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**Economic Commission for Europe****Committee on Forests and the Forest Industry****Eighty-second session**

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Item 7 of the provisional agenda:

**Capacity-building and technical assistance****Capacity-building in non-wood forest product value chains  
for bioeconomy and sustainable food systems****Note by the Secretariat***Summary*

The following document outlines the main activities of ECE's capacity-building on circular forest product value chains and nature-based solutions. Under a dedicated project funded by the United Nations Development Account this work targets the countries of Central Asia and the Caucasus while drawing conclusions and elaborating material for all ECE countries. It introduces the concept of circular non-wood forest product value chains and explores how to develop criteria and indicators that cover these value chains. This background will inform discussions during the session on developing these criteria and indicators.

Delegations are also invited to take note of the document and briefly present their work on non-wood forest products and their value chains in their country.

The document is submitted according to A/78/6 (Section 20); ECE/TIM/EFC/WP.2/2024/2, para 48.



## I. Introduction

1. With the world's agri-food systems under stress from many factors including biodiversity loss and climate change, forests can provide solutions to reduce the pressure and, at the same time, provide essential services and products. Integrated policies and landscape approaches can help create greener product and agri-food systems. Through thorough analysis, but also innovative approaches and product development, processing and marketing, healthy and sustainably managed forests can provide income, improve food security, and mitigate climate change.
2. National governments have acted in the past years and committed to restore forest landscapes. However, they face competing priorities and limited resources as they attempt to balance urgent economic development and job creation needs with long-term environmental integrity.
3. Non-wood forest-product (NWFP) value chains hold a yet untapped potential to provide revenue to local communities (often the most vulnerable and poorest population) and improve food security in a currently fragile global food system.
4. Non-wood forest products offer significant potential for transitioning to a circular bioeconomy model that recognizes them as nature-based solutions to safeguard nutrition, health and livelihoods while conserving biodiversity and sustainably managing forests.

## II. Circular non-wood forest product value chains – context

5. NWFP value chains provide an important source of food and/or income to sustain, diversify or supplement the livelihoods of local communities. The inclusivity of local communities in NWFP value chains depends upon the rights of ownership and access to forest resources, as well as opportunities for participation or employment in accordance with decent work and fair labour standards. It also depends on the extent to which women and minorities, as well as vulnerable and disadvantaged groups, are integrated and empowered within the value chain.
6. This can provide an economic boost both in communities near forests and plantations, as well as in communities linked to the further steps in the value chain. Livelihood opportunities also help to strengthen the incentive for forest-dependent communities to serve as stewards of local forest resources and advocates for sustainable forest management (SFM) and forest landscape restoration (FLR).

### *Definition*

7. The FAO Global Forest Resource Assessment 2025 defines (FAO, 2023) **non-wood goods** as “goods derived from forests and other wooded land that are tangible and physical objects of biological origin other than wood.”<sup>1</sup>. For example, wood energy pellets produced with parts of wood that cannot be used as timber are considered wood products.
8. The definition of **non-wood forest products** is subject to an ongoing debate; for example, researchers from FAO and elsewhere (Muir et al, 2020) have highlighted the “difficulty drawing the line between wild and domesticated (cropped)” products, given that

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<sup>1</sup> The FRA 2025 explanatory notes define non-wood goods (where goods can be broadly understood to mean products) to include: 1) Generally includes non-wood plant and animal products collected from areas defined as forest. 2) Specifically includes the following regardless of whether from natural forests or plantations: gum Arabic, rubber/latex and resin; Christmas trees, cork, bamboo and rattan. 3) Generally excludes products collected in tree stands in agricultural production systems, such as fruit tree plantations, oil palm plantations and agroforestry systems when crops are grown under tree cover. 4) Specifically excludes the following: woody raw materials and products, such as chips, charcoal, fuelwood and wood used for tools, household equipment and carvings; grazing in the forest; fish and shellfish.

“from a botanical point of view...all current domesticated varieties derive from wild ancestors”.

9. A comprehensive value chain focus ultimately recognizes and includes NWFPs from both wild and domesticated sources within and beyond forest landscapes. Examples of NWFPs include nuts (e.g. walnuts, pistachio, almonds), mulberry and silk, honey, and fruits.

10. A **forest product value chain** includes all steps to bringing a forest product to a final consumer. It typically begins with the establishment/regeneration and management of the forest resource, and includes harvest, post-harvest processing, additional processing (e.g. for greater value-added), transport to final market (national or international), and final sale.

#### *Forest-positive vs forest-negative*

11. ECE defines **forest product value chains to be forest-positive** if they create an economic or business incentive to sustainably manage the tree or forest resource that may ultimately lead to an expansion or regeneration of the forest area or enhancement of forest health and biodiversity, forest product yield/quality, and/or the provision of ecosystem services. over time.

12. On the other hand, ECE defines **forest product value chains to be forest-negative**, if they create an economic or business incentive to unsustainably manage the tree or forest resource (e.g. through overexploitation), and ultimately lead to a degradation or loss of the tree and forest resources. This may result in reduced forest health and biodiversity, forest product yield/quality, and or less ecosystem services which may ultimately exacerbate the loss of tree cover or forest area.

13. Whether a value chain is likely to be forest-positive or forest-negative will depend on many factors and market incentives such as accessibility of resource, security of land tenure and the prevailing business and investment climate.

14. A circular non-wood forest product value chain is designed to be forest-positive and promote forest landscape restoration and regeneration, while aiming to maintain these non-wood products at their highest and most inclusive value from an integrated socioeconomic and environmental perspective (e.g. use of by-products such as walnut husks and shells to reduce waste and increase value).

### III. Criteria and Indicators and NWFP Value Chains

#### *Overview of Criteria and Indicator Frameworks*

15. The health and vitality of forest ecosystems as well as the quality and quantity of forest resources is influenced by natural conditions and the sustainability of forest management. Sustainable forest management (SFM) can sustain or increase the supply and quality of forest products.

16. Criteria and indicators are essential tools for defining, assessing, and monitoring progress towards SFM. They provide a structured framework to evaluate the environmental, social, and economic aspects of forest management practices. In this sense, they are essential tools for operationalizing and monitoring SFM, providing a structured and comprehensive approach to assess the environmental, social, and economic aspects of forest management practices. Specifically, criteria and indicators for SFM serve as:

(a) Tools for operationalization of general concepts/policies by translating them into practical context;

(b) tools for monitoring and reporting on SFM, which has helped to improve the availability, quality and comparability of forest-related information for timely management responses;

(c) reference frameworks for the elaboration and adaptation of national forest programmes and/or forest-related policies;

(d) information tools for dialogue and communication within the forest sector and with other sectors and global initiatives;

(e) assessment tools for measuring progress towards SFM (or any other goals/targets).

17. ECE supported the development of criteria and indicators for SFM under the ECE project “Accountability Systems for Sustainable Forest Management in the Caucasus and Central Asia”. However, current criteria and indicator frameworks for SFM are limited in their ability to assess and monitor whether market pressures in forest product value chains are likely to be forest-positive or forest-negative.

18. Criteria and indicators for SFM are developed through a collaborative process involving stakeholders including governments, international organizations, research institutions, and civil society groups. The process typically involves:

(a) Defining the key elements or principles of SFM (criteria);

(b) identifying specific measurable parameters (indicators) for each criterion;

(c) ensuring the indicators are scientifically sound, practical, and relevant to local conditions;

(d) pilot testing and refining the criteria and indicators based on feedback.

#### ***Existing Criteria and Indicator Frameworks and Non-Wood Forest Products***

19. Existing global criteria and indicator frameworks include some indicators that relate to non-wood forest products, although coverage is uneven and varies by framework.

20. For example, the Pan-European Criteria and Indicators for SFM includes an indicator on production and consumption (3.3), while other indicators (e.g. 6.8) could be adapted to include NWFP:

(a) Indicator 3.3: Non wood goods. This indicator covers the value and quantity of NWFP and services;

(b) indicator 6.8: Trade in wood. This could be adapted to also cover trade in NWFP.

21. The Montreal Process Criteria and Indicator Framework includes three criteria that are specific to NWFP (6.1), and additional criteria on socioeconomic benefits (6.2 and 6.3) that may be related to NWFP:

(a) Indicator 6.1.b: Value of NWFP produced or collected;

(b) indicator 6.1.e: Total and per capita consumption of NWFP;

(c) indicator 6.1.g: Value of exports and imports of NWFP;

(d) indicator 6.2.a Value of capital investment and annual expenditure in forest management;

(e) indicator 6.3.a Employment in the forest sector;

(f) indicator 6.3.b: Average wage rates, annual hire rates and injury rates in major forest employment categories.

22. The existing criteria and indicator frameworks do not support efforts to assess whether market pressures in NWFP value chains are inclusive, forest-positive or forest-negative, and circular. A good understanding of the factors that influence whether NWFP value chains are inclusive, forest-positive or forest-negative, and circular is needed to develop useful criteria and indicators to inform efforts to align value chains with SFM and FLR.

#### ***Strengthening the integration of Non-Wood Forest Product Value Chains in Criteria and Indicator Frameworks***

23. By combining new and existing, or adapted indicators of existing frameworks, a comprehensive set of indicators can be developed to assess circular non-wood forest product value chains, covering economic, social, and environmental dimensions of sustainability.
24. Guiding Principles for developing criteria and indicators for NWFP value chains may include:
- (a) Adopt a systems perspective to analyse and develop the potential of circular NWFP value chains to contribute to SFM and FLR;
  - (b) involve diverse stakeholders throughout the criteria and indicator development process to ensure inclusivity and relevance;
  - (c) align criteria and indicators with existing international frameworks and standards to facilitate adoption and comparability.
25. Efforts to develop indicators should:
- (a) Define clear and measurable indicators for each criterion;
  - (b) use a mix of quantitative and qualitative indicators to capture the complexity of the value chain;
  - (c) ensure indicators are SMART (Specific, Measurable, Achievable, Relevant, Time-bound);
  - (d) pilot test indicators with stakeholders and refine as needed.
26. Sustainable management of circular NWFP value chains may contribute to outcome such as:
- (a) Strengthening SFM and FLR;
  - (b) minimizing environmental impacts;
  - (c) promoting inclusive rural development by engaging local communities;
  - (d) maximizing resource efficiency through circular approaches like recycling and cascading use;
  - (e) fostering investment and innovation for new or expanded sustainable NWFP products and markets.
27. Key criteria areas for NWFP may include:
- (a) Sustainable sourcing and production;
    - (i) Ensure responsible harvesting practices that maintain ecosystem health and biodiversity;
    - (ii) promote organic and low-impact production methods and encourage local and small-scale producers.
  - (b) Circular business models;
    - (i) Have economic incentives to source NWFP from areas under SFM;
    - (ii) may create market incentives for FLR to increase the supply and quality of NWFP;
    - (iii) are designed for longevity, reuse, repair and recycling of NWFP products;
    - (iv) implement take-back schemes and reverse logistics.
  - (c) Reducing and creating value from waste;
    - (i) Minimize waste generation throughout the value chain;
    - (ii) promote the use of waste and by-products as inputs for new products;
    - (iii) encourage composting and other organic waste management practices.
  - (d) Social and economic benefits;

- (i) Ensure fair and equitable distribution of benefits along the value chain, including in forest communities;
    - (ii) promote gender equality and empowerment of marginalized groups;
    - (iii) create decent employment opportunities and working conditions.
  - (e) Environmental Stewardship;
    - (i) Preserve ecosystem services and maintain water resources and prevent pollution;
    - (ii) minimize greenhouse gas emissions.
  - (f) Systems approach in the enabling environment.
    - (i) Ensure that policies, regulations and plans ensure systemic incentive alignment with sustainable sourcing and production, circular business models, waste reduction and value creation, social and economic benefits and good environmental stewardship;
    - (ii) align public mandates, activities and budgets with these objectives.
28. Efforts to develop indicators on NWFP may consider, for example:
- (a) Alignment of market incentives with SFM and FLR, for examples indicators related to NWFP harvesting permits, certified production/exports of NWFP, share of production from areas under SFM, total area of FLR with planned NWFP production;
  - (b) sustainable forest management in areas of NWFP production, for example indicators related to NWFP harvesting and production yields and quality, improvement in overall forest health in areas under NWFP harvesting/production;
  - (c) resource efficiency and circularity, for example indicators related to recycling/reuse rates, cascading use, waste minimization in value chains;
  - (d) environmental footprint, for example indicators related to GHG emissions, water use, pollution levels across value chains;
  - (e) inclusive development, for example indicators related to income generation, distribution of value added (e.g. to local communities vs others in value chain), jobs created, cooperative organization of harvesters, producers and processors, participation of local communities, social wellbeing;
  - (f) innovation and Sustainable Products/Markets, for example indicators related to investment, new/expanded production of NWFP, new/expanded production with NWFP as an input, increased market access, increased sales and exports;
  - (g) enabling environment, for example indicators related to public plans and budgets, implementation of enabling regulations, etc.

29. To avoid overburdening, the number of these new criteria and indicators selected for measuring progress towards improved circular value chains of the selected NWFP in the target country should be manageable. When developing them, it will be important to focus on the degree to which market incentives in NWFP value chains are positively or negatively aligned with sustainable forest management and forest landscape restoration efforts, while ensuring an inclusive approach that benefits local communities and vulnerable populations. Whether criteria and indicators for NWFP might include other factors such as e.g. resource efficiency and circularity post-harvest to the final consumers, will depend on whether these influences are positive or negative for forests.

#### **IV. ECE's circular forest product value chain approach**

30. Rural communities in the Caucasus and Central Asia face high levels of poverty and limited livelihood prospects. Local conditions are triggering high levels of migration and are driving families, as well as entire communities and generations of youth to leave their rural environment. While forests in these regions play a vital role in the provision of ecosystem

services, in particular, as sources of livelihood, shelter, water, food, medicine, and fuel, forest landscapes are degraded, depleted, and under continued threat from the unsustainable resource use and unmitigated natural threats.

31. Since 2023, ECE has been working on circular forest product value chains and nature-based solutions under a project funded by the 15th tranche of the United Nations Development Account (UNDA). While the target countries of this project (Kyrgyzstan, Tajikistan, Uzbekistan and Georgia) are located in n Central Asia and the Caucasus, the work and the findings are of relevance to all ECE countries. Particularly,

(a) To improve the knowledge and capacity of countries and advance inclusive rural development and forest landscape restoration for increased agroforestry activities through circular forest products value chains and nature-based solutions;

(b) to strengthen national capacities to support circular NWFP value chains, highlighting linkages between national economies and the management of forest landscapes.

32. This work is expected to contribute to:

(a) improved livelihoods and food security in communities linked to NWFP value chains, including green job creation and increased circularity, economic value and revenue;

(b) strengthened alignment of productive economic activities with sustainable forest management, biodiversity conservation and ecosystem restoration for green growth and circular economy.

***The project work structure:***

33. The project itself is split into two main phases. During a first phase, experts are conducting national market gap assessments in each of the four target countries to identify benefits and opportunities to strengthen circular forest product value chains. They then highlight one specific non-wood forest product value chain including recommendations how to improve them. The national market gap assessments will be finalized at national workshops. The opportunities identified could be taken up by public authorities, development institutions, or the private sector and civil society. The national market gap assessments will be the basis for designing pilot project concepts with roadmaps and implementation/action plans for strengthening a non-wood forest product value chain. These outputs will provide policymakers with turnkey actionable opportunities to promote inclusive rural community-based development, increased food security and FLR.

34. The second phase will focus on the development of national sets of criteria and indicators for measuring progress towards improved circular forest product value chains. They will facilitate the countries' ability to evaluate the effectiveness of the measures taken to improve the value chains and assess their alignment with circular sustainable development that is inclusive and forest-positive. By combining new and existing, or adapted indicators of existing frameworks, a comprehensive set of indicators can be developed to assess circular non-wood forest product value chains, covering economic, social, and environmental dimensions of sustainability.

35. Developing such criteria and indicators may help to develop a better understand the cause-and-effect relationships between market forces in the value chain and outcomes for SFM and FLR, which may be context specific. If successful this knowledge will strengthen the ability to promote circular bioeconomy in the NWFP sector, while delivering positive SFM and FLR outcomes through market-based approaches. Some project countries have relevant national criteria and indicators sets. More specific criteria and indicators are needed to fully include circular non-wood forest product value chains. Enhancing these frameworks can help ensure sustainable production, equitable benefit sharing, and reduced waste and emissions in these value chains.

***Outcomes and benefits for entire ECE region***

36. The national assessments under way as part of the Circular Forest Product Value Chain project will provide important case studies to inform efforts to develop criteria and

indicators to cover NWFP value chains. These insights are expected to be relevant beyond the project countries and across the ECE region.

37. The findings will be summarized in information and guidance material for the entire ECE region and beyond for capacity-building, projects and support efforts to develop NWFP value chains that contribute to SFM and FLR.

## **V. In-session work**

### *Small group discussions*

38. Based on updates and summaries of the key findings of the value chain assessments by Kyrgyzstan, Tajikistan, Uzbekistan and Georgia which are all at various stages of the first phase of the project, delegations are invited to discuss potential criteria and indicators on how to measure progress made in improving the specific NWFP value-chain.

39. All delegations are invited to present national examples and provide feedback on the potential criteria and indicators.

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