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COMMITTEE ON FORESTRY

WORKING GROUP ON DRYLAND FORESTS AND AGROSILVOPASTORAL SYSTEMS

Second Session (Virtual)

17-18 November 2021

STRENGTHENING CROSS-SECTORIAL WORK: ROLE OF LIVESTOCK IN REDUCING THE DEGRADATION OF DRYLAND FORESTS AND SILVOPASTORAL SYSTEMS

Executive Summary

The 128th Session of FAO's Programme Committee "encouraged FAO to explore innovative ways of improving the interconnection of sustainable agriculture and sustainable forest management through the development of agroforestry[1] systems". Silvopastoralism, as part of agroforestry, integrates the management of trees and livestock.[2] This integrated approach is innovative, especially given that forestry and livestock production have traditionally been seen as conflicting land uses.

This document highlights the role of grazing livestock in maintaining and restoring productive forests and rangelands in dryland regions. This will be further elaborated in a technical report in consultation with members of the Working Group, and it is expected to be launched at the 26th Session of the Committee on Forestry.

[1] FAO. (2020). Report of the 128th Session of the Programme Committee (8-18 June 2020). 128th session of FAO's Programme Committee, Section XVI. Update on Sustainable Forest Management (FAO, 2020d)

[2] http://www.fao.org/3/u2246e/u2246e00.htm#Contents.

Suggested actions by the Working Group

The Working Group may wish to:

- Acknowledge the importance of promoting synergies and addressing trade-offs between forestry and livestock production in initiatives and projects, including through COVID-19 pandemic recovery measures.
- Consider silvopastoralism as a key strategic activity in the upcoming Working Group Work Plan (2022-2024).
- Encourage its members to contribute to the preparatory process of a technical report expected to be launched at the 26th Session of the Committee on Forests by:
  (i) providing case studies;
  (ii) providing guidance on the development of the analytical approach;
  (iii) nominating an advisory group for the report, taking into account regional representation; and
  (iv) facilitating consultation sessions with the Committee on Agriculture (COAG) Sub-Committee on Livestock to strengthen the cross-sectorial work and to provide technical inputs on its analytical approach.

Queries on the substantive content of the document may be addressed to:

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I. Introduction

1. Drylands represent 41 percent of the world's land area and 48 percent if presumed drylands[3] are included. Dryland regions are home to more than 25 percent of the total global population, mostly in low-income countries, and they also accommodate half of the world's livestock. As one of the largest dryland areas, Africa's arid and semi-arid areas are home to 268 million pastoralists who depend on livestock production for their livelihoods and food security.[4] Moreover, 27 percent of the world's forests and 35 percent of global biodiversity hotspot areas are found in drylands, which, therefore, play a vital role in biodiversity conservation and global climate regulation.[5] Drylands are extremely sensitive to degradation and climate change, leading to desertification processes, which harm food production systems in these areas. The adoption of innovative approaches that can simultaneously contribute to improving food security, addressing resilience, and other sustainable development goals is hence urgently needed.

2. Forests and trees are crucial for supporting human livelihoods, as land with trees provides support to local communities exposed to poverty.[6] At the same time, land-based livestock farming, specifically pastoralism, is considered a key activity for food security, sustainable development, and resilience in drylands.[7] Grazing livestock benefits forests, trees and silvopastoral landscapes through seed dispersal, by maintaining fertile and productive soils that sequester carbon and increase biodiversity, and by preventing wildfires, avalanches and bush encroachment. Conversely, livestock benefits from the extra food sources and shelter provided by forests and trees. Consequently, silvopastoralism has gained importance in FAO projects, generating useful knowledge over time.

[3] Presumed drylands cover an additional 1 075 million hectares and are defined as those areas that do not meet the criterion of low annual precipitation levels, but are characterised by dryland features
[4] https://www.fao.org/publications/card/es/c/CA3843EN/
[5] https://www.fao.org/3/ca7148en/ca7148en.pdf
[6] https://www.cambridge.org/core/books/abs/agricultural-resilience/pastoralism-conservation-and-resilience-causes-and-consequences-of-pastoralist-household-decisionmaking/E75B93063982B3095BFE773168CB5BCD
[7] https://www.fao.org/3/i5795e/i5795e.pdf

3. The 25th Session of the Committee on Forestry showcased FAO's cross-sectoral work on the multiple contributions of forests and trees to sustainable agriculture and food systems through engaging both private and public stakeholders.

4. The 25th Session of the Near East Forestry and Range Commission requested FAO to strengthen its cross-sectorial approach through activities aimed at halting land degradation and deforestation, and promoting resilient and sustainable agri-food systems by taking into consideration regionally-specific degradation dynamics and drivers.

5. As highlighted by the Global Sustainable Development Report[8], and confirmed by deliberations at the Sustainable Development Goals (SDGs) Summit in 2019, actions to achieve SDG 2 through sustainable agri-food systems will accelerate progress across most other goals and targets.

II. The role of livestock in reducing the degradation of dryland forests and silvopastoral systems

6. In response to the above, FAO's Forestry Division and the Animal Production and Health Division are initiating an assessment of the role of livestock in restoring dryland forests and rangelands. The assessment will present evidence on the positive role of integrated extensive grazing in the management and restoration of dryland forests, trees and agrosilvopastoral ecosystems.

7. This report will apply an interdisciplinary analytical approach whilst focusing on farmers' and pastoralists' knowledge about reducing and reversing degradation, increasing resilience, and enhancing food security in drylands.

8. Recommendations will target landscape planners and decision makers aimed at accelerating the necessary actions to promote healthy silvopastoral and agrosilvopastoral ecosystems while restoring tree cover.

9. The methodological approach designed for the assessment reflects the innovative multi-disciplinary expertise of both forest and animal science disciplines, building upon the work and lessons learned from practitioners and field experts linked to specific case studies across dryland regions.

10. The report will be developed in four stages:

1. Participatory stakeholder consultation at regional and national levels to assess up-to-date knowledge on silvopastoralism, land use, and other significant land dynamics, such as degradation, deforestation and greening status in dryland regions with special consideration to livestock management.
2. In-depth literature and research review on the key thematic areas that livestock management could contribute to healthy silvopastoral systems in drylands.
3. Participatory analysis of case studies to assess silvopastoral practices, strategies, knowledge gaps and trade-offs at the landscape level.
4. Using the Life Cycle Analysis (LAC)[9] and Drivers of Change and Pressure-State-Response indicators (DPSIR) as frameworks for global and local analysis respectively, specific tools will be applied in representative case studies, such as: the Global Livestock Environmental Assessment Model[10] (GLEAM) to assess the interaction of activities and processes involved in

[8] UN, 2019. *Global Sustainable Development Report 2019: The Future is Now: Science for achieving sustainable development*

[9] The use of Life Cycle Assessment (LCA) in environmental impact analysis is becoming increasingly common. LCA provides a holistic picture of production processes and identifies key stages where impacts are highest. LCA has also the capacity to evaluate intervention options and to avoid possible trade-offs or shifts of impact from one phase to another, thus providing valuable information for stakeholders and decision making processes.

[10] https://www.fao.org/gleam/en/

livestock production and silvopastoral systems; the EX-Ante Carbon-balance Tool[11] (EX-ACT), which provides a consistent way of estimating and tracking the impact of Agriculture, Forestry and Other Land Use (AFOLU) investments and policies on greenhouse gas (GHG) emission levels; and the Biodiversity Integrated Assessment and Computation Tool[12] (B-INTACT), which seeks to provide a thorough biodiversity assessment of project-level activities in the AFOLU sector through a combined quantitative and qualitative approach.

III. Key thematic areas to strengthen the role of livestock in reducing the degradation of dryland forests and silvopastoral systems

11. A preliminary consultation on the preparation of the assessment was conducted between March and June 2021 as a series of nationally and regionally focused assessments and data collection workshops, organized in collaboration with FAO regional and country offices, research institutes, and specialized non-governmental organizations in dryland regions.

12. Based on the preliminary assessment, four key thematic areas in which livestock management could contribute to healthy silvopastoral systems in drylands have been identified based on the DPSIR Framework. The proposed thematic areas are: (i) production of food and livelihoods, (ii) biodiversity, natural capital and ecosystem services, (iii) ecosystem restoration and climate change mitigation; (iv) resilience adaption and governance.

13. In-depth analysis of potential case studies, projects, and initiatives in different dryland regions is still on-going.

[11] https://www.fao.org/in-action/epic/ex-act-tool/suite-of-tools/ex-act/en/
[12] https://www.fao.org/in-action/epic/ex-act-tool/suite-of-tools/b-intact/en/