MEETING REPORT
Workshop on Mainstreaming Degraded Forest Restoration into Forestry Strategic Plans

Phnom Penh, Cambodia

17-19 December 2014

1. Introduction

Forest loss and forest degradation are receiving worldwide attention and international efforts are helping economies to restore millions of hectares as part of the commitments they made under various legally and non-legally binding instruments. For example, APEC leaders set a goal in 2007 to increase forest cover by at least 20 million ha by 2020; the Bonn Challenge in 2011 sets a target to restore at least 150 million ha of degraded land by 2020; and Parties to the Convention on Biological Diversity adopted Aichi Target 15 which calls for signatory economies to restore at least 15 percent of their degraded ecosystems by 2020. Other developments include the pledge made during the UN Secretary-General's Climate Change Summit in September 2014 to restore 350 million ha of degraded forest landscapes and the 20x20 initiative to restore 21 million ha which was launched in December 2014 during UNFCCC's COP20.

The benefits of restoring degraded forests are widely accepted: the conservation of biodiversity, better management of water catchments, reduction of the risk of natural disasters, climate change mitigation and adaptation, improvement of rural livelihoods, among others. Mainstreaming degraded forest restoration into forestry strategic plans will help to raise public awareness and to gain policy and financial support. Some economies are already implementing successful practices while others are exploring different approaches or are developing relevant strategies and action plans.

APFNet, in collaboration with the Forestry Administration of Cambodia and the Food and Agriculture Organization of the United Nations (FAO), organized a workshop entitled "Mainstreaming Degraded Forests Restoration into Forestry Strategic Plans". The event took place in Phnom Penh, Cambodia, from 17 to 19 December 2014 as one of the activities under the Platform for Regional Dialogue on Forestry Strategic Planning which APFNet proposed in 2013.

1.1 Objectives

The workshop provided a venue to share information, best practices and lessons learned on the restoration of degraded forests; discuss relevant policies and measures; identify trends and key challenges; explore effective approaches to address issues; and suggest potential priorities for APFNet's Platform for the Regional Dialogue on Forestry Strategic Planning for 2015.

1.2 Participants

Seventy-four participants attended the workshop from the following 14 economies and 5 international/regional organizations: Bangladesh, Cambodia, China, Fiji, Indonesia, Malaysia, Myanmar, Nepal, Papua New Guinea, Republic of Korea, Sri Lanka, Thailand, the Philippines, Viet Nam, APFNet, FAO, IUCN, RECOFTC, and the Bagong Pagasa Foundation (see Annex 2 for a detailed list).

2. Summary of topics and main activities

2.1 Opening ceremony

Mr. Qu Guilin, Executive Director of APFNet, thanked the workshop's co-organizers for the strong support they provided throughout the planning process. He then welcomed all participants and experts to the session, stating that he looked forward to their deliberations on the restoration

of degraded forests - a topic that is gaining worldwide attention because of a growing recognition that healthy ecosystems are a prerequisite to sustainable development and to the well being of society as a whole. He noted that, since APFNet was launched in 2008, it has been involved in close to 60 activities, including the second meeting of APEC ministers responsible for forestry which took place in Cusco, Peru in August 2013. More recently, in response to the difficulties that economies are encountering with developing and implementing strategic forestry plans, he is acting on a proposal to establish a platform for regional dialogue to address shortfalls. This mechanism is built on 2 principles: 1) activities are decided by economies and 2) the issues to be tackled are of concern to more than just one government. Current initiatives include the formulation of regional guidelines and assistance to eligible applicants for putting them into action. He added that the restoration of degraded forests is an appropriate focus for the platform and stated that he looked forward to hearing concrete suggestions from participants on how APFNet can support them in this regard.

Ms. Nina Brandstrup, FAO representative for Cambodia, noted that continued deforestation and land degradation pose serious obstacles to eliminating poverty and hunger, to conserving biodiversity, and to reducing the impacts of climate change. She also highlighted that such losses negatively affect soil quality and the water cycle, undermine agriculture and productive ecosystems, and threaten the livelihoods of millions of people. However, the restoration of degraded forests and landscapes is creating many new opportunities. According to an estimate by the World Resources Institute, it is possible to restore more than 400 million hectares of deforested and degraded landscapes in the Asia-Pacific region, thereby increasing forest area from 19 percent to 32 percent. As a member of the Global Partnership on Forest and Landscape Restoration, FAO is supporting and expanding national efforts. In select economies, it will lend assistance to create enabling conditions, strengthen institutions and build organizational and technical capacity to design, plan and implement large-scale programmes. She concluded by stating that FAO appreciates the opportunity to collaborate with APFNet and Cambodia's Forestry Administration in organizing this workshop and hoped that this partnership will enhance collective efforts to promote forest restoration in the region and beyond.

Dr. Chheng Kimsun, Head of Cambodia's Forestry Administration, commented on the timeliness of the workshop, given that deforestation and forest degradation are exacerbating the effects of climate change at home and in other economies. This situation is resulting in flash floods, causing rivers to dry up, and increasing the severity of storms - all of which negatively impact economic development. He added that mainstreaming forest restoration into the planning process is consistent with Cambodia's National Forest Programme which aims to reach 60% forest cover and to generate annual revenue of USD 125 million by 2029. It also seeks to optimize the sector's contribution to poverty alleviation and to the GNP through better management and improved technology. Other initiatives include efforts to preserve wildlife and achieve a sustainable supply of water through forest conservation and rehabilitation, tree planting, and the dissemination of research findings. Annually, the Forestry Administration aims to reforest 25,000 ha and intends to place 50,000 ha under protection. Moreover, Dr. Kimsun indicated that the Technical Working Group on Forest Reform is actively engaging stakeholders involved in natural resources management and is attempting to coordinate the efforts of various actors in restoring degraded forests. Despite the many challenges associated with this task, he stressed that

Cambodia is committed to action and expected that this workshop would contribute significantly to improving knowledge and experiences both here and in the region.

He then gave a presentation on the importance of water for life and for development which highlighted the close link between forest management and the water supply in Cambodia.

2.2 Overview of topics

Following opening ceremonies, the workshop was divided into 4 sessions which dealt with various aspects of degraded forest restoration. The first session focused on international initiatives, with five presentations: forest landscape restoration (FLR) and the restoration opportunity assessment methodology (ROAM); forest restoration and drivers of land use change in Asia-Pacific; participatory forest restoration; assisted natural regeneration (ANR) in Southeast Asia; and experiences from an ADB-funded project on biodiversity conservation and restoration. The second session featured experiences and lessons learned from Indonesia, Malaysia and the Republic of Korea and was followed by a panel discussion. The third session described effective approaches to mainstream forest restoration into forestry plans, with presentations from Bangladesh, China and the Philippines. This session was also followed by a panel discussion. The last session consisted of a presentation on APFNet Platform for Regional Dialogue on Strategic Forestry Planning, including priority activities for 2015.

Session 1: International initiatives on degraded forest restoration

- **Forest landscape restoration and ROAM**

Mr. Miguel Calmon, Senior Manager of IUCN's Global Forest and Climate Change Program, noted the immense opportunity for restoring forests and landscapes around the world - some 2 billion ha. He stressed that FLR is more than planting a single species of trees. Rather, it's about planting a diverse mix to deliver a broad range of goods and services across different land uses and different social groups. To strengthen efforts in this area, the Global Partnership on Forest and Landscape Restoration was launched in 2003. The network consists of more than 30 government and international organizations which builds support for forest restoration among key decision-makers and provides information and tools to strengthen restoration efforts.

He stated that the Bonn Challenge is not a new commitment but a vehicle for governments, private enterprises, communities, NGOs and others who own, control or manage land to achieve targets such as those made under the CBD (Aichi 15), the UNFCCC (20x20 initiative) and the UNSG's Summit on Climate Change. The challenge is now to move from words on paper to action on the ground. To start the process, ROAM is a useful tool which was developed by IUCN and the World Resources Institute. It is a stakeholder-led methodology which produces relevant analyses for input into national and sub-national land use policy priorities such as rural development, food security and energy supply. It incorporates the best available science and data with the best available knowledge and local insights to determine where and how degraded land can be restored; identifies the costs and benefits of restoring degraded land; assesses whether key success factors are in place; and looks at ways to finance activities. The process is usually implemented in three phases: preparation and planning (2-3 months), data collection and analysis (2-3 months), findings and recommendations (1-2 months).

Mr. Calmon then gave examples of four assessments which were carried out during the testing of ROAM. In Ghana, a key objective was to fill the large gap in data on the condition of its forest resources and analyze inputs to obtain funding from the Forest Investment Program. Restoration activities were identified that could reduce emissions and produce co-benefits and, based on this exercise, financial support was secured. Mexico used ROAM to help develop a cross-institutional forest landscape restoration strategy while Rwanda sought to fulfill its goal to restore forest landscapes across the nation by 2035. In Guatemala, the methodology provided the input needed to develop the first national forest landscape restoration strategy and to align incentive schemes with the FLR approach.

- **Forest restoration and drivers of land use change in Asia-Pacific**

Mr. Kenichi Shono, FAO Forest Resources Officer, noted that forests cover 26% of the region's land area for a total of 740 million ha. However, because of the dense population, only 0.2 ha are available per person, on average. The composition consists of 19% primary forests, 65% naturally regenerated forests, and 16% planted forests. He also noted that the current increase in forest area is primarily due to reforestation in China - a trend that masks high deforestation rates elsewhere, especially in Southeast Asia. Forest degradation continues to be a problem while protected areas remain stable and are key to conserving biodiversity. Lack of financial and institutional support is hindering progress toward sustainable forest management, a situation which is jeopardizing natural forests and biodiversity. Because the cultivation of other crops is proving more profitable than the management of natural forests for timber, wood supply is shifting to Australia, New Zealand, Russia and South Africa. Other points made included weak implementation of forest policies, unclear/contested forest ownership and lack of willingness to pay for forest ecosystem services.

Insofar as the drivers of deforestation and forest degradation are concerned, Mr. Shono remarked that many originate outside the sector - climate variability, the use of plant nutrients in agricultural systems, land conversion, insects, pests and disease, for example. Other drivers of change are of a demographic, economic, socio-political, cultural, scientific and technological nature. The first category encompasses population growth and rapid urbanization, among other considerations. Economic growth translates into an increase in the demand for food, fibre and fuel; a shift away from agriculture toward industry and services; a deforestation rate that is linked to global commodity prices; and investments that focus on pulpwood production. Environmental concerns have led to a better recognition of the importance of forests to mitigate climate change, conserve biodiversity and prevent natural disasters. They also have resulted in various international commitments, pressure from stakeholders to manage resources responsibly, and restrictions on imports to ensure the legality of timber. However, in many economies, the primary reason for converting forests is agricultural expansion to cultivate only a few crops - notably rubber and oil palm. Infrastructure development is another major cause of forest loss. On the positive side, remote sensing and geographical information systems are improving data collection and accuracy while other new technologies are facilitating communication and information dissemination, and are enhancing productivity and processing capabilities.

In terms of future scenarios, FAO's Asia-Pacific Forest Outlook Study II has put forward three possibilities: 1) high economic growth and recovery; 2) low economic growth and stagnation; and 3) social and ecological stability. In the first instance, it is projected that forest area will increase in emerging economies but will decline in forest-rich developing economies; demand for wood and wood products will increase significantly; and more funding will be available to

protect the environment. In the second case, capacity to invest in sustainable forest management will be reduced; increased dependence on agriculture will result in more clearing of forests; and less demand for wood and wood products will relieve pressure on industrial forestry. In the "green economy" scenario, forest area will grow, as will forest quality; wood products will be recycled and reused to a greater extent; environmental services will be a focus; and certification and fair trade practices will expand.

The outlook for 2020 projects that forest area in the region will stabilize but losses will continue in Southeast Asia. Mining, infrastructure development and crop expansion will be the major causes of deforestation. Forest degradation will remain a major problem, especially in densely populated, low income economies. The threat of invasive species will grow and the sustainable management of natural forests will be as elusive as now. Most wood will come from planted forests and trees grown on farms and the supply will not be overly constrained.

- **Participatory forest restoration**

Mr. Tint Thaung, Executive Director of the Center for People and Forests (RECOFTC), noted that more than 450 million people in Asia and the Pacific rely on forest resources for their livelihoods. He also mentioned that global deforestation decreased from 16 million ha per year (1990-2000) to 13 million ha per year (2000-2010) but cautioned that massive reforestation efforts which some economies are undertaking can give misleading signals. He indicated that there are many reasons for the growing interest in forest restoration, rehabilitation and afforestation, including strong but fragile political commitment to address climate change and food security. In addition to APEC's inspirational goal to add at least 20 million ha of forest by 2020, the Asian Forest Cooperation Organization was recently established and the Asia-Pacific Rainforest Summit in November 2014 expressed strong support to end the loss of natural rainforests by 2030.

Depending on objectives and resources, there are several ways to achieve desired results - from small to large scale initiatives and from ad-hoc to strategic approaches. Similarly, the type of forest to plant will vary according to intended use. For example, monocultures are low in biodiversity but provide a large amount of biomass, whereas the restoration of ecosystems requires planting a mix of appropriate species that perform a range of functions and services. In terms of area, Mr. Thaung stated that 25 million to 3 billion ha of degraded lands are available globally and experience has shown that a partnership involving government, the private sector and local communities is the most effective way to achieve lasting results.

He also felt that forest restoration had the potential to make an important contribution to mitigating greenhouse gas emissions and that technologies to monitor changes in forest quality are available. Like any form of sustainable forest management, he stressed that restoration efforts require participatory planning and management. He also indicated that experience with community forestry in the region suggests that restoration in the context of REDD+ can be aligned with the interests and needs of the people living in and near forests.

In conclusion, Mr. Thaung briefly stated that RECOFTC was founded in 1987 and gained international status as an organization in 2000. It works with government, international and UN agencies, NGOs, research and educational institutes, civil society, the private sector and local people. Since its establishment, the organization has trained more than 25,000 people from 27 economies. It is a strong advocate of community forestry, convinced that putting people at the heart of decision-making can make sustainable forest management a reality. To this end,

RECOFTC is prepared to promote research on participatory and community-based reforestation; develop manuals and guidelines on the technical/social aspects of reforestation; and support study tours.

- **Assisted natural regeneration in Southeast Asia**

Mr. Patrick Dugan of the Bagong Pagasa Foundation in the Philippines highlighted that, of the 740 million ha of forest in the Asia-Pacific region, 65% are regenerated. As the advantages of natural assisted regeneration become better known, this practice is gaining in popularity. For example, costs are lower than planting seedlings from nurseries; biodiversity is higher than in planted monocultures; less research is required because species are already perfectly matched to the site; the approach can be applied on a large scale; and it can be adapted to suit site conditions and restoration goals.

In the Philippines, indigenous people have been using ANR over centuries and the technique is still widely applied today. Since 2010, the Department of the Environment and Natural Resources is contracting its implementation through the Community-based Forest Management Program and a target of 50,000 ha has been set under the National Greening Program. In Sri Lanka, the approach is used to restore degraded forests for fuelwood and non-timber forest products. In Cambodia, the previously denuded forests of Tonle Sap now enhance the fresh water fisheries food chain. In Viet Nam, ANR has resulted in the development and management of protected, production and special use forests. In Thailand, communities have restored the productivity of forests on denuded and degraded lands and are now protecting them from fire and damage by livestock. In Pakistan, the practice provides a secure supply of fuelwood and construction material.

He explained that ANR is based on the principle of plant succession. In areas where patches of residual forest are found in grasslands, all destructive practices are stopped so that seeds dispersed by animals can grow. In 4-6 years, natural regeneration starts to take place and, with the implementation of ANR techniques, non-grass species replace grass and residual forests expand to increase biodiversity and other benefits. In 15 years, young trees and a more dense residual forest can be found on the site.

Factors which affect the success of ANR include soil, climate and existing vegetation on the site, the availability of seed sources of non-grass species, funding, the extent to which implementing partners collaborate (communities, NGOs and government) and flexible management approaches that adjust to varying site conditions and objectives. In terms of challenges, Mr. Dugan cited the pervading impression that tree planting is the only way to restore forests; the general reluctance to embrace change; little awareness of the benefits of ANR; lack of community skills to guide the process; insufficient financial and other resources; and the longer timeframe required to see results compared to the development of plantations.

- **Experiences from an ADB project on biodiversity conservation corridors**

Mr. Jeffrey Weber, Chief Technical Advisor to the project, indicated that the ADB was supporting 3 initiatives to build biodiversity conservation corridors in the Mekong region - one each in Cambodia, Lao PDR and Viet Nam. Investment to date is US$60 million, with another $26 million pending. Through better trans-boundary collaboration, the projects aim to prevent and mitigate the damaging effects of fragmentation in forest-rich landscapes. Key interventions include protecting and enhancing conservation forests and habitats as well as improving rural

livelihoods.

In Cambodia, work is being done in community forests and protected areas in Koh Kong (9 sites) and Mondulkiri (15 sites). In these high value biodiversity areas, efforts are being made to enhance forests and habitats and to protect them from illegal logging, poaching and land conversion. As a first step, an assessment was done to determine the range of flora and fauna present and to classify rare species. After critical and threatened habitats were identified, they were prioritized and measures to enhance them were devised. Approaches to improve livelihoods consist of various incentives to conserve forests, including payment to communities for patrolling and for enhancements they make to the resources. Longer term strategies to increase incomes take the form of revolving funds which communities manage to help households; new opportunities to engage in smallholder agriculture and agroforestry; and the establishment of processing facilities to add value to goods produced.

Lessons learned to date reveal the need to link livelihood improvements to incentives for conserving forests or to sanctions for not conserving them. Pilots will be conducted to build closer ties between community forest patrols and professional enforcement. In this regard, ways to strengthen the judicial system need to be found. A watershed management approach will also be tested in one or two areas. Other issues to address at the national level are the management of economic land concessions, land tenure, and coordination among officials responsible for national parks, national protected forests and wildlife sanctuaries. On the biophysical side, more information is required on how to identify and target high value biodiversity areas, how to ensure the right mix of species and best planting techniques, and how to improve growth rates as well as plant resilience to changing water and climate conditions. On the socio-economic and institutional side, more work is needed to improve enforcement, link livelihoods to forest/biodiversity conservation, and strengthen the management of national parks, protected forests and wildlife sanctuaries.

Session 2: Experiences and lessons learned

- **Republic of Korea**

Mr. Young Kul KIM of the Korea Forest Research Institute spoke about restoration activities and strategies in his economy. He noted that some of the main causes of forest degradation were insects and pests, industrial pollutants, over harvesting and fire - all of which led to soil erosion and landslides. For example, the pine needle gall midge destroyed close to 324 million ha of forest in 1975 and is still problematic. The black pine bast scale, first reported in 1963, has also damaged thousands of ha. Methods to attack these pests include chemical and biological controls as well as silvicultural techniques such as forest thinning.

The first project to control erosion took place in Inwang mountain in 1907 where the area had been subject to severe illegal logging and fuelwood collection. In 1962, a law was passed to control erosion and, in the following year, terraces were established on 180,000 ha of hillside. Under the second forest development plan (1979-1988), more than 78,000 additional ha of hillside were stabilized and 400 ha of sand dunes were fixated along the seacoast. The third year plan addressed dangerous landslide zones by constructing dams to reduce soil erosion, control water above and below ground, and stabilize rocks. The emission of gaseous pollutants and acid deposits from industrialization and urbanization in the 1970s led to the establishment of a national network of 65 permanent sites to monitor air pollution and damage to forests. In addition, from the 1960s to 2002, more than 3,000 ha of shore between the water and

cultivated/developed land were reclaimed through tree planting. However, strong winds and the physical/chemical characteristics of the soil are hindering growth. Other efforts include the restoration of abandoned coal mines where 60 thousand tons of waste water flow daily from 136 sites. However, lack of funding is delaying progress on this front. In terms of restoration after fire, the Republic of Korea is guided by principles which call for methods that are ecologically and economically efficient; balance artificial forestation with natural regeneration; control erosion; naturally restore areas where the canopy survived; plant trees to create tourist and scenic spots as well as along roadsides and in urban areas.

The priority for restoration activities is in areas that are 1) at high risk for landslides and soil erosion; 2) suitable for the production of pine mushrooms; 3) provide habitat for both animal and plant species; and offer opportunities to create beautiful landscapes. Mr. KIM ended his presentation by stating that more research of the damaged areas is required so that effective restoration strategies can be developed. New methodologies were also needed.

He also briefed participants on a project to establish forestry research facilities in Cambodia and to restore degraded forests near its world heritage site in Angkor Wat. The initiative runs from December 2011 to December 2015 and the implementing agencies are the Korea Rural Community Corporation and Cambodia's Forestry Administration. The scope of work entails building a research center, establishing nurseries and research plots, restoring 49 ha of degraded forest, providing various Korean experts, organizing study tours to the Republic of Korea for Cambodian officials, and purchasing equipment and office supplies. So far, the project is on track and is delivering the expected outputs.

- **Indonesia**

Mr. Ubaidillah Syohih, Data Analyst in Indonesia's Planning Bureau of the Ministry of Environment and Forestry, described how his economy is restoring ecosystems - an approach which the government adopted in production forests in 2004 to replace logging. It consists of issuing licenses to return deforested, degraded and damaged areas to their "biological equilibrium" as a strategic way to reverse the deforestation and degradation of Indonesia's production forests. At present, around 30 million ha of the production forest estate is not covered under license and has become open access. As a result, they are prone to encroachment, illegal logging, and illegal mining - all of which has caused ecological degradation. Differing views on how to use these areas present a challenge. For example, many local governments favour their conversion to timber or oil palm plantations because of the economic benefits this approach would yield over the short term and because it is cheaper than reforestation. As a result of such pressure, some 8 million ha are now planted with oil palm and another 3 million ha are expected to be added by 2015.

Ecosystem restoration is an alternative management system which integrates economic objectives with biodiversity conservation. Licenses are issued to protect habitats and restore forest ecosystems, giving holders the legal authority to manage the concession for an initial period of 60 years, with possibility of renewal for another 35. While undertaking these activities, companies are allowed to commercialize non-timber forest products and ecosystem services such as tourism and carbon sequestration. Since the first decree was passed in 2004, 13 licenses covering 519,500 ha in 7 provinces have been granted. In addition, the Ministry of Forestry designated more than 3.9 million ha for ecosystem restoration in 2014 - an area which exceeds the 2013 allocation of nearly 2.7 million ha.

- **Malaysia**

Mr. Md. Zaidey bin Abdul Kadir informed that, in 2012, forests in Malaysia covered almost 18.5 million ha or 56% of total land area: 5.86 million ha (44.5%) in Peninsular Malaysia, 8.23 million ha (66.9%) in Sarawak, and 4.40 million ha (56.7%) in Sabah. According to the Constitution, forestry is under the jurisdiction of state governments which are empowered to enact laws and formulate policy independently. The authority of the federal government extends to the provision of advice, technical assistance, training and research. The National Forestry Council, established in 1971, serves as a forum for federal and state authorities to address issues of common concern.

The main causes of forest degradation in Malaysia are encroachment, natural factors such as fire, floods and landslides, land development which opens up access, shifting cultivation and illegal logging. In Peninsular Malaysia alone, encroachment occurred on close to 456 thousand ha in 2013 and reports in the same year estimate that 0.30 million ha are degraded. In the first 2 months of 2014, fire destroyed 0.50 million ha. Given such events, the Forestry Department plans to restore 0.06 million ha of degraded area in the Permanent Forest Reserve by 2014 and is implementing an ambitious program which calls for planting 26 million trees. Since the devastating tsunami in 2004, the importance of mangroves for coastal protection has been widely recognized and, in this regard, more than 6 million trees have been planted over almost 2,400 ha. However, despite these efforts, challenges remain: insufficient human and financial resources, low survival rates of seedlings, lack of awareness of the importance of forests and biodiversity, harmful human activities, weak coordination across sectors, the need to balance productive functions with protection, and the sheer complexity of the tropical rainforest.

Panel discussion

After the presentations, 11 panelists talked about the main causes of forest degradation in their respective economies, the negative impacts, factors which motivated forest restoration, key challenges, priority areas and desired benefits, as well as practical and cost effective interventions to restore large areas.

The following list captures the major points made:

Main causes of forest degradation
- collection of fuelwood
- illegal logging
- fire, pests and disease
- overgrazing
- natural disasters (typhoons, landslides)
- conversion to other uses
- weak governance, institutions and policies
- unclear forest boundaries
- insecure tenure
- poverty and unemployment
- urbanization

Negative impacts of forest degradation include
- food insecurity
- loss of biodiversity, soil fertility, habitats and ecosystem services

- loss of land and cultural identity (contracts to foreigners)
- loss of livelihoods and opportunities for income generation
- declining contribution of forestry to GDP

Factors which motivate forest restoration
- enjoyment of benefits - monetary and non-monetary
- political commitment and targets
- potential carbon markets
- free seedlings and technical support
- decentralized decision-making
- population growth and poverty
- satisfied local needs

Challenges associated with forest restoration
- weak capacity and unmet demand for training
- decreasing forest area due to market demand
- weak law enforcement and policy implementation
- broad and outdated forest policies

Priority areas and successful interventions regarding forest restoration
- incorporate restoration into curriculum at the primary school level
- practice urban forestry
- implement PES schemes
- balance development and the environment
- collaborate with other sectors on issues of common concern
- improve forest management to ensure sustainable supply of goods and services
- put fair and equitable benefit-sharing mechanisms in place
- protect intellectual property rights
- develop comprehensive land use policies
- improve technical capacities

Session 3: Effective approaches to mainstream restoration into forestry plans

- **China**

Mr. Xiao Fang of the Department of Planning and Financial Management in the State Forestry Administration described China's programs for restoring degraded forests. Prior to the establishment of the People's Republic of China in 1949, over-exploitation reduced forest cover to 8.6%. Significant afforestation and forest conservation efforts have since increased the area to 21.63%, according to 2013 figures. For example, the Natural Forest Conservation Program (2000-2020) seeks to halt all commercial logging in natural forests located on the upper reaches of the Yangtze River and on the upper/middle reaches of the Yellow River. It is also gradually scaling down logging in parts of Northeastern China and Inner Mongolia and is planting new species to improve forest quality. By 2013, the program restored 16.6 million ha of degraded land to increase forest cover by 4.7% in its area of operation. Since 2000, the Grain-to-Green Program has planted trees and restored forests in 25 provinces to increase forest cover by 3% in its area of operation: 9.26 million ha on arable slopes and 17.46 million ha on suitable barren

hills and wasteland. It also closed 3.1 million ha of hillsides to agriculture, thereby increasing cover by 3% through afforestation. The Three-North Shelterbelt Program began in 1978 and has restored more than 4 million square kilometers across 13 provinces to achieve 12.4% cover in its area of operation.

With regard to the current restoration target of 6 million ha per year, forest cover should increase by 40 million ha over figures recorded in 2005 and be sufficient to ensure ecological security. However, in the process, farmers and other workers will suffer economic losses because they are not able to log or grow crops in damaged areas. Under the Natural Forest Protection Program, millions of former loggers will be paid 5 yuan per mu (15 mu= 1 ha) to protect the forest from fire, from harvesting and from conversion to other uses. Under the Green-to-Grain Program, farmers will receive free saplings, a staple food supply and an average of 7,000 yuan per household for a limited time. Under the Shelterbelt Program, more than 4 million ha of economic forest will produce 36 million tons of dry and fresh fruit annually.

The 13th Five-Year Plan for Forest Development (2016-2020), now being compiled, will expand the scope of restoration activities to coastal areas. More efforts will also be taken to conserve tropical rainforests and to improve forest quality.

- **The Philippines**

Ms. Carmina Canua of the Forest Management Bureau, Department of Environment and Natural Resources, informed that the Philippines is comprised of 15.7 million ha (53%) of forestland and 14.2 million ha of alienable and disposable land (47%). She added that forests decreased from 7.2 million ha in 2003 to an estimated 6.8 million ha in 2010. The Bureau, as lead agency for forest management, provides technical and policy guidelines related to the protection, development, occupancy and conservation of forestlands, including in critical watersheds. It also collaborates with international and local organizations in the implementation of forestry plans.

The first Master Plan for Forestry Development dates back to 1990 and was revised in 2003 to guide progress toward sustainable forest management over the next 25 years. All 10 priority programs outlined in the document will help to address the challenges related to forest restoration: 1) policy reforms and institutional development; 2) watershed and integrated land use planning, along with the demarcation of forest boundaries; 3) enhancement of information systems as well as information, education and communication; 4) sustainable management of residual and other natural forests, including the prevention of further destruction; 5) forest expansion through plantations, assisted natural regeneration and other means; 6) protected areas and biodiversity conservation; 7) rationalization and development of forest industries; 8) sustainable management of grazing lands; 9) development of forest criteria and indicators and of a monitoring and evaluation system; and 10) community-based forest management as a cross-cutting strategy to achieve sustainable management. With particular regard to reforestation, the National Greening Program aims to plant 1.5 billion seedlings on 1.5 million ha between 2011 and 2016.

The 2003 Master Plan is currently being revisited to address increasing concerns about the impacts of climate change on ecosystems and communities, to identify ways to meet commitments made under various international agreements, and to conform to the Climate Change Act (2009) that calls for all government agencies to integrate climate change adaptation into their programs and policies. Ms. Canua then highlighted the fact that targets for forest restoration are contained in the Philippine Development Plan (2011-2016) which sets out how

different sectors will achieve the President's priorities. Moreover, the programs of these sectors are also included in the Department's Environment and Natural Resources Framework.

- **Bangladesh**

Mr. Abdul Mabud, Assistant Chief Conservator of Forests, Development Planning Unit, Bangladesh Forest Department under Ministry of Environment and Forests, stated that Bangladesh is a small but densely populated (1100 people/km2) country. The total Forests cover is 2.6 million ha or 17.62% of total land area and provide subsistence and livelihood opportunities to rural communities where 77% of inhabitants reside. In 1991, government imposed a moratorium on logging in natural forests until 2015 which may extend for an additional 20 years. The National Forest Policy (1994) sets a target of achieving 20% tree cover by 2015 and calls for massive reforestation in the Chittagong Hill Tracts (CHT), with the participation of shifting cultivators. The Forestry Sector Master Plan (1995-2015) focuses on production forestry but also stresses the importance of biodiversity conservation. The 6th Five-Year Plan (2011-2015) includes reforestation of 250,000 ha of hill forest and 7,000 ha of plain land forests.

Of the 34 protected areas (PAs) (10.71% of forestland) that government declared since 1980, human interventions were made restricted in 21 PAs including the harvesting of all forest products. Here, authorities are carrying out reforestation, enrichment planting with indigenous species, and assisted natural regeneration. Co-management System involving all local stakeholders was introduced for management of PAs. Other efforts to restore degraded forests are also taking place. For example, each family of nomads in the CHT was given 5 acres and financial help to build homes and livelihood activities. Some 20 years after the program's inception, trees were planted on 2,500 ha of hills. In addition, temporary settlement was granted on larger plots of between 5 and 25 acres to grow economic timber species and rubber trees as a means to increase vegetative cover. Another example is giving support for alternative income generation through job-oriented training and providing revolving funds to forest dependent communities under development projects with financial assistance of Asian Development Bank, World Bank and USAID with the ultimate objective to conserve protected areas to support wildlife habitats and biodiversity. Buffer zones were established where plantations of short rotation species were established by the Forest Department and landless forest dependent poor people were allowed to keep the benefits (45% of the sale proceeds of harvested forest produce after 10-12 years) in return for not encroaching into the protected areas and also for not collecting any forest produce.

Mr. Abani Bhushan Thakur, Conservator of Forests, Bangladesh Forest Department under Ministry of Environment and Forests mentioned a third example of a government project to restore the once biodiversity-rich Madhupur forests by providing livelihood alternatives to about 700 people living in 57 surrounding villages. They were trained as community forest workers and learned how to establish nurseries, raise seedlings, engage in beekeeping, grow mushrooms, tend to livestock, and plant gardens - among other activities. Most participants have become self-reliant and are now involved in forest protection.

Panel discussion

After the presentations, 11 panelists talked about ways to address key challenges associated with forest restoration, incorporate this aspect into the national agenda, and secure political support. They also identified the main actors and their roles, described current and/or needed policies,

highlighted financial and social incentives required, and shared successful approaches to communicate forestry plans to other sectors and the public.

The following list captures the major points made:

Ways to address the challenges associated of restoring forests

- political commitment
- proper land use plans
- capacity building of local forest authorities and communities
- more knowledge of policies and legislation
- funding for local participation in forest protection
- wide consultation and collaboration
- economic component in programs
- dissemination of research findings
- publication of social, economic and environmental benefits
- clear responsibilities
- monitoring and evaluation of outcomes
- attendance of local authorities at forestry meetings
- clear demarcation of forest boundaries
- support for home gardens
- development of short and long term plans

Forest restoration in national agendas and political support

- use media to publicize benefits
- work with NGOs to lobby for change
- organize meetings of senior officials to build consensus on needed action
- collaborate with line ministries, private sector and local communities
- adopt cross-sectoral approach to implement international and regional commitments
- prepare policy briefs to state leaders and ministers responsible for forests
- invite heads of state and members of Parliament to plant trees

Main actors involved in forest restoration

- politicians
- NGOs
- donor community
- private institutions
- media
- officials from land use planning and finance
- local communities
- school children

Policies and incentives related to forest restoration (current and needed)

- harvesting permits for logs and non-timber forest products
- logging bans in natural forests
- tree planting

- social forestry
- livelihood improvement programs
- support to farmers until newly planted trees mature
- comprehensive land use policies

Communication of forestry plans

- media on importance of forests, including role in climate change
- working groups of key actors, including other line ministries
- regular departmental and interdepartmental meetings
- use of remote sensing to detect illegal activities (better enforcement)
- workshops and seminars
- documentation and dissemination of best practices and lessons learned
- assistance to communities in the development of management plans
- websites

Session 4: APFNet's Platform for Regional Dialogue on Forestry Strategic Planning

Ms. Rosalie McConnell, APFNet's Sr. International Consultant, described the Platform and outlined proposed priorities for 2015. She indicated that the concept originated at a workshop in New Zealand which APFNet and FAO co-organized in the margins of the 25th Session of the Asia-Pacific Forestry Commission in November 2013. Its aim was to review forestry strategic planning and implementation in the region, identify gaps and key challenges, share experiences and lessons learned, and establish an effective communication and information-sharing mechanism to promote the development and implementation of forestry strategic plans.

Although major challenges such as deforestation/forest degradation, poverty, and weak governance/institutions continue to impede progress toward sustainable forest management, opportunities are available to help the sector to move forward: better recognition of the importance of forests in mitigating climate change, emerging carbon markets, tenure reform and participatory/community forest management, for example. With specific regard to formulating and implementing strategic plans, obstacles include conflicting policies and regulations - both within and outside the sector; competing land uses such as agricultural expansion and infrastructure development; uncertain and fluctuating markets for wood and wood products; and lack of political will/resources to implement the plans.

The Platform seeks to facilitate the formulation and implementation of forestry strategic plans as a holistic and integrated way to balance economic development and the conservation of natural resources. Its objectives are to promote the exchange of information and experiences on the planning process, build the capacity of forestry officials to develop and implement plans using a participatory approach, and contribute to APEC's goal to increase forest cover in the region by at least 20 million ha by 2020.

The first proposed activity under the Platform consists of drafting regional guidelines for forestry strategic planning. In this regard, APFNet intends to recruit an expert to work with planning officials in each participating economy to i) summarize the planning framework, methodologies and procedures; ii) describe the consultation mechanism; and iii) assess the extent to which plans have been implemented. The guidelines will include proven best practices and methodologies for

developing and implementing forestry strategic plans. Next, the economies involved in the first activity can submit proposals to APFNet to formulate new plans or revise existing ones. Support will be given to 1 or 2 such projects, based on recommendations of a project evaluation panel. In a third instance, APFNet will organize training courses and field trips to build the capacity of officers responsible for strategic planning, based on the issues identified during activity 1.

In terms of operations, APFNet will assign a coordinator to conduct the routine work of the Platform and to establish close collaboration and communication among members. With regard to capacity building, each economy will select a chair to work with the APFNet coordinator to design and organize the event it will host, taking into account input from partners and resource persons.

Ms. McConnell concluded by stating that the Platform is open to all economies, organizations, businesses and individuals in the Asia-Pacific region that are interested in forestry strategic planning. The focal point in each economy will select participants from government but the APFNet coordinator will appoint other individuals and representatives from institutions. Although APFNet will provide operating funds for the Platform and eligible activities over the next 3-5 years, other partners will be encouraged to provide funding and technical support for specific activities.

3. Field trip

After the classroom portion of the workshop, participants visited two sites in Siem Reap to learn about successful restoration techniques and the challenges associated with implementation (see Annex 3).

4. Findings and Suggestions

Based on issues and opportunities identified during the various sessions of the workshop, all participants agreed that the Platform for Regional Dialogue would be a useful mechanism for economies in the region to share information on forestry strategic planning and experiences related to the restoration of degraded land.

Participants welcomed the proposal to develop regional guidelines on forestry strategic planning and agreed that the document should reflect the need to focus on the restoration of degraded forests, both on small and large scales.

Economies in the Asia-Pacific are paying more attention to restoring degraded forests and are taking action by developing policies and strategic plans, implementing projects and programs, as well as instituting technical measures such as assisted natural regeneration and enrichment planting. Thus, the Platform could be used to strengthen dialogue and collaboration across sectors and stakeholder groups to 1) revise outdated forest policies and legislation; 2) review and align those related to other land uses - infrastructures, agriculture, mining and energy, for example; 3) build institutional and technical capacity at local, national and regional levels; and 4) incorporate forestry into wider national development agendas.

The restoration of degraded forests focuses on improving the quality rather than the quantity of resources and, as such, is enhancing the ecosystem functions they provide.

Given the interest that participant showed in the activities proposed by APFNet, detailed plans and arrangements shall be designed for implementation.

Annex 1

Workshop on Mainstreaming Degraded Forest Restoration into Forestry Strategic Plans

PROVISIONAL PROGRAMME

Phnom Penh, Cambodia, 17-19 December 2014

Day 1 Wednesday, December 17, 2014	
8:00-9:00	Registration (Cristal Ballroom at Phnom Penh Hotel, 1st floor)
Opening Session	
9:00-9:05 9:05-9:15 9:15-9:25 9:25-9:40	Chair: Sokh Heng Introduction of participants and agenda by Rosalie 1. Opening remarks by Mr Qu Guilin, ED of APFNet Secretariat 2. Opening remarks by Ms. Nina Brandstrup, FAO Representative for Cambodia 3. Opening remarks by Dr. Chheng Kimsun, Head of Forestry Administration of Cambodia 4. Key note speaking: Forest management and water resources by Dr. Chheng Kimsun, Head of Forestry Administration of Cambodia
9:40-10:00	Group Photo
10:00-10:20	Coffee break
Session I: International initiatives on degraded forest restoration	
10:20-12:00	Chair: Rosalie McConnell (Each presentation in 15 minutes) 1. Forest Landscape Restoration and ROAM by Miguel Calmon, IUCN 2. Regional overview on forest restoration and drivers of land use change in the Asia-Pacific by Mr Kenichi Shono, FAO 3. Promoting Participatory Forest Restoration by Dr Tint Thaung, RECOFTC 4. Experience with Assisted Natural Regeneration (ANR) in Southeast Asia by Mr Patrick Dugan, Bagong Pagasa Foundation 5. Biodiversity conservation and restoration: experiences from the ADB-funded project by Dr. Jeffrey Weber Q&A(20 minutes. to save the time, participants can write down questions first

	and give question at last)
12:00-13:00	Lunch
Session II: Experiences and lessons learned on degraded forest restoration	
13:00-13:40	Chair: Miguel Calmon (Each presentation in 10 minutes) 1. Experiences and lessons learned from South Korea by Dr. Kim YoungKul 2. Ecosystem restoration in Indonesia by Mr Ubaidillah Syohih 3. Experiences and lessons learned from Malaysia by Mr Md. Zaidey bin Abdul Kadir Q&A(10 minutes)
13:40-15:00	Panel discussion for session II Moderator: Miguel Calmon (around 10 minutes for each question or 5 minutes by each economy) Panel members: 1. Bangladesh, Mr. Abani Bhushan Thakur 2. Cambodia, Dr. So Thea 3. China, Mr Chen Jiawen 4. Fiji, Mr Binesh Dayal 5. Myanmar, Mr. Aung Maw Oo 6. Nepal, Mr Bishal Ghimire 7. PNG, Mr. Leslie Vaira 8. Sri Lanka, Mr Liyanage Jayasekara Perera 9. Thailand, Mr Preecha Ongprasert 10. Philippines: Ms. Jinia Dancalan Yaneza 11. Viet Nam, Ms. Tran Thi Hoa Questions: • The main causes of forest degradation • The negative impacts of forest degradation • Motivating factors to undertake forest restoration • Key challenges associated with forest restoration ✧Technical considerations ✧Economic aspects ✧Enabling policies that support forest restoration ✧Strengthening collaboration among various actors, including governments, private sector and local communities

	✧Capacity building needs • Priority areas and desired benefits • Examples of interventions that are feasible and cost effective for the restoration of large areas
15:00-15:30	Coffee break
Session III Effective approaches to mainstream degraded forest restoration into forestry plans	
15:30-16:10	Chair: Kenichi Shono (Each presentation in 10 minutes) 1. China's Planning For Restoration of Degraded Forestland by Mr Xiao Fang 2. Experiences and lessons learned from the Philippines by Ms Canua Ma. Carmina 3. Experiences and lessons learned from Bangladesh by Mr Abdul Mabud Q&A(10 minutes)
16:10-18:00	Panel discussion for session III Moderator: Kenichi Shono (around 10 minutes for each question or 5 minutes by each economy) (Planning officials from economy: 1. Cambodia, Dr. So Thea 2. Fiji, Mr Binesh Dayal 3. Indonesia, Mr Ubaidillah Syohih 4. Malaysia, Mr Mohd Yussainy bin Md Yusop 5. Myanmar, Mr. Aung Maw Oo 6. Nepal, Mr Mangal Jagri 7. PNG, Mr. Leslie Vaira 8. South Korea, Dr. Kim YoungKul 9. Sri Lanka, Mr Senanayakage Mahesh Chathuranga Senanayaka 10. Thailand, Mr Korn Manassrisuksi 11. Viet Nam, Ms. Tran Thi Hoa Questions: • Ways to address the key challenges of forest restoration • Ways to put forest restoration into national agenda and secure political support • The key actors and their roles to restore forests • Current and/or needed policy, as well as financial and social incentives, to restore forests

	• Ways to communicate forestry plans to other sectors and the public
18:00	Some notes from meeting organizers
19:00	Reception
Day 2 Thursday, December 18, 2014	
8:30-8:50	Day 1 summary by Rosalie
Session IV Priority activities of APFNet Platform in 2015	
8:50-10:30	Presentation and moderated discussion by Rosalie Q&A
Close Session	
10:30-11:00	Mr Qu Guilin, ED of APFNet Secretariat closing address Information on field trip and logistics by Cambodia organizer
11:00	Departure for Seam Reap
Day 3 Friday December 19, 2014	
8:00-17:30	Field trip in Seam Reap Morning ● Visit the IRD Sub-research station and project funded by Korea government to gain insights on the seedling productions and forest restoration techniques ● Visit FA's integrated agriculture and biogas project to reduce pressure on the forest etc. Lunch at Kantourt Knakrov, FA Triage Office Afternoon ● Travel to Tbeng Lech Village to gain insight of community forest management, and restoration area funded by APFNet project to gain insight the restoration efforts by local community
Day 4 Saturday December 20 Participants depart from Seam Reap	

Annex 3

Workshop on Mainstreaming Degraded Forest Restoration into Forestry Strategic Plans

Field Visit Report

After the indoor session of the workshop, the group visited two sites in Siem Reap to learn about successful restoration techniques and the challenges associated with implementation in the field: (1) a project funded by the Korean government and (2) a community forestry project funded by APFNet. The participants also had an opportunity to plant trees in these sites.

Khun Reap

This restoration project is funded by the Korean government. Dr. Sokh Heng, Director of the IRD, briefed the group on the history, objectives and accomplishments of the initiative. He also noted that the Forestry Administration gave priority to the restoration of *Dalbergia cochinchinensis* and other premium species and described the challenges associated with restoration activities. Participants then toured the nursery and were taken to the restoration site to observe the vegetation being managed, witness the methods being used and hear about the challenges being encountered. Dr. Sokh Heng demonstrated the Taungya method to control competing grasses. Following an IRD custom, the visit culminated in each participant planting a tree.

On the way to the next site, the group briefly stopped to see the Integrated Agriculture Project which is producing biogas from livestock manure as a means to improve livelihoods while reducing the community's dependence on fuelwood and decreasing the pressure on forest resources.

Briefing about the project in Khun Ream

Tbeng Lech community forest

This community restoration project is funded by APFNet and was implemented in 2012. The group had to use local transportation due to difficult road access. At the site, participants were briefed on the history of the project, its benefit and the challenges. They then visited the nursery and saw the seedlings that the community is raising. After the briefing, the group went to the natural forest.

The APFNet-funded restoration project in Tbeng Lech community forest, Siem Reap