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COMMITTEE ON FORESTRY

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Forests and sustainable production of wood and non-wood forest products - meeting demands and supporting resilient local economies

Executive Summary

This document builds on the conclusions of the *State of the World's Forests 2022 (SOFO 2022)* and the outcomes of the XV World Forestry Congress. It discusses the sustainable use of forests and the role of sustainable wood and non-wood forest products' value chains, as well as sustainable wood energy, in helping the world to meet the urgent need to achieve resilient and carbon-neutral economies. The document suggests actions to unlock the full potential of forests as suppliers of renewable carbon neutral materials, in compliance with good practices regarding legality and sustainability standards.

Suggested actions by the Committee

The Committee is invited to:

- take note of the outcomes of the XV World Forestry Congress and to consider the proposed actions outlined in the Ministerial Call on Sustainable Wood to advance sustainable wood value chains and increase their contributions to climate neutrality;
- strengthen policies, legal and institutional arrangements as well as financial mechanisms that enable and support smallholders, family farmers, producer associations, women, youth, and related small and medium enterprises, to enhance sustainable production of wood and non-wood forest products;
- promote sustainable wood products as part of national strategies to address climate change and achieve the Sustainable Development Goals (SDGs) and include them, as appropriate, in Nationally Determined Contributions as well as in strategies, plans and projects associated with the UN Decade on Ecosystem Restoration and economic recovery programmes;
- promote the development of non-wood forest product (NWFP) value chains to safeguard nutrition, health, and livelihoods of rural communities and to conserve biological diversity.

The Committee may wish to recommend FAO to:

- support Members, upon request, with technical expertise to improve sustainability, legality, and productivity of wood and non-wood forest products' value chains oriented to both domestic and international markets, including on policy, legal and institutional frameworks as well as data and evidence for informed policy and investment decision making;

- support Members, upon request, to enhance and facilitate access of family farmers, producer organizations, including women, youth, and their small and medium enterprises to innovation and finance as well as to create enabling conditions for access to markets and inclusion in value chains;

- promote and strengthen policy dialogue, technical exchange and capacities to deliver collaborative solutions to achieve climate neutrality and increased resilience, including through the Collaborative Partnership on Forests (CPF) Joint Initiative Sustainable Wood for a Sustainable World;

- engage with Members, public and private sectors, international organizations and research institutions to collect, assess, and disseminate good practices promoting the sustainable production and trade of charcoal and other forms of wood energy, and support the transition from traditional use to modern use of wood fuels to help meet the SDG targets of sustainable energy for all in 2030 and net zero emissions by 2050; and

- continue supporting Members to accelerate actions aimed at supporting the sustainable and equitable use of NWFP, including on wildlife and on wild plants and their value chains for improved food security, nutrition, health and livelihoods.

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I. Introduction

1. Forests and trees are essential for planetary health and human well-being through the provision of a multitude of goods and services. Wood and non-wood forest products (NWFP) play an important role in ensuring sustainable consumption and production, contributing to improved livelihoods, healthy landscapes and cities, and reducing the world's carbon and material footprints. Solid wood products store carbon and offer the opportunity to extend forest carbon benefits beyond conservation and restoration, as they support other climate and health benefits, such as temperature regulation and well-being, together with their lower carbon footprint supporting sustainable and green cities.

2. Forest and trees directly benefit at least 3.27 billion people (75 percent of non-urban population) who live within 1 km of a forest and outside urban areas[1,2]. Provisioning ecosystem services such as food, raw materials, medicinal resources derived from wood and non-wood forest products are highly valued in tropical forests, corresponding to almost fifty percent of their total estimated value[3]. The Poverty and Environment Network surveys showed that the contribution of environmental income to the annual income of the population within or surrounding forests in tropical countries was around average 20-25 percent, considering in-kind and monetary income[4].

3. People deriving their livelihoods from forests and trees are the primary beneficiaries of wood and non-wood forest products. They are the main agents in ensuring the use of forest resources is sustainable and enables thriving value-chains that contribute to sustainable landscapes and the Sustainable Development Goals (SDGs). Urban populations also benefit from the provision of food, raw materials, in particular timber, and medicinal resources.

4. The sustainable use of forests is an essential part of sustainable agrifood systems. Smallholders, local communities and Indigenous Peoples own or manage at least 4.35 billion ha of forest farmlands. The forest pathways to green recovery and resilience depend on mobilizing and enabling stakeholders, especially those living in or near forest areas, to manage forest resources and participate in value chains. In many countries, as diverse as China, Sweden, Tanzania and Viet Nam, private smallholders' commercial activities resulted in an increase in forest cover[5]. Providing the means to adopt sustainable practices and to engage in forest value chains is critical for a successful transformation towards sustainability.

5. The global forest sector, i.e. production of wood products commercialized in formal markets, contributed USD 663 billion to global GDP in 2015, but has a much higher impact on economies as it leverages the generation of more than double this amount in other sectors. Informal production and markets are large. The total contribution of the forest sector to global formal employment amounts to 19.2 million, and reaches 33.3 million when informal employment is included – about 1 percent of global employment. In many countries, forestry is dominated by small and medium enterprises SMEs),

[1] FAO. 2022. The State of the World's Forests 2022. Forest pathways for green recovery and building inclusive, resilient and sustainable economies. Rome, FAO. https://doi.org/10.4060/cb9360en
[2]Newton, P., Castle, S.E., Kinzer, A.T., Miller, D.C., Oldekop, J.A., Linhares-Juvenal, T., Pina, L., Madrid, M. & de Lamo, J. 2022. The number of forest- and tree-proximate people – A new methodology and global estimates. Rome, FAO
[3] Brander, L.M., de Groot, R., Schägner, P., Guisado-Goñi, V., van't Hoff, V. & Solomonides, S. 2022. The role of forest ecosystem services to support the green recovery – Evidence from the Ecosystem Services Valuation Database. Background paper for State of the World's Forests 2022. FAO
[4] Angelsen, A., Jagger, P., Babigumira, R., Belcher, B., Hogarth, N.J., Bauch, S., Börner, J., Smith-Hall, C. and Wunder, S., 2014. Environmental income and rural livelihoods: a global-comparative analysis. World development, 64, pp.S12-S28
[5] FAO. 2022. The State of the World's Forests 2022. Forest pathways for green recovery and building inclusive, resilient and sustainable economies. Rome, FAO. https://doi.org/10.4060/cb9360en

with SMEs responding to 80–90 percent of forest enterprises and generating more than half of forest-related employment[6].

6. Tenure security, access to markets, training and technology are essential for long-term investments in forestry. Clarification of forest rights, including statutory rights to high-value resources such as trees for smallholders, and supporting community based-forestry generates opportunities for value-chain development. Access to technology and innovation can enable better assessment of forest resources, more efficient management planning and improved forest management, reducing risks and increasing productivity. Global-positioning-system-enabled smart phones and tablets, mobile apps, open-source software, and crowd-sourced data-collection methods and other technologies can significantly reduce costs, increase production efficiency and facilitate access to markets.

7. In addition, organization of forest producers is critical to optimize investment costs and improve access to markets and finance. Producer organizations can support planning, management and financial administration, offering more security to investors and finance institutions, while guaranteeing predictable and sufficient volumes to develop stable market relations locally or through longer supply chains. More than 8.5 million producer organizations are active[7]. Continuing the work of organizing producers and strengthening the capacities of the existing organizations is a key measure to improve livelihoods and build inclusive, resilient local economies while meeting sustainable wood and non-wood forest products demands.

II. Sustainable wood value chains

8. The outcomes of the XV World Forestry Congress in Seoul, Korea, held on 2-6 May 2022, recognized the role of sustainable wood value chains in addressing developmental challenges. The Seoul Forest Declaration[8] affirms that wood should be used to transform economic sectors toward a circular bioeconomy and climate neutrality. The Ministerial Call for Sustainable Wood[9] invites countries to consider scaling up sustainable wood-based pathways, including through increasing sustainable wood-based solutions in their Nationally Determined Contributions to address climate change. Such calls for considering the role of sustainable wood as part of the global response to developmental challenges stem from the increased knowledge and evidence on the potential of sustainable wood products to provide cost-effective and innovative contributions at scale to carbon neutrality while building synergies with broader aims for economic recovery, growth of rural areas and circular economy innovation.

9. Sustainable wood-based solutions need to build on good practices of sustainable forest management and address risks of trade-offs with the multiple other roles of forests, such as carbon storage in forests, conservation and sustainable use of biodiversity and of other essential forest services. Application of silvicultural treatments in combination with sustainable forest management, investments in restoration and afforestation, and policy and technical support to increase volumes and reliability of sustainable agroforestry production will be needed to support sustainable wood production. Such efforts should be underpinned by a range of technological innovations and incentives to material-efficient use.

10. Substantive progress has been made in forest governance and forest management to support the provision of sustainable wood. Experience accumulated through the FAO-EU Forest Law Enforcement, Governance and Trade (FLEGT) Programme and other projects implemented by FAO shows that information systems and tools, combined with adequate policies and capacity building, are

[6] FAO. 2022. The State of the World's Forests 2022. Forest pathways for green recovery and building inclusive, resilient and sustainable economies. Rome, FAO. https://doi.org/10.4060/cb9360en
[7] FAO. 2022. The State of the World's Forests 2022. Forest pathways for green recovery and building inclusive, resilient and sustainable economies. Rome, FAO. https://doi.org/10.4060/cb9360en
[8] https://www.fao.org/3/cc0160en/cc0160en.pdf, consulted on 21.06.2022
[9] https://www.fao.org/3/cc0247en/cc0247en.pdf, consulted on 21.06.2022

effective to increase legality and sustainability of wood and strengthen participation of civil society and the private sector in governance. The development of nationally appropriate assurance systems and corresponding legality and sustainability standards and requirements create an enabling environment for formalization of production and trade and responsible forest sector investment. It also creates opportunities for responding to the growing international and domestic demand for legal, sustainable and carbon neutral wood products.

11. Linking forest producers to consumer markets can help them to better adapt their products to market demands and to adopt technologies and standards more targeted to particular value chains, such as construction and wood energy. Key aspects are increasing productivity and strengthening the capacities of forest producers, in particular small and medium size producers, to advance sustainable forest management and planting of commercial forest species to meet the goals of restoring ecosystems, protecting biodiversity and increasing the supply of sustainable wood.

12. FAO is working with Members and the international community to expand the sustainable use of forests for example through the International Commission on Poplars and Other Fast-Growing Trees Sustaining People and the Environment (IPC) and the Advisory Committee of Sustainable Forest-based Industries (ACSFI). FAO is promoting collaboration with relevant initiatives and facilities, such as the Forest and Landscape Restoration Mechanism and the Forest and Farm Facility, the UN-REDD Programme, and the Collaborative Partnership on Forests (CPF) Joint Initiative Sustainable Wood for a Sustainable World. However, efforts need to be significantly scaled up to address the challenges of improving rural livelihoods and contributing to resilient economies and climate neutrality with the urgency required.

III. Sustainable wood energy

13. Bioenergy is among the key options for achieving climate goals and can bring major socio-economic benefits, as the second largest employer in the renewable energy sector[10]. Universal energy access requires replacing traditional use of biomass with clean and efficient technologies. Traditional bioenergy is the primary cooking fuel for 2.4 billion people around the world[11] and has been playing important roles in many developing countries, but with major concerns on its social, economic, and environmental impacts, including those on indoor air pollution leading to health problems, forest degradation affecting forest ecosystem services, and greenhouse gas emissions that associate with climate change.

14. Modern use of bioenergy, especially woodfuels, would play a key role in achieving net-zero emissions, as reflected in the roadmap set out for the global energy sector by the International Energy Agency, which stated that modern bioenergy use would need to increase by around 60 percent between 2020 and 2050 alongside a shift away from the traditional use of biomass[12]. In order to meet the SDG targets of sustainable energy for all by 2030 and net zero emissions by 2050, there is an urgent need to support the transition from traditional use to modern use of woodfuels in terms of cleanness, efficiency, and sustainability of wood production and transformation. Possible interventions include consolidating policies to ensure that the costs of wood sourcing for energy purpose better reflect the economic cost of wood; providing adequate incentives for woodfuel plantation and restoration of degraded forests; and nurturing business-oriented enterprises in the development and

[10] IRENA. 2021. Renewable Energy and Jobs Annual Review 2021, posted on https://www.irena.org//media/Files/IRENA/Agency/Publication/2021/Oct/IRENA_RE_Jobs_2021.pdf
[11] IEA, IRENA, UNSD, World Bank, WHO. 2022. Tracking SDG 7: The Energy Progress Report, posted on https://trackingsdg7.esmap.org/data/files/download-documents/sdg7-report2022-full_report.pdf
[12] IEA. 2021. Net Zero by 2050 - A Roadmap for the Global Energy Sector. Paris, IEA. https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf

provision of innovative bioenergy products and services.

15. FAO has been supporting Members in promoting sustainable production and consumption of woodfuels, and more broadly bioenergy, through technical assistance and information sharing. Recent activities include analysis and assessment of the policies and strategies relevant to interventions in the charcoal sector in Africa; development of sustainability criteria and indicators for bioenergy in the framework of the Global Bioenergy Partnership[13]; new modelling for estimation of global woodfuel production; and greening the humanitarian response in displacement settings for enhanced energy access and livelihood resilience.

IV. Sustainable non-wood forest products

16. NWFP, and in particular wild meat and plants play a crucial role in supporting livelihoods, especially for food security and nutrition. More than half of the total world population is estimated to use NWFP to support their well-being and livelihoods. Wild meat and plants add to the food security and nutrition of forest-adjacent people, especially in remote areas in the tropics and subtropics[14]. Adding wild meat and plants to diets may also be suitable to reduce costs of nutritionally adequate diets. Yet in many regions these traditional, locally adapted and diversified food diets are under threat – often from industrial agriculture and lack of policy support.

17. Globally, NWFP are the basis of multibillion-dollar industries associated with cosmetics, food, health and well-being, but many products are invisible in national accounts as well as to consumers and traders because they are in categories encompassing both collected and cultivated volumes[15]. For instance, in Europe, the value of NWFP is estimated at USD 23.3 billion per year[16].

18. Responsible sourcing as well as supportive policies and interventions are required to ensure the sustainable consumption and production of NWFP and related ingredients. Sustainable wildlife and wild plants management is essential to safeguarding biodiversity and critical ecosystems while contributing to food security and nutrition. FAO's Sustainable Wildlife Management Programme[17] supports the development of solutions to wild meat related issues through projects in 15 African, Caribbean and Pacific countries. By developing innovative, collaborative, and scalable new approaches to wildlife use it aims to conserve wild animals and protect ecosystems whilst at the same time improving the livelihoods of indigenous peoples and rural communities who depend on these resources. FAO intends to complement this programme by an initiative focused on wild plants, aiming to: i) improve food security and nutrition, health and livelihoods of local and global populations, particularly those that benefit directly from wild plants provided by forests, trees and their ecosystems and; (ii) contribute to the conservation of wild plants and associated ecosystems and services.

[13] GBEP. 2020. Global Bioenergy Partnership Sustainability Indicators for Bioenergy: Implementation Guide. http://www.globalbioenergy.org/fileadmin/user_upload/gbep/docs/Implementation_Guide/Final_Draft_Implementation_Guide_updated_14.04.2020.pdf

[14] FAO. 2022. The State of the World's Forests 2022. Forest pathways for green recovery and building inclusive, resilient and sustainable economies. Rome, FAO. https://doi.org/10.4060/cb9360en

[15] Schindler, C., Heral, E., Drinkwater, E., Timoshyna, A., Muir, G., Walter, S., Leaman, D.J. and Schippmann, U. 2022. Wild check – Assessing risks and opportunities of trade in wild plant ingredients. Rome, FAO. https://doi.org/10.4060/cb9267en

[16] Lovrić, M., Da Re, R., Vidale, E., Prokofieva, I., Wong, J., Pettenella, D., Verkerk, P.J. et al. 2020. Non-wood forest products in Europe – a quantitative overview. Forest Policy and Economics, 116: 102175 https://www.sciencedirect.com/science/article/pii/S1389934120300654. forpol.2020.102175

[17] See www.swm-programme.info for further information

V. The shift towards sustainable use pathways

19. The urgency to move towards low-carbon materials more suitable to a circular bioeconomy opens new opportunities for the forest sector and its contributions to sustainable agrifood systems. Historically, the construction sector is the main driver of demand for sawnwood and wood based panels. Estimates indicate that ca. 1.2 bn m³ (round wood equivalent) of wood products were directly used by the global construction sector in 2018, representing ca. 75 percent of the global production of sawnwood and wood-based panels[18,19,20]. In recent years, national and international building codes have been revised, enabling and providing guidelines for use of timber also in modern high-rise construction.

20. Given that every 1 kg of carbon in wood products used in construction to substitute non-wood products leads to an average emission reduction of approximately 0,9 kg of carbon[21], expanding the use of wood in construction will lower the carbon emissions of the building sector and contribute to cities' carbon neutrality, if the resulting demand can be provided from sustainably produced wood. An estimated 300 million new dwellings are needed between 2016 and 2030 globally. Expansion of construction value chain based on sustainable wood can be particularly strategic in Africa and Asia, continents experiencing accelerated urbanization, and with a high potential to expand sustainable wood production through restoration, forest farming and agroforestry projects.

21. Sustainable production and use of NWFP, including wild meat and wild plants, can be strengthened through better regulation and building capacities on sustainable harvesting practices and processing including on quality and safety standards. Measures are needed to increase the supply of sustainably produced products as well as to reduce the demand for wild meat and plants, particularly in towns and cities that lead to overharvesting. If successful, such measures contribute to transforming unsustainable agrifood systems in view of their positive correlation with biological and cultural diversity, natural forest, carbon sequestration, food security, nutrition, sustainable livelihoods and human health.

22. A range of innovations in wood value chains offer further potentials for contributions of sustainable wood to more carbon-neutral circular economies. This includes innovations in wood energy, furniture design, innovative products such as man-made cellulose fibers replacing polyester in textile value chains, bioplastics or biochemicals derived from wood. To advance these pathways, countries can and need to engage with the private sector and other actors in domestic and international value chains at different levels, from silvicultural management of the forest resource and primary processing to the production of most advanced products and to consumption.

23. The shift towards sustainable bioeconomy with a stronger contribution of forest products will not happen without targeted policies and incentives on both production and consumption. Improved tenure rights are the base of sustainable forestry as they can engage smallholders in forestry and encourage investments. Expansion of sustainable forestry, especially in the tropics, depends on governmental leadership and engagement with the private sector and financial institutions to establish a robust and functional governance system. This requires securing the enabling conditions for

[18] World Business Council for Sustainable Development. 2020. Circular bioeconomy – The business opportunity contributing to a sustainable world. Geneva, Switzerland. (also available at https://www.wbcsd.org/contentwbc/download/10806/159810/1)
[19] FAO. 2022. The State of the World's Forests 2022. Forest pathways for green recovery and building inclusive, resilient and sustainable economies. Rome, FAO. https://doi.org/10.4060/cb9360/en
[20] Architect Vicente Guallart keynote speech at the XV World Forestry Congress, Plenary 3, "The Most Ancient Material Taking us to the Future", pronounced on 04.05.2022, and available at https://youtu.be/uSOSJpq2Tas
[21] FAO. 2022. The State of the World's Forests 2022. Forest pathways for green recovery and building inclusive, resilient and sustainable economies. Rome, FAO. https://doi.org/10.4060/cb9360/en

adequate finance flows and investments, access to technology and innovation, skilled labour, and inclusion of smallholders as well as micro, small and medium-size enterprises.

24. Better mechanisms are needed to enable access to financial resources by local stakeholders including women, youth and their small and medium enterprises. Similarly, innovation is needed in education, training and other forms of capacity development and learning to reach, mobilize and empower the next generation of forest managers and forest-based entrepreneurs to drive sustainable, forest-based development.

25. With regard to sustainable consumption, policies oriented to consumer markets such as wood encouragement policies and awareness-raising campaigns can help to shift markets from fossil-fuel and mineral-based products to sustainable wood products. Platforms for national and international policy and technical dialogues are one potential means to enable exchange of experiences and learning with a view to scale up a transformation towards resilient economies and climate neutrality. Awareness of the potential of the sustainable use of forest pathways, in particular the potential of wood, also needs to be scaled up. FAO, together with the members of the CPF joint-initiative Sustainable Wood for a Sustainable World and the Forest Communicators Network, proposed a global "Grow the Solution" communication campaign, with the objective of accelerating the uptake of benefits from sustainable wood in policy, investment and consumption decisions.

26. Improved data, statistics and analysis will be required to enable policy and other stakeholders to take evidence-based decisions on the sustainable production and use of wood and non-wood forest products, including their potential to contribute to resilient local economies.

27. Forests and trees have a key role to play in achieving carbon neutrality, building more resilient circular economies and progress towards more sustainable societies. Mobilizing their full potential requires scaled up action on identifying suitable and innovative pathways to promote sustainable production, markets and trade for sustainable wood and non-wood forest products as well as their consumption.