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FORESTS AND CLIMATE CHANGE: PATHWAY TO PROSPERITY?

Secretariat Note

1. Broad acceptance of global climate change has required that it be factored into financial and strategic planning processes and decision-making in all land use sectors. At the same time, the links between forests and climate change have returned forestry to the centre stage of environmental negotiations and encouraged many new and diverse interest groups to take notice of the environmental, social and cultural importance of forests. Over the past decade, a wide variety of forest-related frameworks, mechanisms, programmes and initiatives have emerged from climate change discussions. These generated optimism within the forest sector that new and additional financial resources would be forthcoming to support sustainable forest management and help lift impoverished forest-dependent communities onto new pathways to prosperity.
2. As dialogues have progressed, it has become apparent that these mechanisms and initiatives will generally require significant efforts to change management practices, implement effective forest monitoring and robust measurement, reporting and verification systems, and in some cases may require communities to forego some aspects of current forest utilization. In some cases, these required changes go beyond the immediate capacities of countries, forest agencies and forest-dependent communities. The benefits that will accrue to communities, and to other forest stakeholders, under these emerging mechanisms are also somewhat unclear. However, if employment and livelihood opportunities are enhanced through participation in climate change mechanisms, communities can rightly anticipate a more prosperous future.
3. Strategies to address the significant, but largely uncertain, impacts of accelerated climate change on the forest sector and forest-dependent people are emerging independently in all Asia-Pacific countries. These strategies are shaped by the diverse range of sociopolitical, environmental and economic contexts. The success of their implementation depends, to a significant extent, on the capacities of countries to overcome longstanding challenges regarding forest governance. To be effective, climate change strategies, national forest policies and the legal and institutional mechanisms underlying forest governance need to be well aligned.

Opportunities for enhanced prosperity

4. In the context of international negotiations conducted under the United Nations Framework Convention on Climate Change (UNFCCC), strategies for addressing anthropogenic climate change are classified under two broad categories. Adaptation strategies aim to reduce the negative impacts of actual or anticipated climate change. Mitigation strategies aim to reduce the intensity of climate change by limiting the emissions of greenhouse gases (GHGs) into the atmosphere. These strategies

often overlap, for example in the functions of afforestation and reforestation activities in watershed management and subsistence products (adaptation) and in carbon sequestration (mitigation). Both strategies could offer significant potential for enhancing prosperity in forest dependent communities.

5. *Enhanced prosperity through mitigation strategies.* While the exact proportion of anthropogenic GHG emissions that originate from the forest and land-use sector – both globally and within the Asia-Pacific region – is disputed, it is nonetheless highly significant and no comprehensive climate change mitigation strategy for the region can ignore forests. In most Asia-Pacific countries, forests are net emitters of GHGs; through conversion to other land uses and degradation of forest ecosystems. Consequently, the Asia-Pacific region could contribute significantly to mitigation of global climate change; for example, through changes of land-use. However, such changes will likely require significant financial incentives and compensation for forest managers, including forest-dependent communities.

6. The most promising mechanism for enhancing prosperity in developing countries may be through policy approaches and positive incentives for reducing emissions from deforestation and forest degradation in developing countries (REDD+)¹. REDD+ is an instrument designed by UNFCCC to provide positive incentives to developing countries linked to demonstrated mitigation benefits from the forest sector. REDD+ could offer significant prospects for improving livelihoods in forest-dependent communities by offering new employment opportunities relating to improved forest management, conservation and forest rehabilitation. Development of REDD+ strategies may encourage integrated land-use planning approaches that can also have beneficial impacts beyond the forest sector, helping local and national governments to base their plans for growth and development on objective criteria, thus enhancing the likelihood that policies to maintain prosperity will be effective. However, REDD+ is not designed to substitute significant contributions that the forest and wood products sectors make in some countries. In those with large and expanding plantation-based agro-industries, including Indonesia, Lao PDR and Malaysia, REDD+ incentives will need to complement, rather than replace, their contributions.

7. *Enhanced prosperity through adaptation strategies:* Adaptation strategies have become the priority for most countries in the Asia-Pacific region with respect to climate change. The urgency of the issue, and the need to act to reduce impacts on national economies and local communities, is particularly evident in small island states in the Pacific and in the floodplains and deltas of major river systems such as the Mekong, Ganges/Brahmaputra, Irrawaddy and Murray/Darling, and in mountainous areas of mainland Asia. Forests can contribute to climate change adaptation strategies by providing ecosystem services to mitigate the worst effects of severe weather events – floods, landslides, wildfires. In rural areas they are also essential sources of products that can enhance the livelihoods of local communities and hence strengthen their resilience to change.

8. National Adaptation Plans (NAPs), produced by countries with support from the UNFCCC, can help to ensure that forests continue to provide these services while avoiding negative impacts on the wider landscape and ecosystems. However, some elements of these plans, such as the relocation of vulnerable coastal settlements to upland areas, may encourage the clearance or degradation of forest areas. In the light of these conflicting options, economic concerns will be a major influence on the direction of climate change adaptation strategies.

9. Climate change will affect the provision of ecosystem services and subsistence products to forest-dependent communities, often in unpredictable but nonetheless vital ways. However, these changes will not always be entirely negative. They may bring opportunities for the introduction and cultivation of exotic species of arable and tree crops, which can have a profound impact on local prosperity, but

¹ Under the UNFCCC, the full definition of REDD+ is as follows: “Policy approaches and positive incentives relating to reducing emissions from deforestation and forest degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries”.

also on the local environment. Local communities will need support to identify and take advantage of these opportunities, without exacerbating the adverse impacts of climate change on the vitality and diversity of forest ecosystems.

Threats to enhanced prosperity

10. Forest ecosystems are directly affected by climate change. Forests respond to two main climate drivers: temperature and precipitation. If these parameters shift as anticipated over the coming years, the species composition of many ecosystems could change, with unpredictable impacts on fauna, local livelihoods and national economies. According to an International Union of Forest Research Organizations (IUFRO) report from 2009, current anticipated temperature increases could lead to very different impacts in different climatic regions. Boreal forests may expand northwards; these and temperate forests will have longer growing seasons but higher incidence of fire, fragmentation and invasive species. Subtropical forests may become drier and less diverse, but the impacts of temperature change on tropical forests are particularly hard to predict. Extreme events, such as storms, heat waves and droughts, are less predictable than gradual shifts in climate but can be more destructive. Another effect of climate change is sea-level rise, which will have an impact on coastal ecosystems, including mangroves and other coastal forests.

11. In poorer countries, the lack of diversity of livelihood options makes forest-dependent communities even more vulnerable to the impacts that climate change may have on forests. Additionally, if policy-makers focus on forest protection as the primary response to climate change, with corresponding restrictions on forest utilization, this may limit the access of communities and local people to resources, thus initiating or exacerbating conflicts among different interest groups. In general, it is likely that without significant external support, climate change will substantially worsen the fortunes of many, if not most, impoverished rural communities in Asia and the Pacific.

12. Conventional forest product industries will face several challenges as a direct result of predicted trends in climate change. Invasive species, by their very nature, will adapt most readily to changing conditions. Particularly in cooler latitudes, insect pests are likely to cause increasing damage to forests. The growth patterns of commercially important species in some locations may change. Fuel accumulation rates will increase in many areas, and therefore so could the intensity of forest fires. These factors may affect the profitability of commercial forest management and hence the prosperity of neighbouring communities. However, their extent and severity are currently difficult to predict.

13. While many countries in Asia and the Pacific are likely to introduce domestic climate change mitigation measures affecting forests in the coming years, efforts to mitigate climate change outside the region also have the potential to dramatically affect the forest sector in the region, either positively or negatively. National quotas and subsidies for renewable energy in other regions, for example, may offer new income and employment opportunities, but may further encourage the growth of land-intensive biofuels and biomass industries, potentially leading to more forest clearance in the Asia-Pacific region. Growing consumer awareness of the relationships between forests and climate change in Europe, North America and elsewhere may accelerate changes in the forest products industry itself, through increasing demand for legality verification and certified standards of practice against social and environmental criteria. A key challenge is therefore to capture climate change related opportunities that enhance the sustainability of forests and safeguard against threats to the region's forests and to long-term local and national prosperity.

Regional responses and recommendations

14. Strategic planning in the forest sector will have a significant effect on the resilience and coherence of the economies of the region in the face of climate change. Tools such as REDD+ may be important, therefore, in ensuring that investment goes to appropriate areas in the forest sector, by incentivizing both the collection of accurate environmental data and the implementation of

environmentally sustainable management practices. By pooling their efforts in information collection and interpretation, Asia-Pacific countries may substantially reduce the costs of transition to a forest sector that is more responsive to changing conditions.

15. The variability and unpredictability of the impacts of climate change underline the importance of decentralization of decision-making and management of forests. As climate change makes the impacts of management decisions on local ecosystems and livelihoods harder to predict, it is increasingly important that the forest sector breaks free of rigid systems and prescriptive management. In particular, if prospects for enhancing prosperity in rural communities are to be realized, trends towards 're-centralization' of forest management, to the detriment of local forest users, need to be avoided. Climate change mitigation efforts require detailed information on the changes in forest ecosystems at the local level, bringing attention and resources to local forest monitoring and land use planning tools, including skills in information technology.

16. To advance the agenda of 'Forests for Prosperity' in the context of climate change, the Commission may wish to consider:

- How countries in the region can collectively advance forest-related climate dialogues to more effectively translate rhetoric to tangible actions that improve sustainable forest management and enhance prosperity for forest-dependent communities;
- The threats and opportunities that climate-related policies implemented in other countries and regions present for forests and forestry in Asia and the Pacific, and identification of appropriate policy responses for countries of the region;
- The value of creating a mechanism to exchange information on the response of forest ecosystems to climate-related factors, and the role of forests in climate change adaptation strategies.