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Policy frameworks and thematic issues, including new emerging issues: grassland and rangeland

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Item 5 of the provisional agenda

Innovation and Technology in Ecologically Sustainable Agrifood Systems

New emerging issues: grassland and rangeland and ecologically sustainable agrifood systems

Note by the secretariat

Summary

In accordance with the rules of procedure (rule 10) of the United Nations Convention to Combat Desertification, the Bureau of the Conference of the Parties (COP) endorsed the inclusion of an agenda item for the 16th session of the COP and its subsidiary body, the Committee on Science and Technology (CST), on emerging issues in response to official requests made by two Parties. On 28 February 2024, Botswana requested the inclusion of grasslands and rangelands, and on 7 May 2024, the United States of America requested the inclusion of innovation and technology in ecologically sustainable agrifood systems.

Both official letters are attached as annexes to this note. Policy frameworks and thematic issues, including the new emerging issues of grasslands and rangelands, will be considered by the COP under agenda item 4, while innovation and technology in ecologically sustainable agrifood systems will be considered by the CST under agenda item 5.

Based on these requests, the secretariat has prepared ICCD/COP(16)/21-ICCD/COP(16)/CST/9 entitled new emerging issues: grassland, rangeland and ecologically sustainable agri-food systems. This note by the secretariat provides background information on these two issues, their relevance to the implementation of the Convention, and a broad set of conclusions. It does not include specific proposals from either of the two proponent countries, or any draft decision text to be considered by the Parties, rather it reflects the secretariat's interpretation of the important role of these emerging issues in enhancing the implementation of the Convention.



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I. Background

1. Current agrifood systems¹ are contributing to, and affected by, climate change, land degradation and biodiversity loss. A range of pressures, arising from population growth, urbanization, and changing consumption patterns, are jeopardizing the ability of agrifood systems to provide nutritious food, and contribute to enhanced livelihood opportunities. Therefore, agrifood systems are facing a triple challenge: (i) ensuring food security and nutrition for a growing population; (ii) supporting the livelihoods of millions of farmers and others in the food chain; and (iii) doing so in an environmentally sustainable manner. The urgency and the challenges are clear: over 738.9 million people faced hunger in 2022, and we are off track to achieve Sustainable Development Goal 2, Zero Hunger, by 2030. Meanwhile, the impacts of climate change have reduced global agricultural productivity by around 21 per cent since 1961.²

2. On the other hand, healthy and productive grasslands and rangelands are a vital component of an ecologically sustainable global agrifood system, and a vital source of essential nutrition that supports communities and livelihoods around the world. Of direct concern to the Convention is the adoption and scaling up of sustainable land and water management practices, especially in crop and grazing lands, with the aim of improving local livelihoods and ecosystem services while addressing the importance of all three dimensions of sustainable development from local to global scales:

Environmental

(a) **Biodiversity:** Grasslands and agricultural lands support a wide variety of plant and animal species. Preserving these ecosystems helps maintain biodiversity, which is essential for ecosystem resilience and function;

(b) **Carbon Sequestration:** Grasslands are significant carbon sinks. They store carbon in their biomass and soil, which helps mitigate climate change by reducing the amount of CO₂ in the atmosphere;

(c) **Soil Health:** These lands contribute to soil conservation and the capacity of soil to function as a vital living ecosystem. Practices like crop rotation and cover cropping in agricultural systems improve soil fertility and structure, reducing erosion and degradation;

(d) **Water Regulation:** Grasslands and agricultural lands play a critical role in the hydrological cycle, aiding in groundwater recharge and maintaining the quality and availability of water resources;

Social

(e) **Food Security:** Agricultural lands are vital for food production. They provide the crops and livestock that form the basis of the **global** food supply, which is essential for nourishing the growing human population;

(f) **Livelihoods:** Millions of people around the world depend on agriculture for their livelihoods. This includes farmers, herders, and those involved in the processing and distribution of agricultural products;

(g) **Cultural Heritage:** Many communities have cultural practices and traditions linked to farming and pastoral activities. Grasslands and agricultural lands are integral to the social fabric of these communities;

¹ Agrifood systems (AFS) encompass the entire range of actors, and their interlinked value-adding activities, engaged in the primary production of food and non-food agricultural products, as well as in storage, aggregation, post-harvest handling, transportation, processing, distribution, marketing, disposal and consumption of all food products, including those of non-agricultural origin. From: <https://openknowledge.fao.org/server/api/core/bitstreams/1e97bddc-0568-46cc-b10f-4cf573414cdb/content>.

² <https://www.rural21.com/english/a-closer-look-at/detail/article/transforming-agricultural-and-food-systems-why-and-how.html>.

Economic

(h) **Employment:** The agricultural sector is a major employer, particularly in developing countries. It provides jobs and income for a significant portion of the global population;

(i) **Economic Development:** Agriculture contributes to the economic development of nations. It is often a primary source of income and export revenue, driving economic growth and development;

(j) **Supply Chain Support:** Agricultural production supports numerous industries, including food processing, transportation and retail. These interlinked sectors contribute to the overall economy;

(k) **Migration:** Sustaining farmers and herders in **their** lands is instrumental to prevent forced migrations due to lack of economic opportunities in the agricultural spheres;

Sustainable Development

(l) **Sustainable Practices:** Promoting sustainable agricultural practices can lead to improved land use efficiency, reduced environmental impact, and enhanced resilience to climate change;

(m) **Resource Management:** Sustainable management of grasslands and agricultural lands ensures the long-term availability of essential resources such as water, soil and biodiversity;

(n) **Climate Change Mitigation:** Sustainable agricultural practices contribute to climate change mitigation through carbon sequestration, reduced greenhouse gas emissions and enhanced ecosystem services;

(o) **Resilience and Adaptation:** Properly managed agricultural and grassland systems enhance the resilience of communities to environmental shocks and stresses, such as droughts and floods.

A. Agrifood Systems

3. Avoiding, reducing and reversing land and soil degradation on agricultural lands can significantly reduce the pressure to convert non-agricultural lands to agriculture:

Avoiding Land Degradation

(a) **Improved Productivity:** Healthy, well-managed agricultural land is more productive. Practices such as crop rotation, conservation tillage and agroforestry enhance soil fertility and structure, leading to higher yields and reduction of yield instability. For example, conservation agriculture can increase crop yields by up to 20 to 30 per cent, reducing the need for additional land;

(b) **Water Use Efficiency:** Healthy soils with good organic matter retain water more effectively, reducing the need for irrigation and allowing crops to better withstand drought conditions. Improved water retention can lead to more stable and higher yields, reducing the need for expansion into new lands;

Reducing Land Degradation

(c) **Sustainable Practices:** Implementing sustainable farming practices such as integrated pest management, organic farming and permaculture can reduce the degradation rate. These methods not only preserve soil health but also enhance biodiversity, leading to more resilient agricultural systems that can sustain higher productivity levels;

(d) **Soil Conservation:** Practices such as terracing, contour ploughing, no-till farming, and the use of cover crops reduce soil erosion and nutrient loss, maintaining the productivity of existing agricultural lands. For example, cover cropping can reduce soil

erosion by up to 80 per cent and increase soil organic matter, leading to higher long-term productivity;

Reversing Land Degradation

(e) **Restoration Techniques:** Rehabilitating degraded lands improves their productivity, making them once again viable for agriculture, and reducing the need to clear new lands. Agroforestry, for instance, can increase crop yields by 50 to 100 per cent while improving soil health;

(f) **Reclamation of Degraded Lands:** Programmes aimed at reclaiming degraded lands, such as China's Grain for Green Project, have shown that it is possible to restore productivity to previously degraded lands. This reduces the need to convert forests or other natural habitats into agricultural land.

4. Some of the economic and environmental benefits include:

(a) **Reduced Deforestation:** By improving the productivity of existing agricultural lands, the need to clear forests for new agricultural land is reduced. This helps preserve biodiversity and carbon stocks in forest ecosystems, which is crucial for climate change mitigation. For example, avoiding deforestation can prevent the release of significant amounts of carbon dioxide stored in forest biomass;

(b) **Economic Viability:** Healthier soils lead to more reliable and higher yields, which can improve the economic viability of farming without the need to expand into non-agricultural areas. This stability helps ensure food security and sustainable livelihoods for farmers;

Case Studies and Data

(c) **Brazil:** In Brazil, the adoption of no-till farming has increased soil organic matter, improved water retention, and reduced the need for new agricultural land, helping to slow the deforestation of the Amazon rainforest;

(d) **India:** In India, sustainable land management practices have, in some cases, improved crop yields by up to 30 per cent on degraded lands, reducing the pressure to convert forested areas into agricultural land.

5. Some of the integrated approaches at the farm level include:

(a) **integrated plant nutrition systems** that place greater emphasis on biological processes and recycling for the supply of nutrients, thereby avoiding waste and minimizing nutrient losses that may otherwise pollute water resources;

(b) **integrated pest management systems** that are effective in controlling crop and livestock losses while minimizing the use of expensive and potentially hazardous chemicals;

(c) **integrated grazing systems**, particularly for common property grazing lands, to promote efficient forage and livestock production consistent with sustainability;

Crop Selection

(d) **Resilient Crops:**

(i) **Drought-Resistant Varieties:** Planting drought-resistant crop varieties can significantly enhance resilience to water scarcity. For example, drought-resistant maize varieties can yield more in water-limited conditions compared to traditional varieties;

(ii) **Native Species:** Utilizing native or locally adapted species can improve soil health and resilience as these species are more suited to local climatic and soil conditions;

(e) **Biodiversity and Resilience:**

(i) **Polycultures and Crop Rotations:** Growing multiple crops together or rotating crops improves soil health, reduces pest and disease pressures, and enhances system resilience. For example, crop rotation can reduce pest infestation by up to 50 per cent and increase yields by 10 to 15 per cent. Increasing the number of crop types available to farmers increases their ability to grow crops suited to their soil and climate in a sustainable and productive way;

(ii) **Agroforestry:** Integrating trees with crops and livestock can improve biodiversity, enhance soil fertility, and provide additional income sources. Agroforestry systems can increase biodiversity by 20 to 30 per cent and provide up to 25 per cent higher yields compared to monocultures;

(f) **Economic Stability:**

Income Diversification: Diversifying crops provides farmers with multiple revenue streams, reducing economic risks associated with market or climate shocks. For instance, intercropping systems can increase farm income by 30 to 40 per cent compared to monocropping;

(g) **Improved nutrition**

More diverse and nutritious crops contribute directly to improved human nutrition. The value of diverse diets is widely understood;

(h) **Improved soil health**

Crops that are bred for their ability to improve soil health, in addition to other characteristics, can help ensure that the other benefits of crop diversification are sustained;

Sustainable Management Practices

(i) **Soil Health:**

(i) **Conservation Tillage:** Practices such as no-till or reduced-till farming help maintain soil structure, reduce erosion and improve water retention. Conservation tillage can reduce soil erosion by up to 90 per cent and increase water infiltration rates by 30 to 50 per cent;

(ii) **Organic Amendments:** Adding organic matter, such as compost or biochar, enhances soil fertility, water retention and microbial activity. For instance, biochar can increase soil carbon storage and improve soil moisture retention by up to 15 per cent;

(j) **Water Management:**

(i) **Efficient Irrigation:** Techniques such as drip irrigation and rainwater harvesting optimize water use, reducing wastage and enhancing drought resilience. Drip irrigation can improve water use efficiency by up to 40 to 50 per cent compared to conventional irrigation methods;

(ii) **Mulching:** Using organic mulches conserves soil moisture, reduces evaporation, and improves soil organic matter. Mulching can reduce soil temperature by up to 5°C and evaporation rates by up to 30 per cent;

Case Studies and Data

(k) **Regenerative Agriculture:**

Australia: Regenerative agricultural practices in Australia have shown that holistic management can improve soil health, increase biodiversity, and enhance farm profitability. For example, regenerative practices have improved water retention by 25 to 30 per cent in some cases, and increased soil organic carbon levels by 20 to 30 per cent;

(l) **Integrated Land Management:**

Ethiopia: Integrated watershed management in Ethiopia has led to the restoration of degraded lands, improved water availability and increased **agricultural** productivity. These practices have reduced soil erosion by 40 to 50 per cent and increased crop yields by 20 to 25 per cent.

6. Ministries responsible for agriculture have a critical role to play in the conversation about preventing land degradation and increasing land restoration. Agriculture must be part of the solution to the current crisis rather than solely a cause of land and soil degradation. A focus on agrifood systems, including crop diversity and the application of an integrated, systemic and holistic approach to agricultural land and soil management, can help to achieve land degradation neutrality and increase drought resilience.

7. In support of the objectives of the United Nations Food Systems Summit 2021, the United Nations Convention to Combat Desertification (UNCCD) produced a series of action guides on the key land and water management considerations related to agrifood system transformation. They introduce agroecological approaches and regenerative practices that are proven to be effective, and which can be adapted to diverse settings.³ During the Summit, governments committed to accelerating and deepening food system transformation to better align national policy and action with the 2030 Agenda for Sustainable Development. Subsequently, agricultural ministers issued a communiqué at the 2022 Global Forum for Food and Agriculture in Berlin which:

(a) Recognized that desertification/land degradation, and drought represent massive threats to global food security, nutrition, and sustainable food systems worldwide;

(b) Stressed that healthy soils are key to the production of sufficient nutritious and safe food, adaptation to and mitigation of climate change, and the halting and reversal of biodiversity loss; and

(c) Emphasized that secure access to agricultural land through ownership, use rights and other forms of legitimate tenure is of great importance for local and global food security.

8. Given that agrifood systems contribute to around a third of greenhouse gas emissions, transforming the way we produce, distribute and consume has excellent potential for positive climate action. Nitrous oxides from fertilizer use and methane from ruminant livestock form the largest and most potent share of agricultural emissions. Deforestation and the draining and burning of peatlands for food and commodity production generate the bulk of carbon emissions associated with land use change. Intensive tillage and subsequent soil erosion over centuries have released large amounts of carbon dioxide into the atmosphere.⁴

9. Healthy soils are essential for achieving climate neutrality, a clean and circular economy, and combatting desertification/land degradation and drought. They are also essential to reverse biodiversity loss, provide healthy food, and safeguard human health. Soil health is considered a key objective as countries consider pathways to develop sustainable agrifood systems. In some parts of the world, soils are being depleted of nutrients 10 to 100 times faster than they are being replenished, leading to reduced crop and livestock productivity.

10. Food and land-based commodity production systems that utilize a diversity of crops, animals and native biodiversity can mimic natural regenerative processes that increase productivity, resilience and carbon storage. The overreliance on a few staple crops leads to systemic vulnerability, especially as drought and extreme weather increasingly lead to crop failures and reduced yields. Traditional crop and livestock varieties suffer from a lack of attention in policymaking and investment in research, which are required for their production and ability to compete in commercial markets. Many of these varieties are highly nutritious and adaptable to changing local conditions.

³ <https://www.unccd.int/news-stories/stories/unccd-un-food-systems-summit>.

⁴ <https://www.unccd.int/resources/global-land-outlook/glo2>.

B. Grasslands and Rangelands

11. Rangelands are complex social-ecological systems with critical values, processes, goods and services. They are diverse, multifunctional and encompass a wide variety of ecosystems, such as drylands, grasslands and savannahs which have co-evolved with human communities over millennia. They are generally characterized by low and/or erratic precipitation, poor drainage, rough topography and often fragile soils. Rangelands cover 80 million square kilometres, over 54 per cent of the terrestrial surface, constituting the largest land cover/land use type in the world. Of these rangelands, 78 per cent or 62 million square kilometres are situated in the drylands, mainly at tropical and temperate latitudes. They are home to two billion mostly small-scale farmers and pastoralists, support 44 per cent of the world's cultivated land and produce 50 per cent of the world's livestock.

12. Rangelands provide high-quality, animal-sourced proteins that directly contribute to nutrition and health and close the calorie deficit gap for many poor communities that depend on livestock products. In addition to meat, dairy, fibre and other animal products, rangelands and their biodiversity provide regulating and supporting services in multiple fields, including nutrient/water cycling, carbon sequestration, and animal/human health. Pastoralism and extensive livestock production systems, based on grazing, browsing and pasture management, are often seen as the only sustainable type of land use in many rangelands. However, sustainable rangeland management plays a critical role in the health of these ecosystems by managing grazing, maintaining mobility over different seasons, and making use of stochastically distributed resources and water distribution over vast landscapes. Pastoralism remains the most effective way of transferring food, energy and nutrients from many rangeland landscapes into edible products for humans. Therefore, implementing rangeland management has considerable potential to increase rangeland productivity, enhance global food security and reduce poverty.

13. The main threat to many grasslands and rangelands (and their communities) is the conversion to land uses other than grazing, such as cropping, mining, energy, housing and recreation. Increased human pressures and climatic stressors are forcing millions of traditional rangeland users to cope with livestock production losses, water and forage scarcity, natural resource conflicts, forced sedentarization or displacement, and continued poverty. Policy neglect, poor governance, weak institutions, land tenure and the lack of investment in sustainable rangeland management can lead to encroachment, degradation and conversion as in the case of large-scale projects involving afforestation and irrigation schemes, mining and renewable energy installations.

14. Greater political attention and informed investments are urgently needed to safeguard and improve the health and productivity of rangelands and their inhabitants. The Global Land Outlook Thematic Report on Rangelands and Pastoralists⁵ offers insights and guidance on policy and operational frameworks, and other enabling factors to attract greater attention to and investments in sustainable rangeland management projects and programmes. Illustrated with case studies and good practices from around the world, it highlights the critical role of pastoralist communities in the planning and implementation of rangeland initiatives that deliver benefits in all three dimensions of sustainable development:

Sustainability Framework

15. National and sub-national authorities can design and implement legal and operational frameworks that align rangeland management and pastoralist livelihoods with the Sustainable Development Goals, fully considering the environmental, social and economic dimensions, and support efforts to:

(a) Endorse and enact national laws and regulations that are aligned with international treaties, obligations and commitments that support the diversity, resilience, and multiple values of extensive livestock systems and rangeland ecosystem services;

(b) Recognize and enforce legitimate land rights, respect the unique circumstances and needs of rangeland communities (e.g., mobility, transhumance, communal governance),

⁵ <https://www.unccd.int/resources/global-land-outlook/glo-rangelands-report>.

and nurture their participatory role in the conservation, sustainable management, and restoration of rangelands; and

(c) Facilitate multistakeholder platforms and networks for research and learning, knowledge co-creation and exchange, and monitoring and evaluation – and create accessible databases and repositories that collect and disseminate information on rangelands and pastoralist systems.

Environmental Dimension

16. National and sub-national authorities can take measures to support the ecological integrity, connectivity and functioning of rangelands through conservation, sustainable use and restoration activities that safeguard and enhance the multiple benefits they provide to societies and economies, and support efforts to:

(a) Reduce and avoid rangeland conversion resulting from inappropriate land uses (e.g., crop monocultures, tree plantations, afforestation) that diminish the diversity and multifunctionality of rangelands, especially on Indigenous, pastoral and communal lands;

(b) Adopt and support pastoralism-based strategies that directly address the natural and human-induced drivers of rangeland degradation, such as biodiversity loss, climate change, overgrazing, soil erosion, invasive species, drought and wildfires;

(c) Design and implement nature conservation measures that reduce and halt biodiversity loss (above and below ground) by harnessing synergies with pastoralist practices and extensive livestock production systems that boost rangeland health, productivity and resilience; and

(d) Integrate climate change mitigation and adaptation measures into sustainable rangeland management plans and programmes (or vice versa) to increase carbon sequestration and storage while enhancing the adaptive capacity of rangelands and their communities.

Social Dimension

17. National and sub-national authorities can take measures to build social capital in rangeland communities through participatory governance and adaptive management approaches that promote gender equality, social cohesion, and trusted institutions to foster collective action, and support efforts to:

(a) Provide capacity-building, skills training and technical support to build the human and social capital needed for collective action that safeguards rangeland health and livelihoods, with particular attention to mobility, gender-responsiveness and social inclusion;

(b) Promote rangeland and pastoralist associations and networks that celebrate and defend their cultural heritage and values, increase connectivity and social services, and ensure the provision of human resources and expertise needed for responsible and inclusive rangeland governance;

(c) Facilitate women-led, women-driven and women-only initiatives, groups, and institutions (along with mixed gender ones) to ensure that women's voices are heard and respected, and to activate their contribution to all dimensions of sustainable development in the rangelands; and

(d) Establish trusted institutions and mechanisms to manage wildlife and resource conflicts, resolve territorial and land tenure disputes, reduce inequalities in access and benefit sharing, negotiate trade-offs and leverage synergies for the benefit of rangelands, their communities and society at large.

Economic Dimension

18. National and sub-national authorities can take measures to support the economic viability of extensive livestock production and the livelihoods they support through flexible long-term investments and incentives, including context-appropriate strategies and

programmes that link markets and value chains to sustainable rangeland production systems, and support efforts to:

(a) Create innovative economic and financial mechanisms that are accessible to rangeland stakeholders, incentivize good management practices, provide decent work, stimulate market participation, and increase investments in sustainable pastoralism from public and private sources while avoiding adverse consequences for rangeland communities;

(b) Develop market and value chain strategies and action plans that support economic livelihoods and income diversification, and expand innovative and profitable opportunities for rangeland communities engaged in extensive livestock production;

(c) Promote adaptive investment and risk management tools, such as livestock and drought insurance, resource pooling and sharing, and community credit schemes, to better manage risks and uncertainties in a creative but economically sound manner; and

(d) Conduct economic valuations of rangeland ecosystem services to better understand their contribution to people, nature and climate, help inform rangeland policies, planning and programmes, and attract donor funds, private sector investments and public sector allocations for sustainable rangeland management and restoration.

19. The degradation and conversion of grasslands and rangelands attracts little public attention. The Food and Agriculture Organization of the United Nations (FAO) estimates that up to 35 per cent of grasslands are at risk of degradation, with other rangelands showing significant risk at 26 to 27 per cent.⁶ Pastoralist livelihoods and cultures around the world are under threat from shortsighted policies, weak governance and economic incentives that undermine their production systems. Many are traditional communities of extensive livestock farmers, herders, and ranchers – whether Indigenous or otherwise – whose way and quality of life is closely linked to the health and productivity of rangelands.

20. Up to 500 million people across the world practise this form of animal husbandry. These people are considered stewards of these extensive landscapes. Yet, in many regions, they have little recourse to address the conversion, fragmentation and degradation of grasslands and rangelands. Often marginalized or considered outsiders, they are unable to influence the policies and programmes that directly impact on their food security, livelihoods and cultural identity. They are voiceless and powerless and often represent a small minority in the political and administrative machinery that governs development and investment decisions in the rangelands.⁷ They are underrepresented in local to global policy processes with women, in particular, at high risk of alienation, rights violations, and suffering the adverse impacts of land degradation, forcibly leading them further into poverty.

II. Relevance to the Implementation of the Convention

21. Both emerging issues – agrifood systems and grasslands/rangelands – are highly relevant to the implementation of the Convention, explicitly pertaining to land governance, land use planning and land and water management practices. The objective of the Convention is to assist Parties with the implementation of “*long-term integrated strategies that focus simultaneously, in affected areas, on improved productivity of land, and the rehabilitation, conservation and sustainable management of land and water resources, leading to improved living conditions,*”⁸ which, at its most basic level, includes increased food and nutritional security and socioeconomic opportunities for rural communities.

⁶ Food and Agriculture Organization of the United Nations, 2022. “The State of the World’s Land and Water Resources for Food and Agriculture 2021 – Systems at breaking point”: <https://doi.org/10.4060/cb9910en>.

⁷ <https://www.unccd.int/resources/global-land-outlook/glo-rangelands-report>.

⁸ Article 2, para 2, of the Convention: <https://www.unccd.int/resource/convention-text>.

A. Agrifood Systems

22. Regenerative agriculture and other sustainable land and water management practices can help translate the objectives of the Convention into local and landscape actions that meaningfully engage all relevant stakeholders. Regenerative agriculture is an umbrella approach that has been defined as a collection of agroecological principles and practices that can be applied to virtually all land-based commodity production landscapes (e.g., crops, livestock, fibre, raw materials). The underlying commonalities of these practices focus on regenerating soil health, improving input and water resource use efficiencies, conserving biodiversity above and below ground, sequestering carbon, and reducing greenhouse gas emissions while simultaneously enhancing food security, creating new employment and entrepreneurial opportunities, and safeguarding farm and rural livelihoods.

23. Many land degradation neutrality (LDN) commitments focus on increasing the amount of healthy and nutritious food produced from sustainable agroecosystems. As of 2020, an analysis of national LDN targets identified a total of 842 response actions adopted by 86 countries, including 25 categories of actions specifically aimed at transforming agrifood systems through more responsible governance, building resilient agroecosystems, and improving the management of demand-side drivers, supply chains, and risk.⁹ These measures could help build resilience and mitigate the impacts of future crises by leveraging synergies with the other Rio conventions, in particular Target 10 of the Global Biodiversity Framework and commitments made under the Paris Agreement.

B. Grasslands and Rangelands

24. Decision 22/COP.15 requested the Global Mechanism (GM) to continue supporting the development of new initiatives, subject to the availability of resources, for the sustainable management and restoration of all degraded lands, such as peatlands, grasslands and savannahs, to safeguard these threatened ecosystems, and to ensure food and freshwater security for people in vulnerable situations. The conservation of biodiversity within grasslands and rangelands, encompassing diverse plant and animal species, contributes to ecosystem resilience and adaptability. These expansive landscapes also function as critical carbon sinks, sequestering atmospheric carbon dioxide and mitigating climate change impacts. Recognizing the inherent value and significance of grasslands and rangelands is vital for effective environmental stewardship and the pursuit of the Sustainable Development Goals.

III. Conclusions and Recommendations

25. **Any new decisions or requests to the secretariat and the GM would first need to consider the staffing and financial resources required for their effective implementation. As there is significant overlap and interlinkage between agrifood systems and grasslands and rangelands, the COP may wish to consider both issues together.**

A. Agrifood Systems

26. **The FAO defines a sustainable agrifood system as “one that delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generation is not compromised. This means that it is profitable throughout, ensuring economic sustainability, it has broad-based benefits for society, securing social sustainability, and that it has a positive or neutral impact on the natural resource environment, safeguarding the sustainability of the environment”.**

⁹ <https://www.unccd.int/resources/publications/land-degradation-neutrality-sustainable-agriculture-food-security>.

27. Globally, governments, communities and businesses are working to protect and restore land and increase drought resilience while striving to increase food production and nutritional values. The UNCCD has a critical role to play in collecting, developing, and highlighting scientific best practices, and contributing to policy and implementation framework development, and funding and investment pathways to guide agrifood system development in a way that increases soil health, reduces water scarcity, ensures the supply of nutritious food, and makes land use systems more resilient to climate change.

28. Sustainable land management practices such as regenerative agriculture, whether traditional or developed through consultations with scientists and technical experts, could play a key role in laying the groundwork for increased investment by national governments, development agencies and the private sector to help avoid, reduce and reverse land degradation. Accordingly, the COP may wish to consider future work to strengthen the science, and reorient policy and investment frameworks to accelerate the development of ecologically sustainable agrifood systems in the context of the Convention, such as:

(a) **Strengthening the Science:** In addition to compiling evidence-based best practices, the Committee on Science and Technology could explore and propose new land degradation indicators and monitoring protocols that more accurately reflect biophysical changes in crop and grazing lands, especially those related to soil health, water availability and land productivity;

(b) **Policy Frameworks:** A new policy advocacy framework could be established to reinforce existing political commitments to agrifood system transformation and provide Parties with guidance and action pathways with which to begin transitioning land governance, policy and implementation frameworks that support the development of sustainable food and land-based commodity production systems;

(c) **Resource Mobilization:** The GM could be requested to explore ways and means of integrating regenerative approaches and practices into national funding priorities as well as LDN project proposals and investment frameworks, recognizing that the incentives and funding criteria for the public and private sectors may differ, and that innovative financing is needed to support and de-risk the transition to regenerative agriculture.

B. Grasslands and Rangelands

29. The UNCCD has a critical role to play in conserving, sustainably managing and restoring grasslands and rangelands which act as natural buffers – preventing soil erosion and promoting soil health through the extensive root systems of grasses – thus serving as a frontline defence against land degradation. Grasslands and rangelands also hold profound cultural importance, forming the backdrop for diverse societies and Indigenous communities worldwide. Nomadic pastoralist communities, reliant on these vast expanses for sustenance and livelihoods, foster a deep and symbiotic relationship with the land. Extensive livestock management and animal husbandry are intrinsic to the ecological, social, economic and cultural identities in these communities, which in turn can contribute to sustainable land management.

30. The International Year of Rangelands and Pastoralists (IYRP) has been designated by the United Nations General Assembly (UNGA) for the year 2026, and invites “*all Member States, organizations of the United Nations system, other international and regional organizations and other relevant stakeholders, including civil society, the private sector and academia, to observe the International Year, as appropriate, through activities aimed at raising awareness and the visibility of and directing attention to the relevance of the sustainable management of rangelands and pastoralism and its contribution to achieving sustainable development*”.

31. The UNGA designation of IYRP 2026 also calls on Member States to “*further build the capacity of and continue or increase responsible investment in the pastoral livestock sector, including for sustainable land management practices, improved and/or restored ecosystems, balanced access to markets, livestock health and breeding, and enhanced livestock extension services, in order to improve productivity, contribute to the reduction of greenhouse gas emissions, increase adaptive capacity, and maintain and enhance biodiversity*”.

32. In anticipation of the IYRP in 2026, the COP could reaffirm its commitment and pledge to scale up sustainable rangeland management and restoration activities by strengthening the science, and reorienting policy, governance and investment frameworks to support pastoral and other rangeland communities. Accordingly, the COP may wish to consider future work on grasslands and rangelands in the context of the Convention, such as:

(a) **Strengthening the Science:** The Committee on Science and Technology could validate the data and scientific evidence which proposes: (i) developing evidence on the multifunctional values of rangelands and grasslands that contribute directly and indirectly to social and economic development; (ii) that the conversion to rainfed or irrigated crop production has often proven to be unsustainable as soils become compacted and degraded by erosion and salinity, and groundwater resources become depleted; and (iii) that grassland and rangeland afforestation schemes, especially in arid and semi-arid ecosystems, sequester little additional carbon while degrading valuable biodiversity and ecosystem services;

(b) **Policy Frameworks:** A new policy advocacy framework could be established based on Parties’ commitments to endorse and enact national laws and regulations, aligned with existing international treaties, obligations and commitments, that support the diversity, resilience and multiple values of extensive livestock systems and grassland/rangeland ecosystem services, and specifically recognize and enforce legitimate land rights that respect the unique circumstances and needs of these communities (e.g., mobility, transhumance, communal governance), and nurture their participatory role in the conservation, sustainable management, and restoration of grasslands and rangelands;

(c) **Resource Mobilization:** The GM could be requested to identify new funding mechanisms, innovative economic and financial instruments, and risk management tools to: (i) help scale up sustainable rangeland management, recognizing that these should be accessible to relevant stakeholders, especially local communities; (ii) incentivize integrated land and water management practices; (iii) provide decent work and create entrepreneurial opportunities; (iv) stimulate participation in market and sustainable value chain development; (v) and increase investments in pastoralism from public and private sources while avoiding adverse socioeconomic consequences for grassland and rangeland communities.

Annex I

[English only]

Inclusion of grassland and rangeland issues in UNCCD COP 16 agenda

Submission from Botswana

OLD LOBATSE ROAD, PLOT 1272
 LOAPI HOUSE, 1ST FLOOR
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REPUBLIC OF BOTSWANA

MINISTRY OF ENVIRONMENT AND TOURISM
 DEPARTMENT OF FORESTRY
 AND RANGE RESOURCES
 PRIVATE BAG 00424
 GABORONE
 BOTSWANA
 28 February 2024

REFERENCE: DFRR 1/7/4 VII (52)

ALL CORRESPONDENCE MUST BE ADDRESSED TO THE DIRECTOR

United Nations Convention to Combat Desertification
 Platz der Vereinten Nationen 1
 D-53113 Bonn, Germany
secretariat@unccd.int

Dear Executive Secretary,

**INCLUSION OF GRASSLAND AND RANGELAND ISSUES IN UNCCD COP16
 AGENDA**

I am reaching out to you in anticipation of the agenda finalization for the upcoming COP16 in line with rule 10-c of the rules of procedures. My purpose is to request the inclusion of grassland and rangeland issues as a key agenda item at an appropriate point during the conference.

Grasslands and rangelands assume a pivotal role in addressing the interconnected challenges of land degradation, biodiversity loss, and climate change. These ecosystems act as natural buffers, preventing soil erosion and promoting soil health through the root systems of grasses, thus serving as a frontline defence against land degradation. The biodiversity within grasslands and rangelands, encompassing diverse plant and animal species, contributes to ecosystem resilience and adaptability. Moreover, these expansive landscapes function as critical carbon sinks, sequestering atmospheric carbon dioxide and mitigating climate change impacts. Recognizing their inherent value and significance is paramount for effective environmental stewardship and the pursuit of sustainable development goals.

I am also of the view that grassland and rangeland ecosystems hold profound cultural importance, forming the backdrop for diverse societies and indigenous communities worldwide. Nomadic pastoralist communities, reliant on these vast expanses for sustenance and livelihoods, foster a deep and symbiotic relationship between humans and the land. In addition, livestock management and animal husbandry are intrinsic to these cultural practices, contributing to sustainable land use. Preserving the cultural significance of grasslands and rangelands is not only crucial for conservation but also for fostering a rich tapestry of human connections to the natural world.

I am eager to hear your thoughts and feedback on how we can collaboratively ensure the inclusion of grassland and rangeland issues in the UNCCD policy agenda at the upcoming COP16. This effort aligns not only with the overarching goals of the UNCCD, but also with the imperative to anticipate and prepare for the International Year of Pastoralists and Rangelands in 2026. It is our great hope that we can be in the position to translate policy into action by the time we convene in Mongolia.

Thank you for your attention to this request, and I look forward to our collective efforts in advancing sustainable rangeland management.

Yours faithfully



Baitshedi Edith Hill
Director, Forestry and Range Resources
NFP Botswana

Annex II

[English only]

Inclusion of innovation and technology in ecologically sustainable agrifood systems in the UNCCD COP 16 agenda

Submission from the United States of America



United States Department of State

Washington, D.C. 20520

7 May 2024

**INCLUSION OF INNOVATION AND TECHNOLOGY IN
ECOLOGICALLY SUSTAINABLE AGRIFOOD SYSTEMS IN THE
UNCCD COP16 AGENDA**

Dear Executive Secretary Thiaw,

I am writing to request the inclusion of “Innovation and Technology in Ecologically Sustainable Agrifood Systems” as an item on the official agenda for the United Nations Convention to Combat Desertification (UNCCD) 16th Conference of Parties in Riyadh, Saudi Arabia and consider referring it to the Committee for Science and Technology (CST) for further consideration.

Globally, governments are protecting and restoring land, increasing resilience to drought, all while trying to increase food production and nutritional value. Doing so in a way that prevents degradation of environmentally precarious land and builds soil health is complex. UNCCD has a critical role to play in collecting, developing, and highlighting scientific best practices to help guide agrifood system development in a way that will increase soil health, adapt to land that has unpredictable moisture, and restore lands in a way that will make them more resilient to degradation and climate change. These practices, developed through consultations with the appropriate scientists and technical experts, could play a key role in laying the groundwork for investment by national governments, development agencies and the private sector that would help avoid, reduce, and reverse land degradation. The CST might also wish to discuss land degradation indicators that reflect changes in agricultural land, such as soil health, that could be useful in helping the UNCCD contribute to the development of ecologically sustainable agrifood systems, while at the same time conserving and protecting biodiversity as set out in the Global Biodiversity Framework (GBF).

Thank you for your attention to this request. I look forward to its consideration by the COP Bureau.

Sincerely,

A handwritten signature in cursive script that reads "Patrick K. Reilly".

Patrick Reilly
National Focal Point
United States of America