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Technical Expert Meetings on Mitigaiton : Session Plan

Organized as part of Technical Examination Process on Mitigation

Organizer: Food and Agriculture Organization of the United Nations (FAO)

Session IV : Nature based solutions to integrate energy and water aspects into the agri-food chain

Date	Time	Venue
21 June 2019	11:00-12:30	Room GENF The World Conference Center Bonn

This **session will focus on various Nature based solutions (NBS) that integrate energy and water aspects into the agri-food chain development.** Nature-Based Solutions (NBS) for food security constitute a new paradigm that uses or mimics ecosystem services to enhance land and water quality for agricultural production, while preserving the integrity of ecosystems. The Water-Energy-Food (WEF) approach in the context of NBS can significantly improve water quality and availability for sustainable agriculture and food production in line with SDGs 1, 2, 6, 13 and 15. WEF/ NBS can also help attain adaptation and mitigation co-benefit objectives of Nationally Determined Contributions (NDC).

The objective of the session is to highlight the integration of a Water-Energy-Food (WEF) approach in the context of NBS and the intrinsic interdependence and interaction between these various sectors. The NBS approach can lead to efficient and affordable agricultural water management strategies with climate change adaptation and mitigation co-benefits with a special focus on food security and family farming, horticultural development and evaporation reduction of open canals. Renewable energy can be an added value to the NBS equation.

Water scarcity is a serious constraint on economic and social development, which is in fierce competition between agriculture and fast growing urban settlements. The tension is likely to escalate in the near future under persistent demographic pressure that will require more food production. Meanwhile, rainfall conditions are expected to worsen under climate change. Moreover, the inherent link between energy and the water cycle and vice versa, the high dependency of water in conventional energy processes creates serious constraints due to the increase of energy prices and high water consumption rates by the energy sector. Renewable energy becomes less accessible for the agricultural sector and therefore food production.

Implementation of WEF/NBS requires a structured and comprehensive approach. It starts with the valuation of the services provided by the ecosystem and includes sustainable natural resources management taking into consideration the economic and ecological effects of widespread WEF/NBS policy interventions because the whole set of use and non-use values, in monetary terms, provides a factual basis to guide the implementation of WEF/NBS. This ideally should be done within a transdisciplinary framework, i.e. complemented with scientific and case-specific knowledge of the eco-system in an adaptive decision-making process that brings together the relevant stakeholders.

Due to the inherent complex nature and largeness of ecosystems, the impact of WEF/NBS implementation and interventions can only be assessed and analyzed at a system-wide level. As a rule, many stakeholders are involved, as owners, users or caretakers each with their own set of interests and values, which add more complixity. Reconciling these complex objectives and interests into a coherent set of principles and

procedures, is a challenging task. Simple market-based solutions such as partitioning of an ecosystem, attributing property rights and applying the polluter-pays-principle are often not sufficient for devising viable strategies.

This session will provide a platform to discuss the requirements for successful implementation of NBS to integrate energy and water aspects into agri-food chain, institutional challenges, and the potential of scale-up opportunities.

The 90-minute session will have expert interventions followed by a moderated roundtable discussion, which shall be structured as follows:

05'	Brief introduction of the NBS and speakers by the moderator • **Ms. Sasha Koo-Oshima,** Deputy Director, Land and Water Division, FAO
25'	**First round of the expert interventions on what have been done so far and lessons learnt** To set the scene for the session, the experts will be asked to address the below questions related to **learning from what works** and **where we are** regarding NBS/WEF: • What are the different policy options, technological innovations and best practices for a successful WEF/NBS implementation? • What can Parties and non-Party stakeholders learn from these policy options, technological innovations and best practices, including the enablers and challenges/barriers for a successful WEF/NBS implementation to result in emission reductions and adaptation and mitigation co-benefits? How can we leverage WEF/NBS to mitigation level? • How do NBS policy options and technology in WEF contribute to the development of the agri-food chain? **Possible expert contributors : (TBC)** • **Mr. Sonneveld (In-person participation)**, Deputy Director, Amsterdam Centre for World Food Studies/Athena Institute VU University Amsterdam • **Dr. Fergus Sinclair (Remote-online participation),** World Agroforestry Center, ICRAF, Nairobi, Kenya • **Mr.Francisco Pedrero Salcedo (Remote-online participation),** Mediterranean Youth for Water Network,
15 '	Interventions from other participants round the table, building up on the expert interventions and focusing on above-mentioned key guiding questions.
25'	**Second round of the expert interventions on what do we want and how do we get there** The second round of the expert interventions will discuss **what we want** to achieve in the WEF/ NBS approach in the short term and **how to get there by identitifying actions to be considered.** The experts will be asked to address the below questions: • How can we promote WEF/NBS as a sound practice with adaptation and mitigation co-benefits to climate change at national level? What role can it play in implementing the NDCs? • What are the specific financial, technology and capacity building resources necessary to upscale and replicate innovative WEF/NBS solutions?

	• What are the ways forward and necessary actions to be taken by Parties, non-Party stakeholders and organizations to meet identified financial, technological and capacity building needs for WEF/NBS including through regional mitigation initiatives/partnership? Possible expert contributors : • Ina Saumel of Humboldt Univ. Berlin (confirmed in person) : EdiCitNet EU Horizon 2020 project, • Ms. Andrea Erickson (Remote-online participation), The Nature Conservancy Nature Based Solutions (confirmed, possibly in person name to be provided) • Ms. Beatriz Ebil (Remote-online participation), Universidad Nacional de Misiones Argentina
15’	Interventions from other participants round the table, building up on the expert interventions and focusing on above-mentioned key guiding questions.
5’	Final summary/wrap-up by the moderator.