has estimated that nearly 3.5 million hectares of land has potential for community forestry. Community forestry not only enables biodiversity conservation but also enhances economic and social wellbeing of communities. Similarly, the "Leasehold Forestry Programme" is also playing an important role in forest landscape restoration in Nepal. It is a modified community forestry programme designed for 60,000 impoverished families to restore over 40,000 hectares of degraded forests, and provides other livelihood support activities such as microfinance and skill-based training. Related programmes include the "National Forest Development Programme", the "Integrated soil conservation and watershed management programme", and the "Protected area management programme", among others.

Some issues with Nepal's approach to conservation are that at the landscape scale, operational activities are still weak. The inadequate coordination between sectors has resulted in activities that are in conflict with resource use. Mr. Rijal suggested that developing strong coordination mechanisms between different development agencies will help the

Government of Nepal to move forward. Additionally, devising mechanisms for Payment of Ecosystem Services (PES) in the field along with conducting financial gap analysis at the landscape level to identify current and potential sources of funding for sustained conservation will greatly benefit local communities.

The fifth speaker for the session was Mr. H.G. Wasantha, the Assistant Conservator of Forest for the Government of Sri Lanka. Mr. Wasantha began by introducing the vision of the Forest Department of Sri Lanka - “Conserve and develop the Forest Resources in Sri Lanka to ensure the prosperity of the nation”. Forest cover in Sri Lanka in 2010 was about 29.7%, of which dense forest was 22%, and sparse forest 7%, for a total forest cover of roughly 1.9 million hectares. The major causes of deforestation and forest degradation identified in Sri Lanka are as follows: shifting cultivation, cattle damages to natural regeneration, planned development projects, cardamom cultivation, and forest fires. In 2014, the Forest Department started the National Conservation Programme, aiming to increase dense forest cover to 32% by 2020. Sri Lanka’s Ecosystem Conservation and Management Project (ESCAMP), which will run from 2017 until 2021, is a programme that will promote landscape management including forest landscape restoration, encourage the sustainable use of natural resources for livelihood enhancement, earmark protected areas for conservation, and foster ecotourism development. The Sri Lankan government has also made a Bonn Challenge pledge to increase forest cover to 200,000 hectares by 2020.

Sri Lanka’s restoration practices and activities, as listed by Mr. Wasantha, range from photo monitoring of new growth forests, educating communities located close to forests about forestry best practices, to monitoring and maintaining forests for at least three years after planting. Other restoration practices include home garden development, avenue planting, community forest management projects, and restoration in plantation sectors such as tea and coffee. He then described the lessons that the government had learned so far which included the tendency of restored forests to have slow natural succession and seedling growth in Sri Lanka’s climate, the lack of documented indigenous knowledge, weak community participation in restoration as well as the limited expertise regarding invasive species. Mr. Wasantha concluded the session by presenting the way forward for restoration in Sri Lanka.

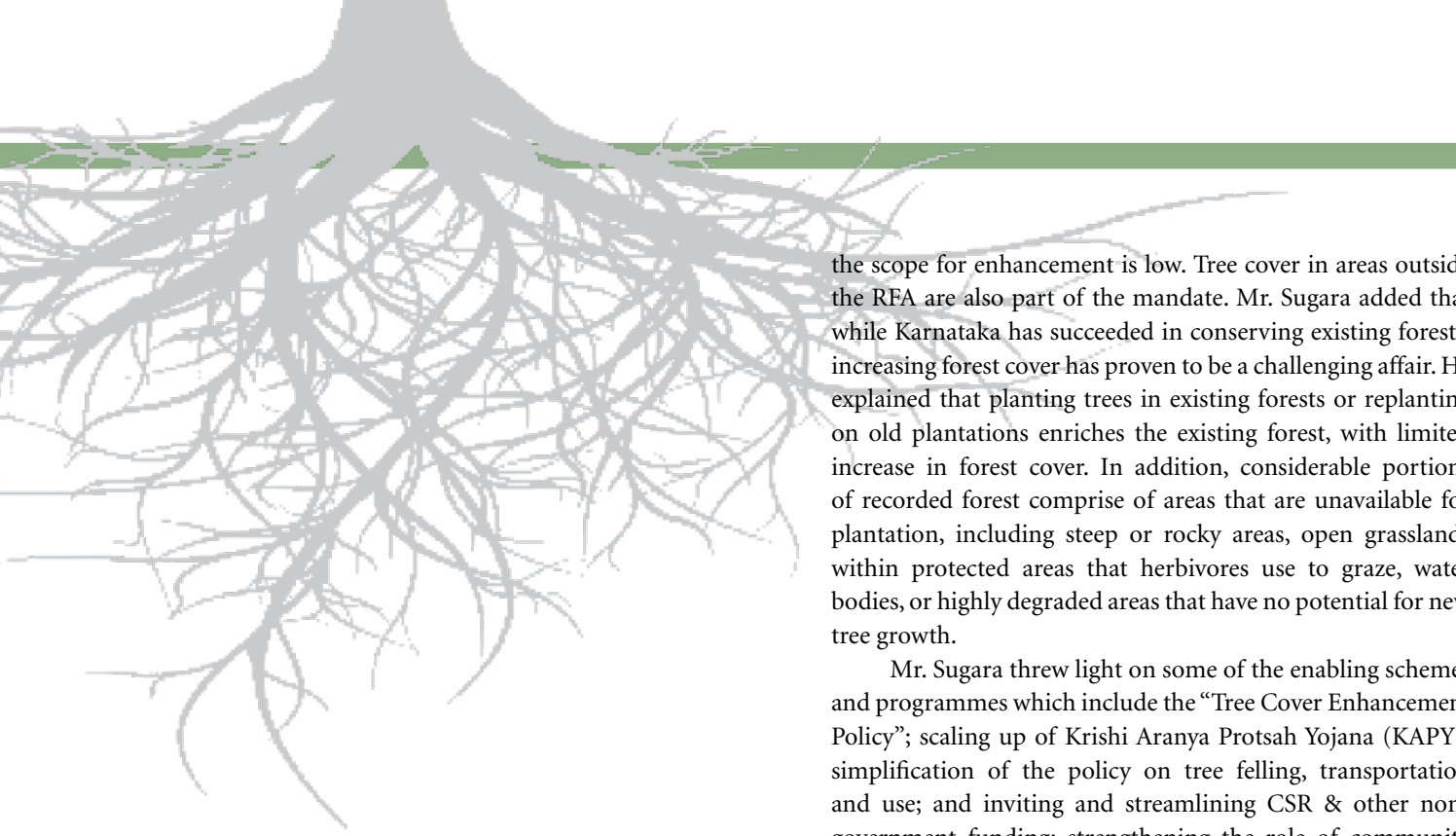
He stressed on the importance of developing and rolling out a comprehensive training package on the best restoration practices, methods, and approaches; compiling detailed guidelines for forest restoration to guide the planning, implementation and monitoring of restoration activities in each ecological zone.

Dr. Gairola concluded the first session highlighting the key issues that were covered by the presentations. He stated, “When we talk about forest landscape restoration – are we talking only about forests? No, we are talking of a landscape that is predominantly forest. As has been said, it is a mosaic of various uses, ownership and degradation. The idea is to take a landscape approach, considering the aspirations of the local people, taking into consideration the ability of the land to provide various goods and services, which will depend on the ecological status, nutritional level, water level, and taking into account the ecological, social, and economic aspects. We should not only be talking about forests, but also grasslands. Grasslands are also very important ecosystems. A second issue is coordination. This includes coordination between people, as well as inter-departmental or inter-Ministerial coordination. In India, we have various programmes of various Ministries and State departments, however the coordination amongst these organisations is woefully lacking. A department takes the lead and it becomes their programme, instead of involving all the stakeholders at all stages.

“Conserve and develop the forest resources in Sri Lanka to ensure the prosperity of the nation”

H.G. WASANTHA,
ASSISTANT CONSERVATOR OF FOREST,
GOVERNMENT OF SRI LANKA.

This is one of the roadblocks being faced. One way forward is to have an apex body, which will involve all the various departments and ministries, and can provide a holistic approach to any landscape management initiative. NAEB could possibly take on that role. Another issue is funding – resources that are required to implement any good plan. In India, in our experience, particularly in plantation programmes, we do not have a long term plantation or restoration programme, but due to annual planning and quarterly release of funds, there is no certainty of funds being released in a continual manner. There is no clarity on the time period of funding of projects. There could be provision for a green fund, which will allow for this to take place”.



SESSION 2

PANEL DISCUSSION ON BEST PRACTICES IN RESTORATION,
OPPORTUNITIES AND CHALLENGES — PERSPECTIVES
FROM INDIAN STATES

This session was co-chaired by Dr. S.C. Gairola, Director General, ICFRE and Dr. Savita, Director, Forest Research Institute (FRI). Participants included representatives from the forest departments of various Indian State governments. They were asked to highlight the following points in their presentations:

- Case studies on successful restoration from Indian States.
- What are some of the opportunities available in the Indian States to engage in forest landscape restoration?
- What are the challenges for any successful restoration project?
- Scope of NGOs and private companies to contribute in the State's restoration initiatives, if any.
- Opportunities for strengthening planning and monitoring tools within the States' restoration programmes.

The session's first speaker was Mr. Kishan Singh Sugara, the Principal Chief Conservator of Forests (PCCF) for the State of Karnataka, who presented the "Karnataka Forest Department Strategy", which was released in 2017, and aims to increase forest and tree cover in Karnataka to 30% of the State's land. Currently, Karnataka has 21.88% green cover, which reflects a shortage of 21,957 hectares. Karnataka's strategy for enhancing forest and tree cover includes conserving and developing forests in the Recorded Forest Area (RFA), where

the scope for enhancement is low. Tree cover in areas outside the RFA are also part of the mandate. Mr. Sugara added that while Karnataka has succeeded in conserving existing forests, increasing forest cover has proven to be a challenging affair. He explained that planting trees in existing forests or replanting on old plantations enriches the existing forest, with limited increase in forest cover. In addition, considerable portions of recorded forest comprise of areas that are unavailable for plantation, including steep or rocky areas, open grasslands within protected areas that herbivores use to graze, water bodies, or highly degraded areas that have no potential for new tree growth.

Mr. Sugara threw light on some of the enabling schemes and programmes which include the "Tree Cover Enhancement Policy"; scaling up of Krishi Aranya Protsah Yojana (KAPY); simplification of the policy on tree felling, transportation and use; and inviting and streamlining CSR & other non-government funding; strengthening the role of community institutions such as Eco Development Committees (EDCs) and Village Councils in planting and incentivizing planting. The Forest Department has been giving farmers ₹45 as incentive for each plant that survives three years after planting, which was recently increased to ₹100 as incentive at the end of three years. Within the last three years, 70 million new saplings have been planted on private land through the scheme. Mr. Sugara explained that people will plant trees if harvesting procedures are simple, practical, qualitative, and legal. The State of Karnataka has created specific rules for how and when citizens can fell and harvest trees, with a mandate for people to plant two trees for every tree felled. However, the National Green Tribunal, based in New Delhi, recently passed an order that prohibits people from cutting trees until they plant 10 trees for each tree cut and deposit sufficient money to ensure that the trees are protected for a period of 5 years from the day of planting. Mr. Sugara stated that this order appears to have dampened the spirits of tree growers since the relaxations provided by State law have been superseded by this order.

Mr. Sugara ended his presentation by mentioning Karnataka's innovative private conservancy programme for ecotourism. For instance, there is good forest cover between Bangalore and Belgaum, which provides corridors for charismatic species such as tigers and elephants. Ecotourism will provide locals with alternate and sustainable methods of revenue generation.

The second speaker was Mr. Pankaj Srivastava, Assistant Principal Chief Conservator of Forests (APCCF), for the State of Madhya Pradesh. Mr. Srivastava's presentation focused on people-centric activities in Madhya Pradesh, and he shared two case studies from the State.

Located in western Madhya Pradesh, the Barwani district is almost devoid of tree cover, but local villagers have restored almost 10,000 hectares of land through active community participation. The Barwani district is located in a relatively dry area and locals became concerned that streams would dry up if the vegetation cover disappeared, so farmers began to protect and restore forests adjoining their farmlands, even in areas notorious for forest encroachment. The “Deendayal Vanachal Sewa”, is a new scheme launched in the district with partnership of four State departments: the Health and Family Welfare, Women and Child Development, School Education, and Tribal Welfare. The main objectives of this programme are improvement in health, education and living standards of forest dwelling communities to motivate them for forest conservation; better delivery of government services in remote villages; and the strengthening of joint forest management committees. The first year of the programme has been successfully completed and the scheme is being extended.

A second case study that Mr. Srivastava highlighted is the river basin approach that was recently adopted in Madhya Pradesh. Roughly 40% of the area is forestland, but the river that runs through the basin has been negatively affected in non-forested areas due to pesticide use. Since 2016, the Chief Minister of Madhya Pradesh has encouraged the development of the Narmada Basin, and the area has seen record rates of tree plantation. More than 70 million saplings have been planted in the last year. This plantation approach has allowed for diversifying of land ownership types into private plantations and revenue lands, resulting in successful afforestation in the area.

Dr. Savita commended the two case studies and said “People’s participation is the key which we now have to take up very seriously”.

The third speaker was Mr. Nitin H. Kakodkar, Assistant Principal Chief Conservator of Forests (APCCF), for the State of Maharashtra. Maharashtra has 15,516 forest fringe villages and a total forest area of 61,622 km², which is concentrated in the eastern and western parts of the State. Mr. Kakodkar presented two case studies, one on the restoration of prime wildlife habitats and the other on landscape management for community development.

In his first case study, Mr. Kakodkar stated that the major problem in protected areas is villages located within prime wildlife habitats. The anthropogenic issues in wildlife habitats include fires, cattle encroachments, illicit felling, and poaching. In addition to threats to habitats, people living in these areas also have problems with accessibility, which leads to crop depredation by cattle and reduced fund flows for asset maintenance. Relocation and subsequent habitat restoration

was carried out in 84 villages to tackle these issues. The result is an intact wildlife corridor of 13,860 hectares.

The next example is of community development in the village Hiware Bazar, which has a total area of 978.64 hectares and is located in central Maharashtra. There were several landscape issues such as low volume of rainfall, heavy soil erosion, drinking water scarcity, fodder unavailability, and fuel wood unavailability which resulted in significant social issues, such as unemployment, out migration of villagers, and increased incidences of crime. To tackle these problems, there was a change in leadership, an NGO was formed, and there was adoption of seven principles which included – a ban on open defecation, promotion of voluntary work, a ban on grazing, a ban on tree cutting, a ban on liquor, family planning services, and a ban on tube-wells. The “Yashwant Watershed Development Trust” led the execution of these principles in Hiware Bazar, thus developing a sense of ownership among locals and creating community-managed assets. In addition, the community-led efforts have contributed to a rise in the water

“People’s participation is the key which we now have to take up very seriously”.

SAVITA,
DIRECTOR,

FOREST RESEARCH INSTITUTE

table, a change in the cropping pattern, an increase in cropping intensity, an increase in fodder availability, and an increase in milk production. Villagers now have access to better livelihood options.

Mr. Kakodkar also spoke of the potential of mangrove conservation and restoration projects to create livelihood opportunities. Maharashtra has 720 kilometres of coastline with 20 species of mangroves covering 30,000 hectares. Maharashtra is possibly the first Indian State to notify 15,088 hectares of mangroves on Government land as Reserved Forest, and has since set up a “Mangrove Cell” for the protection of mangroves and coastal biodiversity in Maharashtra. The mangrove cover of the State has registered an increase of about 20% between 2005 and 2013 due to intensified patrolling, removal of encroachments, boundary demarcation, and the creation of plantations. The Mangrove and Marine Biodiversity Conservation Foundation

of Maharashtra (MMRDA) has been formed to promote mangrove and coastal biodiversity conservation, and is soon entering into a tripartite agreement with TATA Power to fund restoration work in coastal areas. Mr. Kakodkar stated that since 40% of mangroves are currently under private ownership, there are restricted livelihood opportunities for the people. The State government, however, is working to create livelihood opportunities while also protecting and restoring mangroves. The Marine Products Export Development Authority (MPEDA), a division of the Commerce Ministry, recently created a programme to send 300 women for training in mangrove crab farming to a crab hatchery in Tamil Nadu. Mangrove crab farming has an average yield of 250 kilograms per hectare and can sell for as much as ₹1,000 per kilogram. Mangrove ecosystems are important hosts of crab habitats. Crabs also improve the ecosystems, as the burrowing of crabs helps in oxygenation of the soil. Additionally, the decaying of fallen leaves of mangroves become edible material for the crabs. Mangrove crab farming creates a community stake for mangrove protection, as locals gain a means of employment that they would not be likely to jeopardise. Bivalve farming is also being tried out by the “Mangrove Cell”, and has resulted in an eightfold return on the initial investment, while also helping to keep nearby creeks clean. Mr. Kakodkar noted that there are challenges along the coast of keeping biotic interference at bay, as many areas have excellent rooted stock which can shoot up given adequate protection. He also stated that natural regeneration could be an excellent tool for restoration of vast areas at reduced costs as compared to afforestation measures.

During the question and answer session, Mr. Lobzang Dorji (Government of Bhutan) asked Mr. Kakodkar, citing the case of Bhutan where more tigers are found outside protected areas, how they dealt with similar situations where there is depredation by tigers outside parks. He asked “Do we relocate the people living in the parks to outside, or find ways for people to live side by side with wildlife?” In response, Mr. Kakodkar responded that relocation is not compulsory in Maharashtra, and that he does not subscribe to the theory that there are more tigers outside protected areas, perhaps more conflict outside protected areas. The protected areas act as nurseries to breed the tigers and the areas immediately outside are buffer zones. If the buffer area has a good prey population, the conflict area would not increase to such an extent. But if there is not a buffer, where the boundary of the core is exposed to human habitations, those areas are susceptible to conflict. Dr. Savita added that to safeguard the health of the forest and welfare of the people living in the forest areas, the Government of India and State-sponsored schemes have provided programmes aimed at relocating locals outside the forests. These villages had no access to basic services

as they were not revenue villages, so the villagers were relocated to revenue villages where they could get access to basic services such as electricity, water supply, schools, and healthcare.

The fourth speaker was Mr. Lalram Thanga, the Principal Chief Conservator of Forests (PCCF) for the State of Mizoram. He provided a brief history of the State, noting that it was only 30 years old, and that it had previously been classified as an excluded area. In 1967, there was a rebellion followed by a 20 year armed struggle, that was finally resolved by a peace accord in 1987. Mr. Thanga’s colleague, Mr. Umakant, Officer on Special Duty (OSD) continued the presentation. Forests cover 89% of Mizoram, which is 18,748 km², and the landscape is part of the Indo-Malayan Biodiversity hotspot. The contribution of the Mizoram forests towards carbon sequestration alone is estimated at ₹270 million per year, during the period of 2003 to 2011. In spite of the State’s rapid population growth, forest density has been maintained in all three types of forests present in the region, including bamboo forests, notified forests, and protected areas.

Mizoram is heavily dependent on the forestry sector, but with advances in society and economic growth, these forests are increasingly prone to degradation. The village community has been developing safety reserves, supply reserves, and village council reserves. Safety reserve has been maintained for protection against fire, storm, landslides and water supply. No extraction is allowed unless permitted. Supply reserve is maintained to meet the household needs of the villagers. About 89 supply reserves and 138 safety reserves have been notified so far, and about 54 community and forest reserves were established and managed by local village councils and NGOs in the State. Approximately 80% of the village reserves currently exist, although no concerted efforts for proper survey and demarcation to assess the area and quality of the village forests has been undertaken. If revived and managed scientifically, village forests would be a success.

Challenges as well as opportunities that the State had experienced in planning forest restoration were also shared by Mr. Umakant. Despite communities depending heavily on the forests, there is a lack of awareness about the significance of forests and biodiversity conservation at the village level. Another concern is financial resources, as some programmes are being stretched too thin or departments are not working together adequately. The Mizoram Forest Department has also requested that whenever any organisation works on restoration programmes in Mizoram, the institution should have a proper exit strategy.

During the question and answer session, a participant asked Mr. Thanga about the success of the New Land Use Policy. He responded that shifting cultivation was considered a bad

practice but was ingrained in the local culture. The Government of Mizoram launched the New Land Use Policy, as they realised that it was not practical to force a farmer to shift to a settled form of agriculture. Mr. Thanga said that a series of watershed restoration projects with the Ministry of Agriculture, made the State officials realise that providing an alternative livelihood to farmers would work better. In 2010, shifting agriculture came down from 42,000 hectares per year to about half, nearly 24,000 hectares.

The fifth speaker was Mr. Saurabh Gupta, Chief Conservator of Forests (CCF) for the State of Punjab. Punjab is an agrarian State, where 84% of the land is under agriculture and only 6% under forests. The remaining land is unsuitable for either agriculture or forestry. The Forest Department's main effort is directed towards the promotion and facilitation of agroforestry in agricultural landscapes. The State is divided into four areas: Shivalik hills in the north, water logged areas in the south, small block forests, and the majority of the area which is the plains of Punjab. In the Shivalik area, which is naturally forested, the Forest Department does afforestation and protection work. Between 8,000 and 30,000 hectares have been planted in all protected forest areas every three years since 2002. In the block forests, the Forest Department has started a programme of removing alien species and restoring native species. These block forests are heavily infested with the invasive *Prosopis juliflora*. This has resulted in a loss of biodiversity, including the loss of local species, as well as the degradation of habitat for wild animals. Efforts are being made to carry out a midterm review of the working and management plans to expedite the process of restoring the affected areas. Another effort is through reclaiming waterlogged areas in southern Punjab, through the initiative of private farmers, where the Forest Department doesn't have a direct role but is trying to take up some projects on a pilot basis to establish bio-drainage plantations to reclaim the area. Efforts are being made to restore these waterlogged landscapes by raising Eucalyptus plantations.

The Government of Punjab plans to divert 0.25 million hectares of area under rice cultivation to other land uses, especially agroforestry as the yield from farmlands has stagnated and the income of farmers has reduced. Since the Government of Punjab liberalised rules to promote agroforestry, through relaxed restrictions on tree felling and transit permits, farmers are free to transport wood to sell in the markets after cutting it. The Forest Department has facilitated sale of high quality planting material to farmers, even provided planting materials for free thus resulting in roughly 120,000 hectares of plantations on land which is not primarily forestland. It has also developed a regional State forestry institute to promote agroforestry

research. An initiative from the Ministry of Agriculture, under the "National Mission on Sustainable Agriculture (NMSA)", provides for a survival-based, direct benefit-transfer into the bank accounts of qualified farmers. The plantation of 50 lakh plants is proposed during the year 2017-18 under this Mission. The "Green Punjab Fund" was created in 2012 to incentivise investments in increasing tree cover in the State. The Forest Department has also started re-assigning beats to forest guards which would include revenue areas as well.

Mr. Gupta acknowledged that adequate funding sources are a major issue, as Government of India schemes are primarily targeted towards Recorded Forest Areas. With a recent change in funding patterns from 100% Grant-in-Aid to 60:40, it is often difficult to implement schemes, and this change is adversely affecting plantation programmes in the State. Mr. Gupta commented, "As for the role of policymakers at the highest level in green landscape restoration, there is a

"Maharashtra is possibly the first Indian State to notify 15,088 hectares of mangroves on Government land as Reserved Forest".

NITIN H. KAKODKAR,
ASSISTANT PRINCIPAL CHIEF CONSERVATOR OF FORESTS,
STATE OF MAHARASHTRA

need to realign the policies of land use while keeping in view the current realities. When we started to subsidise agriculture, it was based on food security issues. As our country has come a long way, we have to think about environmental degradation due to intensive agriculture from "Green Revolution". Realigning agricultural subsidies to include agroforestry as well as farm forestry could also increase the income of farmers. Ultimately, agroforestry and farm forestry can result in job creation, more income to farmers, with less stress on the natural resources".

Following Mr. Gupta's presentation, Dr. Savita commented that in 2001, Punjab had only 3% forest cover and it has come a long way in increasing it to 6%. She mentioned that in the area of agroforestry, Punjab has been a pioneer.

The sixth speaker for the session was Dr. Rupak De, the Principal Chief Conservator of Forests for the State of Uttar

Pradesh (UP). UP is the most populous State in India. UP has low forest cover, with 6.88% of its land under forests, a serious challenge. Along with a high rate of population growth, there has been a tremendous growth in forest cover over the last few years, with forest cover increasing by 112 km² and tree cover increasing by 149 km². Forest cover is mostly concentrated in the northern and southern regions of UP.

Dr. De stated that UP has been focusing especially on community-based and landscape-based forestry. The Government has received two Guinness World Records for its afforestation initiatives – the largest distribution of saplings across multiple locations in eight hours (distribution of 10,53,108 saplings in 2015), and planting 50 million trees in 24 hours in 2016. Dr. De attributed the enthusiasm for afforestation in UP to the involvement of local citizens. The UP Government is also working on the development of green belts. So far, the Government has developed 1,890 green belts, across an area of 10,311 hectares, and planted 7.3 million trees. A key project was the Uttar Pradesh Participatory Forest Management and Poverty Alleviation Project (UPPFMPAP), which was funded by Japan International Cooperation Agency (JICA). The project involved managing over 100,000 hectares of forestland shared between neighbouring villages. From 2010 to 2016, 109 joint forest management committees in 10 forest divisions engaged in plantation and forest management, and succeeded in restoring 3,776 hectares of degraded forestland by improved protection and management through community involvement. This resulted in a substantial increase in income of local communities, soil fertility, availability of resources, and strengthening of State strategies on climate actions. Similar to Maharashtra, UP is looking at restoring areas affected by opencast coalmines.

UP plans to focus on agroforestry promotion through new schemes in the future. The Forest Department has simplified procedures for promoting planting and harvesting, providing support to wood-based industries, and providing technology inputs in improving planting material for enhanced productivity. The Forest Department is also working on a project to safeguard land that lies beyond protected areas, such as green corridors, as there is a large amount of wildlife that is present outside of the protected areas and it is in these spaces that conflicts occur. Dr. De stated, “We have to look beyond the protected area management and look at it at the landscape level. This is where the next set of environmentalists, the wildlife biologists and the naturalists, have to work, outside the protected areas, so that the source remains intact while interventions are carried out across the entire landscape.”

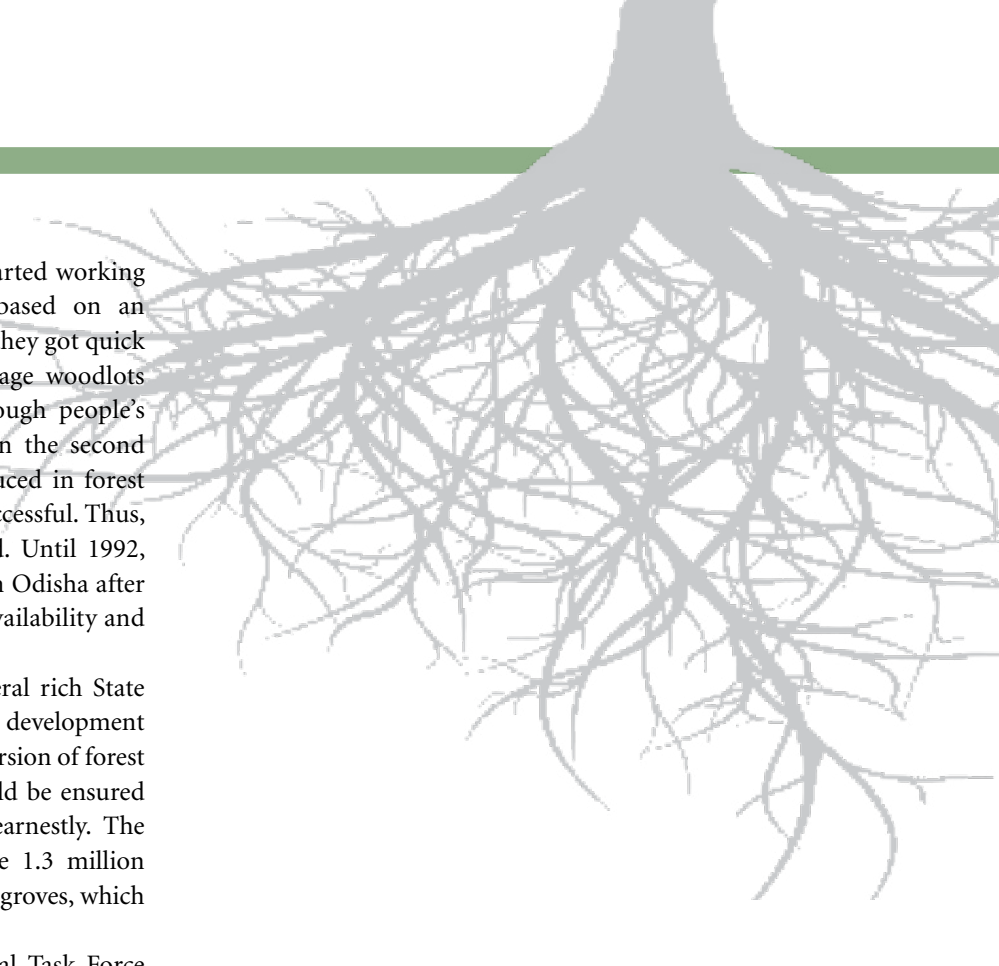
After Dr. De’s presentation, Dr. Savita commented that the Forest Research Institute (FRI) has been working

on restoration of mined-out areas. FRI started working on limestone mine restoration in the Dehra Dun hills in 1983-84, and rock-phosphate mining in the Mussoorie hills, leading to greening of these hills. She said that FRI is currently undertaking efforts in the Singrauli and Dhanbad areas, and the biodiversity that has come up has been tremendous. She mentioned that FRI has made numerous interventions in eco-restoration, and has been able to standardise many of these practices and would like to transfer them to other groups that are interested.

Mr. Uttam Saha of Bangladesh made queries into the priorities that must be set when selecting forest landscape restoration interventions, especially how to be inclusive of the opinions of the local communities. Dr. De of Uttar Pradesh, stated in response, “We are talking of landscapes, so it depends on what part of land you want to keep for what purpose. Maybe you want to do conservation, maybe production, maybe soil and moisture conservation”. Dr. Gairola followed up the response by stating that preference should be given to local indigenous species, including fruit plants. He commented that the local community has the first right over local produce, so those preferred by the community should be given priority. The choice of species will also depend on the ecological requirements for the area. In joint forest management, there is a mechanism for developing micro-plans for an area. Villages can give their choice of species, but ultimately technical feasibility of planting particular species depends on technical aspects, and this is where the forest officials can play a role in working with the local communities to identify which species can be grown.

The final speaker was Mr S.C. Mishra, the Principal Chief Conservator of Forests (PCCF) and Head of Forestry Force (HOFF) for the State of Odisha (his presentation happened on the second day but was part of this session).

Mr. Mishra noted that forest landscape restoration primarily took into account historical perspectives, cultural affiliations, economic considerations and management interventions. Historically, people of this coastal State revered nature. During the colonial rule, vast stretches of Sal forests were created as part of the silviculture system. Thus, the forest undergrowth was lost. As a result, the elephant population which was supported by this habitat started migrating. Today, Odisha faces increasing elephant-human conflict issues. Mr. Mishra noted that forests were overexploited and people were alienated from the forests, by way of Indian Forests Act 1927, which led to reservation of forest land, and taking away of the rights and concessions enjoyed by local people, thus increasing animosity and resulting in tribal uprising. Such an attitude towards forest dwellers continued post-independence up until the 1980s.



Mr. Mishra noted that in 1982 Odisha started working on farm forestry projects for rural poor, based on an agroforestry model. People liked Eucalyptus as they got quick returns by generating additional income. Village woodlots that were created outside the forest area through people's participation met with tremendous success. In the second phase of the project, reforestation was introduced in forest areas adjacent to the villages, which was also successful. Thus, the tradition of protecting forests was revived. Until 1992, the Social forestry project was a great success in Odisha after which there emerged a gap between resource availability and forest development.

Mr. Mishra noted that Odisha as a mineral rich State was often branded a State which diverts area for development projects to earn money. He noted that while diversion of forest land cannot always be stopped, at least it should be ensured that compensatory afforestation is taken up earnestly. The forest department has made a plan to restore 1.3 million hectares of degraded area within five years. Mangroves, which were disappearing, have also been restored.

Brigadier D. S. Chauhan of the Ecological Task Force (ETF) suggested that Odisha could consider setting up an ETF within the State for restoring degraded forests. Mr. Mishra requested Brigadier Chauhan to send a proposal to the State Forest Department.

To conclude the second session, the chair, Dr. S.C. Gairola thanked all the presenters for their insightful and informative presentations. Dr. Gairola commented, "Within our country, we are not exchanging notes and we are not aware of what is happening in neighbouring States. The Government of India needs to take the lead in this activity and develop a forum where States meet often and exchange notes. There needs to be some institutional mechanism in place so there can be regular consultations for best practices to be shared".

Dr. Gairola then commented, "To take this idea of forest landscape restoration and to meet our international commitments under the Paris agreement and Bonn Challenge, all States should create a State forestland restoration plan. Some are doing it already, but this needs to be institutionalised so that respective State Governments are required to approve these plans, and can show how they will honour these commitments. This will also help us achieve our Paris agreement commitments of sequestering 2.5 to 3 billion additional carbon by 2030". Dr. Gairola went on to emphasise that valuation of ecosystem services is crucial, as it is important to present the contribution of the forestry sector at the national and State level to ensure that there is adequate fund flow for various development activities.

SESSION 3

SHARING OF RESTORATION EXPERIENCES FROM NON-GOVERNMENTAL AGENCIES

This session was co-chaired by Dr. Ashok Khosla, Chairman, Development Alternatives (DA) and Mr. Abhay Gandhe, Head - Agriculture, Tata Trusts. Participants included representatives from various non-governmental organisations from Bhutan, India, and Nepal. They were asked to highlight the following points in their presentations:

- Examples of community driven restoration programmes that are now being mainstreamed/ upscaled
- How forest landscape restoration has helped improve livelihood and biodiversity
- Successful examples of working in partnership with government agencies and local communities
- Experiences of mobilising communities.

Dr. Khosla commented that restoration involves all sectors of society and that each sector had a complementary role in restoration action – the government at all levels, communities, private companies, NGOs, and the voluntary sector. For instance, NGOs are well known for working on the ground and providing support to government agencies. They are very important for bringing about innovations.

The first speaker for the session was Ms. Nagdrel Lhamo, the Director of the Forests and Livelihood Programme at World

Wildlife Fund (WWF), Bhutan. Her presentation began with an overview of WWF's work in Bhutan since 1977. To achieve its forestry goals in Bhutan, WWF Bhutan works to create enabling conditions for government agencies, industries, and communities to implement best practices to protect, manage, and restore forests with transparent monitoring. WWF has adopted a global target for forest restoration: "By 2020, restore forest goods, services, and processes in 20 landscapes of outstanding importance within priority eco-regions to regain ecological integrity and enhance human well-being". WWF's goal is for forest landscape in Bhutan to be valued for its contribution to local economy, biological diversity, climate resilience and human well-being.

For the past 40 years, WWF and partners have worked in protected area management and sustainable financing under the "Bhutan for Life" programme. WWF is working to protect forests and biodiversity, including several charismatic species like pygmy hogs and rhinos, in the Trans-boundary Manas Conservation Area (TraMCA), which is located in southern Bhutan. This is the largest and most diverse conservation landscape conceptualised in 2011 under WWF's "Tiger Alive and Living Himalaya Initiative". WWF's future programmes in Bhutan will focus on working with community forests outside protected areas, and working towards the sustainable management of forests to fight degradation and deforestation.

Ms. Lhamo also mentioned that WWF has many global forest conservation and restoration programmes. One of the projects is called "Earth for Life", which aims to ensure the long-term protection of conservation areas at a scale that positively impacts people and the planet. The "Trillion Trees" project is a 25-year partnership between Bird Life International, Wildlife Conservation Society and WWF-UK that rises to that challenge. Its bold vision states that, "By mid-century, through concerted collective action by all sectors of society, one trillion trees have been re-grown, saved from loss and better protected around the world".

The second speaker for the session was Mr. Ganesh Bahadur Karki, the Chairperson for the Federation of Community Forest Users' Nepal (FECOFUN). He shared the experiences of FECOFUN and community forest management in Nepal. The total land area of Nepal is 147,181 km², with forest cover of 36,360 km², which accounts for 44.75% of land area. In the 1980s, Government-managed forests were handed over to community groups.

Over 30% of the total forest area is contained within community forests (CF), which involve 19,361 community forest user groups (CFUGs), within which 2,461,549 households are involved. There are many successful features of community forestry in Nepal. CF institutions are supported by

State law policy. "Forest Law 1991" and the "Forest Regulation 1993" ensure that people from households located near forests can take any patch of national forest as community forest. CF institutions are democratic in structure, and they are involved in resource management, decision-making processes and also in making inventories of forest and landscape use. CFUGs are committed to mainstreaming gender equity and social inclusion through a guideline that states that 50% of the committee and at least one of the leaders should be women. In 2015, when Nepal experienced a severe earthquake, the CFUGs worked for restoration of drinking water supply.

FECOFUN is the umbrella organisation of the CFUGs. It supports and strengthens the capacity of CFUGs and networks through technical, advocacy and governmental support and mobilises communities and conducts democracy exercises, which means direct involvement in decision-making, planning, advocacy, and implementation processes. FECOFUN works in partnership with many agencies, primarily in collaboration with the Ministry of Forest and Soil Conservation.

Mr. Karki ended his presentation by describing several challenges that community forestry in Nepal is confronted with. Nepal faces an unstable political situation, which is a challenge in CF development. Recently, the government instituted a restructuring of the Forest Department at all levels, resulting in less clarity of responsibilities at both the governmental and community levels and a weak governance system. Nepal has also experienced impacts from climate change.

During the question and answer session, Dr. Rekha Pai, Inspector General of Forest (IGF), MoEFCC, India asked what the difference is between the leasehold and the CF approaches in Nepal. Mr. Karki responded that the purpose and scale of each programme was different. The leasehold programme is offered to smaller groups such as households consisting of between 7 to 15 members. The programme is pro-poor and provides support for livelihood generation and forest resource management. CF is implemented at a large scale, with a minimum of 100 to 1,000 households and at a scale of roughly 100 to 200 hectares. The CF approach is best for resource management, forest user development, and enterprise development.

The third speaker for the session was Mr. Shantanu Sinha Roy, Senior Programme Manager for the Foundation for Ecological Security (FES), India. FES works towards ecological restoration through community institutions as well as for governance and sustainable management of landscapes. They have experience of community governance in 8 million hectares of land across eight States in India. FES maintains that common areas provide a unique opportunity to work

through a singular platform on issues concerning poverty reduction, reducing inequalities and improving the ecological health. Common areas act as 'safety nets' for the rural poor and contribute to livelihoods of poor households – 14 to 23% of the household incomes of poor households are derived from common resources and 66-84% of firewood requirements also come from this land. FES works in vulnerable areas where the tribal community is dependent on common resources and there is a historical link between the community and the forests. Besides working in the field, FES also works on policy advocacy. Rajasthan was one of the first States in India to create a draft common land policy focusing on the issue of common pastures, with FES supporting the Government in developing the policy.

“Common areas act as ‘safety nets’ for the rural poor and contribute to livelihoods of poor households – 14 to 23% of the household incomes of poor households are derived from common resources and 66-84% of firewood requirements also come from this land”

SHANTANU SINHA ROY,
SENIOR PROGRAMME MANAGER,
FOUNDATION FOR ECOLOGICAL SECURITY (FES)

Mr. Sinha Roy described several lessons that FES has learnt from commons management. Commons offer physical settings to revive institutional mechanisms, and provide the landless poor with physical and political space for equity and justice. Major challenges encountered include land use change in terms of development and Special Economic Zones (SEZs). The key tenets are devolution of management and governance of common lands as low as possible to the panchayats or the hamlets; appropriate tenure arrangements; and a programmatic approach instead of an event approach. FES has been successful in influencing policies in Rajasthan, Andhra Pradesh and Karnataka, and is working to develop this common land policy in other States too.

In terms of opportunities, ₹400 billion is being used annually in the development of common spaces. The model common land bill, in managing commons and leading to forest landscape restoration should increase the investment in a productive manner. Recently, FES has been working on polycentric governance, to increase the contact between actors including Ministries, NGO partners and funding agencies. Another important aspect while managing diverse land use needs and restoration options is that the land use should not change. Mr. Sinha Roy commented, “Once land use is changed, it is permanently changed, and we must be careful not to let this happen”.

The fourth speaker for the session was Dr. V. Selvam, Executive Director of the MS Swaminathan Research Foundation (MSSRF), India. Dr. Selvam thanked the organisers for including mangrove restoration in the session. His presentation focused on experiences of working with stakeholders to successfully restore mangroves. From 1980 to 2010, over 5 million hectares of mangrove forest cover had been lost worldwide, mostly in Asia. WRI attributed the conversion of mangroves to agriculture and aquaculture.

In India, conversely, mangrove forest cover has increased by 70,000 hectares from 1987 until 2015. This was facilitated through India's “Joint Mangrove Management” programme, which was started in 1989 in a small area called Pichavaram in Tamil Nadu. The programme involved the community, the Forest Department, MoEFCC, NGOs, and research institutions. The JMM process is similar to the JFM process, and had three aims: to build strong village level institutions, empower them to take care of their development needs, and empower them scientifically and technically to handle mangrove restoration. The programme followed a science-based, site-specific approach, and was community-based and process-oriented. The mangrove restoration work had three major phases. The first phase, which was the most important, included identifying the causes of the degradation of mangroves, and the development and demonstration of restoration techniques. The second phase included development of the joint mangrove management processing and pilot testing. The third phase created an enabling environment, in terms of policies and funding. This approach shows how policy can be influenced in a smooth way - instead of trying to explain the concepts through a forum, if there is a good model the ministry can form a committee to examine this and include it as part of their programmes.

The key lessons learnt were to involve key stakeholders in the process from the beginning, to demystify the science, and to devise a good communication strategy. Presently, the quantity of mangrove forest cover has increased, but the quality is going down. For example, in the Pichavaram area,

in the 1930s there were 17 species of mangroves and now there are only 12, and even out of these, majority are from one species, which indicates that other species are on the verge of extinction.

Mr. Gandhe wrapped up the session by saying that Tata Trusts is one of the leading philanthropic trusts in India, and is always looking for worthy investment options. He remarked that what is required is a package intervention, a dynamic intervention which can continually evolve, with mega-scale activities achieved through convergence of multiple resources. He remarked that there were lots of examples from the different sessions of the day which could be classical examples of potential projects for upscaling.

Dr. Khosla closed the session by describing some success stories from DA. In the 1980s and 1990s, DA accomplished a lot in India on natural forest regeneration. DA also partnered with the Zero Emission Research Initiative (ZERI) to implement a powerful project on forest restoration in eastern Colombia, to restore 8,000 hectares of derelict savannah that had been destroyed by overgrazing. ZERI invested roughly \$1,000 per hectare, and planted a monoculture of Caribbean pine with Ryzobia as fertiliser.

Within eight years, the area was able to provide resources such as clear water, turpentine, and other side products from resins. Within 14 years, the area had grown into a fully diversified forest, with enough plants present to host birds and insects that dropped seeds and made the area no longer a monoculture.

Then the project implementers planted palm trees, which provided an enormous amount of biodiesel. This multi-faceted and multi-revenue forest pays for itself, and has created jobs, high-quality water, and large amounts of resin. Dr. Khosla stated, “We need to think out of the box, rather than simply talking about trees and forests, we need to see if we can also manage them in some way aiming for a diverse ecosystem with revenue streams”.

Following Dr. Khosla’s remarks, Dr. N.M. Ishwar, the Programme Coordinator for IUCN India, brought the day’s sessions to a close. He remarked that there were several good recommendations that had come forward through the sessions.

The first was the need for a larger apex body to look at forest landscape restoration in India and in the region, and to look into long-term funding mechanisms for forest landscape restoration. Another important recommendation was to improve the continuous sharing of information and best practices between and within countries. A final recommendation that Dr. Ishwar highlighted was the need to start documenting the processes of forest landscape restoration initiatives and not just focusing on the outcomes.



DAY 02

AUGUST 30, 2017

Ms. Anushree Bhattacharjee, Programme Officer – Forest Landscape Restoration from IUCN India welcomed all the delegates to the second day of the regional consultation and did a quick recap of the previous day’s sessions. She remarked that, based on the interesting deliberations and restoration experiences shared on the first day, the challenges faced by many Indian States as well as the participating countries could be addressed.

SESSION 4

TOOLS, TECHNIQUES AND POLICIES - ENABLING ENVIRONMENT FOR FOREST LANDSCAPE RESTORATION PROGRAMMES

This session was chaired by Dr. Scott Perkin, Head, Natural Resources Group, IUCN Asia Regional Office. Speakers were asked to highlight the following points in their presentations:

- Give examples of successful and innovative tools and techniques that can be used to plan, implement and monitor restoration programmes
- Speak of innovative mechanisms, schemes and programmes for countries to achieve their restoration targets
- Discuss the factors that contribute to an enabling environment for restoration initiatives in a transboundary context.

Dr. Perkin noted that although enabling environment is absolutely critical for successful restoration programmes, it was often overlooked and neglected. He said, “If we get the policies right they can be extremely powerful and they can help support forest landscape restoration, but if we do not get them right they can restrict and hamper restoration efforts instead. In addition to the enabling environment, we need robust tools and techniques, and that is the focus of this session”.

The first speaker of the session was Dr. Chetan Kumar from IUCN who spoke of forest landscape restoration planning, implementation, and tracking tools. He introduced the KNOWFOR project funded by DFID. He also introduced the concept of forest landscape restoration briefly and discussed the Restoration Opportunities Assessment Methodology (ROAM) designed by IUCN in partnership with the World Resources Institute (WRI). He spoke about how it is an iterative process that allows countries to identify and prioritise forest landscape restoration opportunities at various levels. He demonstrated examples of the various components of ROAM such as the spatial analysis, social and economic analysis among others. He emphasised the importance of identifying and following a theory of change while applying ROAM and shared examples from El Salvador and Mexico. He then highlighted the Restoration Opportunities Optimization Tool (ROOT) developed by IUCN and the Natural Capital Coalition and flagged the Bonn Challenge Barometer of Progress that is currently being designed by IUCN with support from the German Government to monitor progress on restoration commitments. The Barometer is being developed in consultation with the following countries - Brazil, Rwanda, Mexico, El Salvador, United States, and a country in Asia (yet to be decided).

The next speaker was Dr. Rohini Chaturvedi from World Resources Institute (WRI), India. She said that a WRI estimate pointed to India having invested US\$ 13 billion on restoration in the last five years as part of various schemes and domestic policies and emphasised the need for sub-national ROAM processes in India. She provided a brief overview of WRI's work in Madhya Pradesh and discussed the toolkit they have designed for Himachal Pradesh saying, “With support from USAID and partners such as FES, we came up with an integrated forest management toolbox. We have been working closely with the forest department in Himachal Pradesh to test this out. It brings together the methodology of ROAM, the spatial analysis component and the emphasis on participation. It uses a platform that allows for integrating and visualising data that is called the GFW MapBuilder, which is freely available. This allows us to collect, collate and visualise data, engage with stakeholders, consider decisions that talk about recorded forest areas, and also identify those interventions which can be prioritised for financing through other mechanisms”.

She discussed the importance of participatory monitoring mechanisms saying, “It is easy to track deforestation, but it is extremely difficult to track tree growth and restoration. We have been looking at the collect earth tool, which was developed by FAO, Google and WRI, which analyses high-resolution images through scientific plots to see the benefits that are wanted. We have combined this with participatory measures, so youth from particular concerned landscapes can come together and analyse these images. The second aspect is creating enabling conditions, whether it is policy, biophysical or other institutional conditions. As part of ROAM, WRI and IUCN undertook an extensive study of global restoration successes”.

Brigadier D. S. Chauhan and Major Anoop Ahuja then presented on the role of the Ecological Task Force (ETF) of the Territorial Army. The first ecological unit in the world was formed in the year 1982 in Dehra Dun. ETFs were created to execute specific ecology related projects with a military like work culture and commitment. Their objective is to reverse the process of ecological degradation by undertaking soil conservation and afforestation work in degraded areas. Presently there are nine ETFs in various locations in India. Major Ahuja spoke about the accomplishments and approach of the nine territorial battalions in India that have planted 152.77 lac saplings in nearly 72,618 hectares over the last 35 years. The task forces also maintain nurseries where they generate compost and assist local communities with water conservation and management. In April 2012, the 135 Infantry Battalion (TA) Eco Task Force of Kokrajhar entered the Guinness and Limca Book of Records for the maximum

number of trees planted in an hour by a team – 100 people planted 40,885 trees. The nine ETFs have also been felicitated by several awards from the Government of India.

The fourth speaker for the session was Dr. Sunil Londhe from World Agroforestry Centre (ICRAF) who spoke about agroforestry and forest landscape restoration. He defined agroforestry as “the practice and science of the interface and interactions between agriculture and forestry, involving farmers, livestock, trees and forests at multiple scales”. 64% of indigenously produced timber in India is harvested through agroforestry. ICRAF’s project on mapping existing relevant national laws and policies on agroforestry in Nepal were discussed in addition to India’s National Agroforestry Policy of 2014.

He shared that ICRAF-South Asia is a member of the Inter-Ministerial Committee that oversees the implementation of the National Agroforestry Policy, and also of the Technical Group (Ministry of Agriculture) which supports the Agroforestry Mission. ICRAF also works with the mission to convince States to de-notify agroforestry species from felling and on transit regulations enhancing adoption of agroforestry.

“Agroforestry is the practice and science of the interface and interactions between agriculture and forestry, involving farmers, livestock, trees and forests at multiple scales. 64% of indigenously produced timber in India is harvested through agroforestry”

SUNIL LONDHE,
WORLD AGROFORESTRY CENTRE (ICRAF)

Dr. Londhe spoke of the newly developed Africa Tree Finder application in collaboration with IUCN, that allows farmers to identify the right tree for the right place and the need to expand it to other countries.

He was followed by Dr. Rajan Kotru from International Centre for Integrated Mountain Development (ICIMOD), Nepal who provided an overview of the nuances and

complications of protecting and restoring transboundary landscapes. ICIMOD’s approach involves multiple governments and local stakeholders. The five key aspects that they work on are: livelihoods, biodiversity conservation and the application of traditional knowledge; integrated action plans that ICIMOD enhances by blending scientific and traditional knowledge; datasets of environment monitoring and socio-economic changes and promoting coordination among different governments. Dr. Kotru shared that ICIMOD integrates knowledge by combining applied science and community science for local policymakers. He discussed how transboundary conservation is a long-term process as it involves galvanising political will and then translating it into on-the-ground cooperation.

Dr. Kotru noted that the way forward required country ownership. He said: “If there is no ownership, you cannot go forward with the landscape approach at the country level. We have to bring in an equitable level of understanding that brings mutual benefits for the countries. He noted that cross-border branding is one way of bringing countries together. He also noted the existing trans-border institutional mechanisms between the 8 countries in the Himalayas as the way forward for any landscape approach.

During the open discussion, Dr. Londhe remarked that planting material is key to the success of a plantation, and there is a lack of quality planting material. He also mentioned that there was a need for an application such as the Africa tree-finder for South Asia. For example, if a farmer wants to plant a tree, he should have an insight into what gain he will get out of it. An application like Google Maps, which is used for navigation, can help farmers a lot.

Dr. Chetan Kumar shared that the Africa tree-finder application that IUCN developed in partnership with ICRAF, takes advantage of the 20 years of work in developing this type of database. The mobile interface is the easy part. He said they were in discussions with key people involved with this database development. There is a huge cost element to putting together the data for a country like India. He hoped that by next year there would be a plan in place, to see how that architecture can be developed.

Dr. Chaturvedi concluded the session with information about the toolbox with an open kit adapted version called the forest data kit. It is an Android application based tool that is available and essentially targeted towards beat guards, forest guards, and others to collect the vegetation data that is required for the working plan preparation process. They do not have tools that substitute data collection, but offer easy methods of collecting data (it is incorporated into a database and rendered for analysis fairly quickly).



SESSION 5

FOREST LANDSCAPE RESTORATION — FINANCE AND PARTNERSHIPS

This session was chaired by Dr. T.P. Singh, Deputy Regional Director, IUCN Asia Regional Office. Speakers were asked to highlight the following points in their presentations:

- What could be some of the funding sources/ finance, co-finance options for restoration programmes outside of government schemes
- Examples from bilateral/ multilateral/ funding agencies of successful forest landscape restoration programmes in the country
- How private sector can engage in restoration programmes beyond compliance and CSR activities.

Dr. T.P. Singh provided an overview of the Bonn Challenge and noted that the panel was well-positioned to speak about financing and partnerships for restoration.

The session was initiated by Ms. Sangeeta Agarwal from KfW. Ms. Agarwal remarked that KfW is the German Promotional Bank, representing the federal government of Germany. They are the financial cooperation part of German bilateral aid to India. Sister organisation, GIZ, is responsible for the technical cooperation component. KfW has been in India for more than 60 years, and currently has projects worth €3.6 million in the country. National Resource Management (NRM) sector within KfW is quite small. Their prime area of work is renewable energy. They also engage with issues surrounding urban development, environment and climate as well as the financial sector where they focus on financial inclusion and SME financing. In the NRM sector they currently have 8 projects in the country worth €150 million, another 5 in pipeline worth another €152 million.

She noted that their work in India is under two broad categories - sustainable agriculture where their primary partner is the National Bank for Agriculture and Rural Development (NABARD), and the other major area of work is sustainable forest and climate change adaptation in the forestry sector. This

is a relatively newer component, and they have been working mainly with the State governments in the forestry sector. They primarily work in the States of Tripura and Himachal Pradesh, with a new project coming up in Manipur and others in the pipeline. She mentioned about one of the highlights of the Tripura project and said, “We set up village development planning and implementation committees, and a huge amount of capacity building activities were done to enable these remote tribal communities not exposed to working with externally aided projects or government schemes. A lot of capacity building went into enabling these communities not to just act as labourers working on our programme, but to take ownership of the projects. The forest department also agreed to do direct cash transfers to village accounts of these communities. This established a lot of transparency in our programme, which enabled the communities to visualise what was taking place on the ground in order to implement as well as monitor these activities. The Government of Tripura is going to mainstream this model in other government programmes. An important tool for success was having communities create village development plans that identified their basic needs and earmarked what the project could finance, and what other Central/ State schemes can be used to bring in convergence. The convergence was one of the key factors for the large success that we have had on our project”. She prompted the MoEFCC to develop a database of tools that can be used for sustainable land management in each State.

Dr. T.P. Singh noted that an important point raised was coordination, which helps to bring people and resources together.

Mr. Anirban Ganguly from the South Asia Research Hub of Department for International Development (DFID) spoke next. He discussed the role of DFID’s South Asia research hub and its focus on building coherence among disparate programmes. He spoke about the need to provide communities with short term incentives which help to sustain long term initiatives like forest protection. He discussed three key points around issues being discussed in this panel – incentives, co-benefits, and coherence or convergence. He referenced a recent study on mangroves in the Sundarbans and how they had protected almost 80% of the cash income of families from storm surges. His conclusion from this and other experiences was that given incentives, communities can protect ecosystems with financing from donors and governments. He mentioned that DFID has commissioned a study to look at the net carbon potential of the MGNREGA programme saying, “It is now well recognised, that if India is to reach its carbon mitigation target, of 2.5-3 giga tonnes of CO₂ equivalent, much of that has to come from outside the conventional forestry sector.

The study looks at the flagship government schemes, such as MGNREGA, and what could be the best carbon potential under those schemes, under the business as usual, as well as under ambitious scenarios. DFID is providing some support to the Ministry of Rural Development on the MGNREGA programme. DFID also commissioned a small piece to supplement this, to look at what could be the net potential of this entire programme all over the country in terms of the carbon potential of the programme”. Mr. Ganguly observed an important aspect is local level equity. As part of the DFID legacy project in Himachal Pradesh, there was a study to look at incremental benefit flow to Joint Forest Management (JFM) areas. An issue which came up is that it is not always obvious that a programme which does well in terms of conservation of landscape also does well in terms of achieving equity.

“There is a need to clarify who or which communities are the owners and stewards of a landscape”

RAJAN KOTRU,

INTERNATIONAL CENTRE FOR INTEGRATED
MOUNTAIN DEVELOPMENT (ICIMOD)

He was followed by Dr. Varghese Paul from United States Agency for International Development (USAID) who spoke about USAID’s role in supporting social forestry in India. Currently, their focus is on REDD+ through a bilateral programme with the GoI and working closely with MoEFCC. He spoke about USAID’s flagship programmes in India – the Partnership for Land Use Science (Forest-PLUS) focused on strengthening the capacity for REDD+ implementation in India and the Innovations for Forest Resources Management (InFoRM) aimed at working with civil society organisations and private agencies to demonstrate models that address forest degradation and improve livelihoods of forest dependent communities.

He discussed USAID’s approach to promoting forests for multiple benefits. Their training module is being applied across the States of Madhya Pradesh, Karnataka, Himachal Pradesh and Sikkim. USAID Integrated Forest Management Toolbox is helping forest officials gather data for their management plans. He spoke in detail about the remote sensing protocols and radar based protocols for monitoring forests and forest carbon developed under Forest-PLUS and USAID’s work with FSI to develop protocols for interpreting high resolution satellite imagery. He said, “We have developed

a system for data analysis and data storage known as forest data management system, an online system, with the remote sensing protocols and information, and regression equations already fed into that. Once we collect the field information through the mobile forest app, with the click of a button one can get forest inventory data and carbon inventory data. The Sikkim forest department has already started using this for their regular inventory work”. In Odisha, USAID’s InFoRM programme has organised the women forest dependent communities into a producer company and is now helping them with marketing.

Dr. Paul noted that Forest-PLUS has come up with Corporate Forest Responsibility (CFR) on the lines of CSR. The idea is that a company as part of their CSR fund will invest in forestry activities. One of the agencies which signed the CFR is Mahindra Sanyo. They provided seedlings to a set of farmers as part of the CFR activities, while the local administration as part of the MGNREGA programme provided labour cost for the plantations. Mahindra Sanyo has further committed 5-6 lakhs seedlings to the forest department as well as to the communities around Narmada. He noted that a big drain is firewood, and they had therefore facilitated adoption of a biomass briquetting technology. Forest-PLUS provided the initial investment and other actors in Sikkim provided technical support, NABARD contributed funds for capacity building, with the Sikkimese marketing federation helping the communities. The communities took these up as an income generating activity, marketing these biomass briquettes, which are made from biomass waste and kitchen waste.

The fourth speaker for the session was Dr. Ruchi Pant from United Nations Development Programme (UNDP) who spoke about UNDP’s Biodiversity Finance initiative (BIOFIN) which looks at gaps in funding required to conserve biodiversity and identifies which partnerships can be developed to bridge that gap.

Some of the key learnings were the importance of partnerships and convergence. She spoke of the need for ‘horizontal partnerships’ when using approaches like forest landscape restoration that involved multiple stakeholders and mentioned UNDP’s GEF-funded projects on coastal and mountain ecosystems that have already piloted landscape based approaches. She observed that for convergence, providing platforms for collaboration was useful, and helped to avoid people working in silos.

Dr. Pant noted that the UNDP had done a review of 26 ministries at the national level, including 118 schemes. After validation, 113 schemes of GoI were found to have relevance for conservation. She offered to share these with interested parties. UNDP looked at expenditure over the last 7 years, and

found that there was a gap in required and available resources. When they did the financial needs assessment, they found that of the amount needed for conservation actions, only 50% was available. The study looked at public expenditure and externally aided projects – international fund flow, NGO money, public corporates and the private sector. She highlighted the need for government buy-in when convincing agencies like the GEF to invest in a project and suggested that the private sector involvement should go beyond just providing CSR funds for e.g. providing technical guidance.

The fifth speaker for the session was Mr. Arnab Deb from Confederation of Indian Industry (CII) who spoke about the organisation's biodiversity initiative that has 23 members. This is a national initiative which represents India at CBD. The initiative has 10 declaration points to which companies have to commit, and at the end of two years, share their progress, as well as demonstrate their willingness to do more. This initiative of MoEFCC was hosted by CII and supported by GIZ for the last 3 years. Under this initiative they have been working with many industries at length, specifically Tata, Mahindra, and the other large corporations.

He spoke about how the companies they are involved with are engaging in restoration on their own premises and the hurdles it raises with the forest department because the land being regenerated is privately owned. He stressed the need for more inclusive and supportive laws and for structures within which private organisations could develop their restoration programmes. He also noted that to achieve success in forest landscape restoration, or any type of landscape restoration, there was a need to work on three Is – Investment, Incentive and Institution. "Investment is there, Incentives need to be created and Institutions have to be formed with at least good policies at the ground to help industries to work on it - in a very definite picture, not a picture which is not stable and creates further problems for them", he observed.

Dr. Gairola responded to him by saying, "The present policy is quite clear. Industries will not be assigned forest lands on long term lease basis for taking up captive plantations. Industries are, however, welcome to participate in afforestation activities. GoI had, maybe 25-30 years back, prescribed a tripartite agreement - where industries can finance, NGOs can plant, and forest departments can give technical inputs. In Maharashtra, many industries have already participated in plantation activities".

Dr. Kotru from ICIMOD raised a valid point of human migration and the need to clarify who/ which communities are the owners and stewards of a landscape.

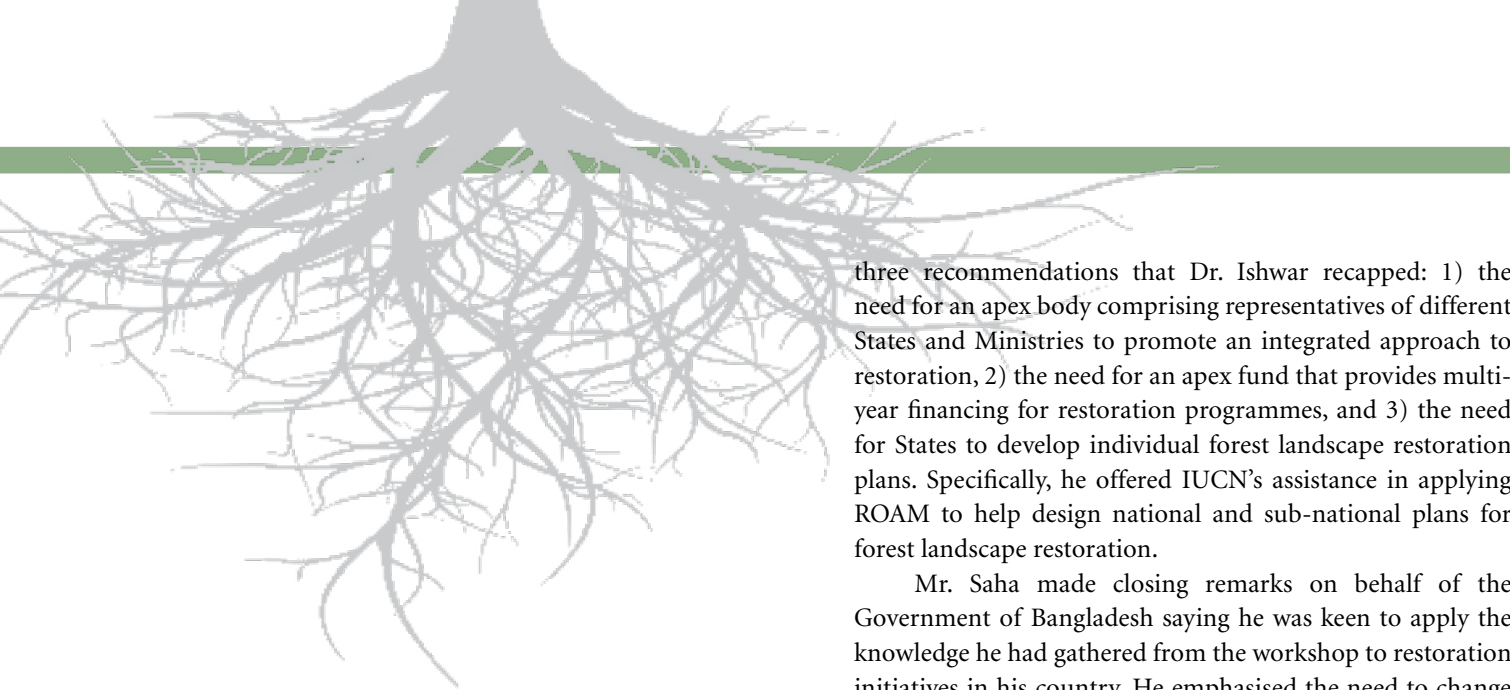
Dr. Londhe requested that there should be channels so that all partners can get access to data.

Ms. Sangeeta Mehra from NABARD said "An aspect that I request is for research. When we talk to industries, ITC in particular, regarding bamboo agarbattis, they say the quality of bamboo available in India does not meet their requirements. We have so much indigenous bamboo. I would say that there are some gaps in our flow, and these need to be plugged so that we can reach that level of forest landscape restoration".

Mr. Farhad Vania of GIZ noted that he was particularly impressed by IUCN's ability to pull in experiences from other countries. He felt that there is considerable knowledge, and there are fantastic tools that can be applied. He noted that many conversations in ministries began with them saying, "We don't need the money", and GIZ having to respond, "We are not a donor". He mentioned an expression from architecture - 'form follows function', and noted that this function required revisiting. The form consisted of the tools, the experiences, and the knowledge. He remarked that: "We are not revisiting the narrative on function. We are still trapped by the history of what the forest experience has been in this region. We need a completely new way of asking the question, and then say - these are the right tools, these are the right resources, this is the right policy, this is the right enabling environment. Right now there seems to be somewhat of a misfit. I think this has been brought out very well in this event, that there is some kind of a mismatch or misfit between what is that function for which these are the forms".

Mr. Lalram Thanga noted that in Mizoram the requirement was to sensitise the stakeholders, bring them together, so that the North Eastern States can also reappear on the forestry and landscape restoration map of India. He also observed that although there was availability of funds through CAMPA, it is meant for those areas only where diversion of land has taken place for the purpose of developmental projects, and not areas where shifting cultivation is taking place.

Dr. T.P. Singh closed the session saying that donor funding can never substitute the government funds, but it allows for innovation. It is possible to use these funds for areas where government funds cannot be used. He remarked that what can be brought in through civil societies, donor agencies and international organisations are innovation, new ideas, and expertise from across the region and globe. He also observed that the role of the private sector is going to become very important with the current rate of development, and that the private sector had to be a partner in biodiversity conservation. He said that he was happy to hear that biodiversity mainstreaming is not being considered as a CSR activity but as a mainstream activity.



VALEDICTORY SESSION

Dr. N.M. Ishwar, IUCN, provided a summary of the discussions that had taken place and identified the key steps that participants could follow in their own regions. He praised the participating countries for their restoration efforts and highlighted the benefits of restoration that are manifested in the improved local livelihoods, the reversal of the negative impacts of intensive agricultural systems and increased populations of apex predators in critical landscapes. He responded to comments from participants who cited the need for continued dialogue among national and State governments saying that IUCN is working towards a 2018 Asia dialogue to mirror on-going regional processes in Latin America and Africa. He said it would be beneficial to have a mechanism for sustained collaboration among Asian countries and that the 2018 session could provide a space for discussions on such a mechanism. During the sessions, speakers highlighted the need for monitoring protocols that would provide mid-term course corrections for forest landscape restoration programmes in addition to capturing final outcomes. Dr. Ishwar informed the audience that IUCN, with the support of the German Government has launched the Bonn Challenge Barometer of Progress that will address this need. He responded to the need to document the process of implementing forest landscape restoration interventions that was discussed during sessions and spoke about IUCN's ROAM processes that were underway in 26 countries and their iterative nature that allowed for process documentation and refinement. He urged the audience to utilise IUCN's online restoration hub, www.infoflr.org, and the Bonn Challenge website where governments can share progress on restoration commitments. A critical gap raised by speakers was a lack of coordination between Ministries and States in planning forest landscape restoration programmes. Panelists had provided

three recommendations that Dr. Ishwar recapped: 1) the need for an apex body comprising representatives of different States and Ministries to promote an integrated approach to restoration, 2) the need for an apex fund that provides multi-year financing for restoration programmes, and 3) the need for States to develop individual forest landscape restoration plans. Specifically, he offered IUCN's assistance in applying ROAM to help design national and sub-national plans for forest landscape restoration.

Mr. Saha made closing remarks on behalf of the Government of Bangladesh saying he was keen to apply the knowledge he had gathered from the workshop to restoration initiatives in his country. He emphasised the need to change people's mindset towards forest and the balance between maintaining biodiversity reserves and community forests. He spoke about Bangladesh's experiences with community forestry and how a negative side effect was the current expanses of production forestry with few intact ecosystems remaining. He encouraged the audience to think beyond plantations and focus on managing ecosystems.

He was followed by Mr. Dorji who provided closing remarks for the Bhutan government. He noted the absence of presentations on mountain ecosystems and suggested that forestry colleagues from Sikkim and West Bengal be roped in for future discussions as the mountains are the source of water for the plains. He highlighted the lack of funding availability for Bhutan, where they have to rely on funding from hydropower developers for restoration, and pointed out that the situation was going to worsen as Bhutan moved out of the Least Developed Country category. He emphasised the need for a paradigm shift from government agencies that espoused planting trees to investing in landscape restoration. He highlighted his country's success with community involvement in forest conservation and achieving carbon negative status. Ms. Nagdrel, representing WWF Bhutan, expressed her agreement with Mr. Dorji's comments saying it was encouraging to learn about global efforts on restoration and the multiple tools available to plan and monitor forest landscape restoration programmes.

Mr. Rijal spoke about Nepal's goal of restoring 1.6 million hectares by 2030 under ADS and highlighted the need for a detailed assessment of Nepal's degraded and deforested landscapes to refine this target. He requested IUCN's support in applying ROAM across Nepal to achieve this.

Mr. Wasantha representing the Government of Sri Lanka noted that he had the opportunity to hear successful and valuable case studies from different parts and gain valuable knowledge about forest landscape restoration tools. For example, the Indian Territorial Army through ETF helping

with restoration was a new thing - in Sri Lanka, forces are also helping in various ways for restoration and forest protection but they don't have a capable mechanism like India. He made two recommendations, one for developing an experience sharing mechanism within countries in the region, and secondly, that Sri Lanka would be interested to host such a conference if IUCN could help organise it. He noted that their deputy minister of environment had also mentioned this in their last meeting.

Dr. Gairola provided a recap of issues flagged during the discussions and provided his recommendations to address them. He highlighted the issue of gaps in coordination between government and non-governmental organisations as well as within the different arms of governments saying, "At the State level, coordination between different departments is usually done by the Chief Secretary, who is over-burdened. There has to be a coordination unit at the provincial level, where cross sectoral issues such as forest landscape restoration can be coordinated. Additionally, a coordinating unit at the federal level will help promote collaboration between various stakeholders". He called for an expansion of the NAEB mandate saying, "The National Afforestation and Eco-development Board in India is mandated to coordinate afforestation activities across the States, and another body, National Wasteland Development Board is supposed to look after development of non-forest wastelands. There is a very strong case to expand the mandate of NAEB to National Forest Landscape Restoration Board so that it coordinates activities related to landscape management".

He recommended creating a database of tools for landscape management that could bring together data and tools from different agencies. He pointed out that the Indian government is currently conceptualising a digital national database management system to collect and disseminate data digitally and recommended other countries follow suit. He responded to Mr. Dorji's point on human-wildlife

conflict saying that India needs to urgently tackle habitat fragmentation and suggested that cost-benefit analysis be used to determine whether or not forest land should be diverted.

Mr. Das from MoEFCC speaking for Government of India concluded the session, saying that there seemed to be consensus on the need to focus on landscape management vs. addressing issues in silos. He highlighted how different this was from when he, and other foresters in the room, received their training and said that interactions such as this consultation were critical in driving that movement. He mentioned India's recent efforts to hold courses for forest managers from different States to promote knowledge sharing and how appreciative he was of efforts to expand this to other countries.

He highlighted a few critical areas for India saying, "India has indicated that by 2030 they will sequester 2.5-3 billion tonnes of carbon in our forests. How will we do this? We have roughly 9 billion tonnes of carbon stock. So we have a target that we will have another 3 billion tonnes in a matter of less than a decade and a half. If we go ahead with purely plantation programmes, can we achieve this? We have been planting for so many years. How do we achieve this additional 2.5-3 billion tonnes of carbon in forests?

We have to look beyond the forest. Forest Survey of India is mapping, which is a good thing, so we will know our stock soon. If you see, there is marginal increase, in quantitative terms, of the forest. In qualitative terms, however, we are not making the required progress. We have 24.16% of land mass under forests and trees. We have to qualitatively improve this and quantitatively move beyond this to 33%. We need to have a strategy for meeting the target of 3 billion tonnes, both in setting annual targets and determining how to achieve this".

Ms. Bhattacharjee from IUCN wrapped up the regional consultation and thanked all the participants, speakers and session chairs for their valuable contributions towards making the consultation a success.

CONCLUSION

The South Asia regional consultation on forest landscape restoration (FLR) was a landmark event that brought together government representatives, non-governmental organisations, private sector representatives and bilateral and multilateral agencies from India, Bangladesh, Bhutan, Nepal and Sri Lanka. It significantly increased awareness in the region on the benefits of forest landscape restoration and the role that the Bonn Challenge can play as a platform for accelerating restoration, meeting national priorities and fulfilling international commitments, while helping the countries who have committed towards the Bonn Challenge pledge to start discussing the progress they have made towards their respective pledges.

It is clear that there is enormous potential for forest landscape restoration in the South Asia region. Looking at the future the priorities will now be to:

- Build on the momentum of the consultation to explore a mechanism for continued dialogue and knowledge sharing between the South Asian countries
- Use more strategic and structured approaches to identify restoration opportunities and priorities at the national and sub-national levels, by applying methodologies such as ROAM
- Move from planning and pledging to implementation
- Document the process of implementing forest landscape restoration interventions in the region
- Set up monitoring protocols that would provide mid-term course corrections for forest landscape restoration programmes in addition to capturing final outcomes, through the use of new tools such as the Bonn Challenge Barometer of Progress.

ANNEX 1: AGENDA

Date: 29-30 August, 2017

Venue: Vice Regal Hall, The Claridges, New Delhi

Day 1: 29 August, 2017

09.00: Registration

09.30: Inaugural Session

09.30: Welcome Address – **Pankaj Asthana**, Inspector General of Forest, National Afforestation & Eco-Development Board, Ministry of Environment, Forest and Climate Change, Government of India

09.40: Special Remarks – **S.C. Gairola**, Director General, Indian Council of Forestry Research and Education (ICFRE)

09.50: Special Remarks – **T.P. Singh**, Deputy Regional Director, IUCN Asia Regional Office

10.00: Special Remarks – **Siddhanta Das**, Director General of Forests and Special Secretary, Ministry of Environment, Forest and Climate Change, Government of India

10.10: Inaugural Address – **Ajay Narayan Jha**, Secretary, Ministry of Environment, Forest and Climate Change, Government of India

10.20: Vote of thanks – **P.R. Sinha**, Country Representative, IUCN India

10.30: Group Photo

10.40 – 11.00: Tea/ Coffee

11.00: Session 1: Priorities and Progress – key issues from restoration experiences in South Asia

CHAIR

Siddhanta Das, Director General of Forests and Special Secretary, Ministry of Environment, Forest and Climate Change, Government of India

CO-CHAIR

S.C. Gairola, Director General, Indian Council of Forestry Research and Education (ICFRE)

SPEAKERS

1. **Uttam Kumar Saha**, Conservator of Forest, Government of Bangladesh
2. **Lobzang Dorji**, Chief Forestry Officer, Forest Resources Development Division, Department of Forests and Park

Services, Government of Bhutan

3. **Pankaj Asthana**, Inspector General of Forest, National Afforestation & Eco-Development Board, Ministry of Environment, Forest and Climate Change, Government of India

4. **Buddhi Rijal**, Forest Officer (Under Secretary), Department of Forests, Government of Nepal

5. **H.G. Wasantha**, Assistant Conservator of Forest, Government of Sri Lanka

12.20: Session 2: Panel discussion on best practices in restoration, opportunities and challenges – perspectives from Indian States

CHAIR

S.C. Gairola, Director General, Indian Council of Forestry Research and Education (ICFRE)

CO-CHAIR

Savita, Director, Forest Research Institute (FRI)

SPEAKERS

1. **Kishan Singh Sugara**, PCCE, Karnataka
2. **Pankaj Srivastava**, APCCF (JFM & FDA), Madhya Pradesh
3. **Nitin H. Kakodkar**, APPCF (Budget, Planning & Development), Maharashtra

13.20 – 14.20: Lunch

14.20: Panel discussion on best practices in restoration, opportunities and challenges – perspectives from Indian States ...continued

CHAIR

S.C. Gairola, Director General, Indian Council of Forestry Research and Education (ICFRE)

CO-CHAIR

Savita, Director, Forest Research Institute (FRI)

SPEAKERS

4. **Lalram Thanga**, PCCE, Mizoram

5. **Subhash Chandra Misra**, PCCF, Odisha
6. **Saurabh Gupta**, CCF, Punjab
7. **Rupak De**, PCCF, Uttar Pradesh

15.20: Session 3: Sharing of restoration experiences from non-governmental agencies

CHAIR

Ashok Khosla, Chairman, Development Alternatives

CO-CHAIR

Abhay Gandhe, Head – Agriculture, Tata Trusts

SPEAKERS

1. **Nagdrel Lhamo**, WWF Bhutan
Forest Landscape Restoration: WWF Bhutan

2. **Ganesh Bahadur Karki**, Federation of Community Forest Users' Nepal (FECOFUN), Nepal
Experiences of FECOFUN in managing community forests of Nepal
3. **Shantanu Sinha Roy**, Foundation for Ecological Security, India
Role of commons and community institutions in forest landscape restoration
4. **V. Selvam**, MS Swaminathan Research Foundation, India
Joint mangrove management models

17.00 - 17.20: Tea/ Coffee

17.20: Wrap up of the day by Programme Coordinator/
Programme Officer, IUCN India

DAY 2: 30 AUGUST, 2017

09.30: Session 4: Tools, Techniques and Policies - enabling environment for forest landscape restoration programmes

CHAIR

Scott Perkin, Head, Natural Resources Group, IUCN Asia Regional Office

SPEAKERS

1. **Chetan Kumar**, IUCN DC Office
FLR Planning, Implementation, and Tracking tools - IUCN experiences
2. **Rohini Chaturvedi**, WRI India
Integrated Forest Management Toolbox for FLR Planning and Monitoring
3. **Brigadier Chauhan**, Territorial Army
Role of Eco Task Force in Restoration
4. **Sunil Londhe**, World Agro-Forestry Centre (ICRAF)
Agro-forestry and FLR
5. **Rajan Kotru**, International Centre for Integrated Mountain Development
Interfacing restoration of forest landscapes with integrated ecosystem management at scale

11.00– 11.20: Tea/ Coffee

11.20: Session 5: Panel discussion – Forest Landscape Restoration – Finance and Partnerships

CHAIR

T.P. Singh, Deputy Regional Director, IUCN Asia Regional Office

SPEAKERS

1. **Sangeeta Agarwal**, KfW
2. **Anirban Ganguly**, South Asia Research Hub, DFID
3. **Varghese Paul**, United States Agency for International Development (USAID)
4. **Ruchi Pant**, United Nations Development Programme (UNDP)
5. **Arnab Deb**, Confederation of Indian Industry (CII)

12.50-13.35: Valedictory Session

Open Discussion on Takeaways and Way forward

CHAIR

Siddhanta Das, Director General of Forests and Special Secretary, Ministry of Environment, Forest and Climate Change, Government of India

CO-CHAIR

S.C. Gairola, Director General, Indian Council of Forestry Research and Education (ICFRE), Moderated by IUCN

13.35: Vote of thanks

P.R. Sinha, Country Representative, IUCN India

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ANNEX 3: MEDIA

South Asia consultation on forest landscape restoration results in set of key recommendations for region. It can be read at: <https://www.iucn.org/news/forests/201709/south-asia-consultation-forest-landscape-restoration-results-set-key-recommendations-region>

NOTES







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