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Background Note

Session 7

Nature-based solutions in Europe and Central Asia – Regional Priority 3

Regional Priority 3 promotes sustainable natural resource management and facilitates resilience in agriculture, forestry and other land-use sectors, including the mitigation of and adaptation to climate change, in order to support countries in achieving the Sustainable Development Goals.¹ A key instrument supporting this priority and the greening of agriculture in Europe and Central Asia is nature-based solutions (NbS). This discussion could contribute to working hand-in-hand with nature through the better management and restoration of the agroecosystems that are the basis for agrifood systems.

I. Introduction

Nature-based solutions are defined as actions to protect, sustainably manage and restore natural or modified ecosystems and that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits.^{2,3}

NbS have been recognized greatly for their role in biodiversity preservation and climate change mitigation. For example, nature climate solutions (NCS), a subset of NbS, can provide up to 37 percent of the emission reductions needed by 2030 to maintain global warming within 2°C.⁴ In agriculture, NbS also supports soil health, soil moisture, pest and pesticide reduction, plant protection and water quality. NbS supports agricultural production and supply chains to achieve net-zero environmental impact while achieving food and water security and meeting climate goals.⁵

Therefore, nature-based solutions in agriculture can mimic natural processes relying on ecosystem functioning to face climate change, safeguard biodiversity and manage natural resources sustainably, with the final goal of ensuring food and livelihood security, healthier diets and more inclusive rural economies. Nature-based solutions are a fundamental part of action for climate and biodiversity, among others, in the agricultural sector.

The current threat posed to agrifood systems by climate change and the COVID-19 pandemic necessitates a paradigm shift through focusing on resilience to crises, which implies strengthening the foundations of agroecosystems: natural resources, biodiversity and local communities. NbS can be a critical component to increase the resilience of agrifood systems and resource-constrained communities. NbS has the potential to contribute towards the achievement of the SDGs, the Paris Agreement, and the

¹ See details on the regional priority in the report from the Thirty-second European Regional Conference at <http://www.fao.org/3/ne289en/ne289en.pdf>.

² **Iseman, T. and Miralles-Wilhelm, F.** 2021. *Nature-based solutions in agriculture – The case and pathway for adoption*. Virginia. FAO and The Nature Conservancy. <https://doi.org/10.4060/cb3141en>

³ **World Conservation Congress.** 2016. *Defining Nature-based Solutions*. WCC-2016-Res-069-EN. https://portals.iucn.org/library/sites/library/files/resrecfiles/WCC_2016_RES_069_EN.pdf

⁴ **Griscom, B.W., et al.** 2017. Natural climate solutions. *Proceedings of the National Academy of Sciences of the United States of America*, 114(44): 11645–11650. <https://doi.org/10.1073/pnas.1710465114>

⁵ **Miralles-Wilhelm, F.** 2021. *Nature-based solutions in agriculture – Sustainable management and conservation of land, water, and biodiversity*. Virginia. FAO and The Nature Conservancy. <https://doi.org/10.4060/cb3140en>

Convention on Biodiversity by supporting the delivery of ecosystem services that generate a variety of socio-economic and environmental co-benefits.

Furthermore, the NbS approach can support nature-positive production, which is embodied in the third action track (AT3) of the UN Food Systems Summit (FSS), which will be held later this year. Nature-positive production places a strong emphasis on addressing synergies and potential trade-offs in scaling agrifood production within the limits of the planetary boundaries.

II. Nature-based solutions in Europe and Central Asia

The countries in Europe and Central Asia are seriously exposed to weather extremes and warm temperatures, which are expected to cause significant losses in crop and animal production – with some areas geographically prone to severe flooding or droughts. At the same time, unsustainable farm practices put under pressure the efficient use of land (more than 50 percent of agricultural land in Central Asia is subject to varying degrees of degradation) and water resources – particularly in Central Asia, due to water scarcity, salinization and pesticide contamination. Land-use change is a major driver of biodiversity decline in Europe and Central Asia, caused in part by production-based subsidies that have led to unsustainable intensification of agricultural practices and food production.

There is a need for transformation to an agrifood system that can provide sustainable access to healthy food, that includes eco-friendly technology, and that is highly resilient to crises and other threats (such as climate change) in Europe and Central Asia. Nature-based solutions can play a key role in this regard, in line with the Food Systems Summit action track 3, which aims to optimize environmental resource use in food production, processing and distribution, thereby reducing biodiversity loss, pollution, water use, soil degradation and greenhouse gas emissions.

The implementation of NbS in Europe and Central Asia faces a lack of data and information, low knowledge and awareness of the financial and environmental benefits of the NbS approach, and limited research and extension services for capacity building and private sector support. Moreover, the adoption of these practices by farmers and private investors can be an obstacle due to the perceived risk, such as costs of implementation and uncertainty to change, though policy can help by shifting or minimizing perceived risk.

FAO's work on NbS implies technical inputs, quality information and public–private engagement to enhance the performance of policies and activities on the ground and reduce the perceived risks associated with NbS investments. This work supports national financing mobilization from existing public and private sources into NbS for climate, with a focus on forests. The potential contribution of NbS to the nationally determined contributions (NDCs)⁶ also is a promising field. FAO supports the Koronivia Joint Work on Agriculture (KJWA),⁷ through which the Organization has been supporting countries in implementing and enhancing the agricultural components of their nationally determined contributions, including analyses that have identified a substantial number of nature-based solutions within both mitigation and adaptation climate commitments.

III. Opportunities for nature-based solutions in Europe and Central Asia

⁶ **FAO.** 2018. Policy analysis of nationally determined contributions (NDC) in Europe and Central Asia. Budapest, 84 pp. (also available at <http://www.fao.org/policy-support/tools-and-publications/resources-details/en/c/1300333/>)

⁷ **FAO.** 2021. FAO & the Koronivia Joint Work on Agriculture. In: *Climate Change* [online]. <http://www.fao.org/climate-change/our-work/what-we-do/koronivia/en/>



The draft of the Post-2020 Global Biodiversity Framework⁸ is already aligned with NbS principles and showcases NbS as a tool for addressing societal challenges, including covering ecosystem-based approaches. As one of the main challenges to achieving sustainable agricultural production in our region is to reduce biodiversity loss, agriculture nature-based solutions (Ag-NbS) provide effective, long-term and cost-efficient approaches.

The European Union recognizes NbS in its support for the implementation of the European Green Deal. The biodiversity and farm to fork policy areas - in addition to the EU Adaptation Strategy - promote NbS as a way to foster biodiversity and support the delivery of a range of ecosystem services to make Europe more climate-resilient.

Nature-based solutions are an essential component of the overall global effort to achieve the goals of the Paris Agreement on Climate Change. They are a vital complement to decarbonization, reducing climate change risks and establishing climate-resilient societies. Moreover, they can contribute to the implementation of comprehensive climate strategies and NDCs through improving livelihoods and reducing inequality, securing food and water, improving resilience, and reducing disaster risk.⁹

NbS directly facilitate the conservation and restoration of ecosystems, contributing to the achievement of SDG 13, SDG 14 and SDG 15. However, they are designed to ensure not only environmental sustainability but also the social and economic dimension, thus addressing SDG 11 and SDG 12. In agrifood systems, NbS implies the promotion and implementation of practices, techniques and technology that preserves natural resources and biodiversity for food and livelihood security (SDG 2) and the provision of clean water and air (SDG 6). It recognises the value of traditional and local practices and dignifies the work of smallholder farmers, reducing inequalities along the agrifood system (SDG 5 and SDG 10) and poverty (SDG 1).

The multiple opportunities for NbS to contribute to the 2030 Agenda for Sustainable Development and the SDGs are particularly attractive to investor interest. Investing in NbS solutions implies investing in natural capital, with positive financial returns and environmental benefits for society. Forestry and land use, sustainable agriculture, and biodiversity and natural capital attract the most interest and expected future investment.¹⁰

IV. The work ahead

In the upcoming biennium, FAO will continue to work with members in a collective effort to address challenges related to climate change and agriculture production approaching NbS. This provides the opportunity to work hand-in-hand with nature through better management and restoration of the agroecosystems that are the basis for food systems.

Particularly, the work will focus on:

- Establishing regional technical networks to promote nature-based solutions for strengthening the sustainable use of natural resources in agriculture and forestry and conserving biodiversity in the context of a changing climate.

⁸ **United Nations Environment Programme.** 2020. *Convention on Biological Diversity*. Preparations for the post-2020 biodiversity framework. <https://www.cbd.int/doc/c/3064/749a/0f65ac7f9def86707f4eaeafa/post2020-prep-02-01-en.pdf>

⁹ **United Nations Global Compact.** 2021. Nature-Based Solutions to Address Climate Change. In: *Nature-Based Solutions* [online]. <https://www.unglobalcompact.org/take-action/events/climate-action-summit-2019/nature-based-solutions>

¹⁰ **Iseman, T. and Miralles-Wilhelm, F.** 2021. *Nature-based solutions in agriculture – The case and pathway for adoption*. Virginia. FAO and The Nature Conservancy. <https://doi.org/10.4060/cb3141enc>



- Supporting countries in the collection, identification and mapping of already existing traditional and local agricultural practices that represent examples of good practices built on nature observation supported by digital technologies (remote sensing, etc.).
- Conducting economic analyses of identified and applied NbS, assessing the cost-effectiveness of these actions, and promoting public and private sector natural capital investment.
- Bringing a scientific framework on NbS to be adapted and applied to degraded agroecosystems and to solve agricultural challenges.
- Providing a regional mechanism to improve the capacities of Member Countries regarding NbS and its contribution within mitigation and adaptation climate commitments like nationally determined contributions (NDC) and national adaptation plans (NAPs).

Guiding questions:

1. *Do nature-based solutions offer an opportunity to address food production issues and climate change in a sustainable manner?*
2. *Do you think that nature-based solutions can provide a win-win solution for not only nature protection but also for a green economic revival, delivering direct benefits to the people?*
3. *What are the main opportunities and challenges for NbS adoption in the ECA region?*
4. *What are the key SDGs demanding nature-based solutions, and how can trade-offs be managed?*