26 October 2018

Contribution of the Forest-Water Champions to the Talanoa Dialogue

CHAMPIONING THE FOREST-WATER NEXUS

This working group started as an initiative by FAO, IUCN and SIWI Swedish Water House to find common messages and understanding between the forestry and water sectors with respect to the water and forest nexus. Key forest and water stakeholders met at the 2017 World Water Week and discussions focused on interactions and consequences of forest-water interlinkages and a common statement was formulated: "Forests and water; managing our connected natural capital". This statement provides a common ground for the network to engage in international processes and it stresses the importance of the forest-water nexus for sustainable development, successful landscape restoration and climate change mitigation/adaptation. The network met for a second time at the 2018 World Water Week to discuss how to connect the forest-water nexus to the climate conversation.

This contribution wishes to draw attention to the remaining challenges related to the integration of the forest-water nexus in the climate change discourse and policy processes, and how to address them.

WHERE ARE WE AND WHERE DO WE WANT TO GO?

Forest-water relationships are complex and highly contextual and management decisions need to be based on science and understanding of local conditions. At the 2018 WWW Talanoa Dialogue meeting the working group concluded that:

- **Water is a tangible co-benefit from forests that should be addressed in climate discussions.** Water is not as visible as before in the climate agreement negotiation. It needs to be reintroduced and opportunities of managing the forest-water nexus for adaptation aspects as well as for mitigation should be better communicated. Water management needs to be included in national climate mitigation and adaptation plans. Linkages to climate change, mitigation and adaptation could be communicated better and "water resilience" could potentially be used as a concept to bridge the different sectors (forests, water, agriculture, climate). Overall, communicating/sharing examples of co-benefits between forests, water, climate and landscapes makes the issues more tangible for the audience.

- **Land degradation resulting from forest conversion also has links to water stress.** Forest and tree loss are severe; 2017 is described as the 2nd worst year for tropical tree loss on record. Forest and tree loss is often driven by land conversion which has been linked to land degradation and water stress in many countries. Many problems lie in the complexity of messages and diverse sectoral interests and needs, e.g. agriculture/forest are not aligned. A landscape approach is required, as it recognizes the interlinkages of different land-uses and natural resources and communities within a broader social-ecological system.

- **There are sufficient knowledge and examples, which need to be better communicated.** There is a general lack of awareness of the opportunities with managing the forest water-nexus for both adaptation and mitigation both in developed and developing countries. However, there is enough information on basic forest-water linkages to start aligning policy around them, even though they are contextual. There are examples of countries where climate policies are being aligned with

Nature Based Solutions (NBS) and ecosystems are increasingly managed for the purpose of water security.

- **There are existing initiatives that could be mobilized to achieve a nexus approach.** The FAO-led Forest and Water action plan adopted in 2015 has resulted in several activities needed to make informed management decisions and policy decision, such as the Forest and Water online monitoring tool, capacity building programmes in selected countries, promoting understanding of the water and forest nexus and interlinkages. The growing momentum of Forest and Landscape Restoration (FLR) could be leveraged to address the needs and objectives of different sectors. Trade-offs related to forest restoration has to be considered, e.g. the potential effects of demographic changes, growing cities and climate change on water management and food security needs. "The Global Framework on Water Scarcity in Agriculture "WASAG" focuses on agriculture and water demand; it does not address the supply of water. FAO hosts the secretariat, and an opportunity could be to create a working group on ecosystems, or the forest-water nexus, within the framework, to address water supply.

HOW DO WE GET THERE?

1. Managing for the forest-water nexus is integral to achieving the SDGs and should be acknowledged in the implementation of NDCs and other national commitments. We recommend review of NDCs for countries that acknowledge forest-water linkages and development of multiple-benefit case studies to visualize the complexity and identify messages that explain multiple benefits in a simple way.

2. A systems approach is called for, which addresses resilience, climate, mosaic landscapes, people (forests socio-economic systems) supported by integrated monitoring frameworks that include water in national forest monitoring systems and incorporate natural forests as sources of water supply.

3. There is a need to develop institutions and technical working groups that foster collaboration on forest-water management, such as source-to-sea institutions, that cover the whole management chain. This would link management of upstream forests and water towers with downstream agricultural and coastal ecosystems.

4. Strengthened communication, awareness raising and capacity building on the forest-water nexus should be an integral part of all the above.

Appendix: Forest-Water Champions Statement

Appendix: STATEMENT

Forests and Water: managing our connected natural capital

Sustainable development is dependent on the forest-water nexus.
To achieve SDG 15, water and food security should be at the heart of forest management and the restoration of multi-functional landscapes. Similarly, water management should incorporate appropriate forest management as a natural infrastructure solution to achieve SDG 6.

Landscape restoration and forest activities should extend priorities beyond the conventional forest product, biodiversity and carbon storage focus, and more centrally include water impacts and opportunities to better contribute to a range of the sustainable development goals.

Only by recognizing the interlinkages of forests and water, and how the management of these resources influences productive multi-functional landscapes can appropriate agricultural, environmental, and carbon-reducing actions be designed for long-term benefits.

There are trade-offs; understanding and managing for these are paramount.
The relationships between forests and water are complex and context-specific.

Research and knowledge exist that can help to prioritize how forests should be managed within our landscapes in symbiotic relationships with water-related ecosystem services, such as soil erosion control, flood reduction and groundwater recharge. The same research can help us to identify trade-offs where forests may be counter-productive to water needs.

There is general agreement on the physical processes that are influenced by forests that change the water cycle, but less agreement on the effects of their interactions, and their impacts.

One key challenge is the range of forest-water interactions, and how different processes and effects occur at different spatial and temporal scales. For example, forests may cause a net loss in downstream water availability in some river basins, but may contribute to precipitation in other river basins due to the recycling of evapotranspired[1] water. Effects and impacts may therefore require further understanding across a range of scales.

Changing the landscape changes water: forest and landscape restoration will affect water supply.
Where forest and landscape restoration activities are planned, care must be taken to ensure that any impacts on water under current and future climate predictions are taken into account. Equally, the length of time it takes for forests to restore landscape functions needs to be recognized, as hydrological processes in forests change over time.

We urge caution with generalized assumptions due to the highly contextual nature of forest-water relationships. What is true for one geography, altitude, forest type, management regime, scale and season, may not be true for another. More research and monitoring on forest-water interactions in multi-functional landscapes is therefore required, and should be a requirement of restoration and landscape initiatives.

To achieve the SDGs, the forest-water nexus needs to be included in management, supported in policies and effectively monitored[2].
Simply recognizing the forest-water nexus is not enough. We must improve our ability to design, implement, and learn from landscape approaches that both rely on the relationships between forests and water, and impact them.

[1] Evapotranspiration (ET) - evaporation from soil and plant surfaces and transpiration of water by plants.
[2] Although the connection between forests and water are acknowledged in SDG targets 6.6 and 15.1, there is currently no methodology to monitor how changes in the landscape, including forest loss and/or gain, relate to changes in water and vice-versa, and therefore no data to inform management and policy decisions.

This is necessary if we are to achieve the Sustainable Development Goals, including those related to hunger (SDG 2), poverty (SDG 1), water (SDG 6), climate (SDG 13), energy (SDG 7), economic growth (SDG 8), sustainable cities (SDG 11) and life on land (SDG 15); the Aichi targets on biodiversity; as well as store the carbon needed to achieve the temperature targets in the Paris Agreement.

This statement is the result of a meeting with forest and water experts co-organized by FAO, IUCN and SIWI with contributions from Elaine Springgay, FAO; James Dalton, IUCN; Lotta Samuelson, SIWI Swedish Water House; Angela Bernard, FAO; Alexander Buck, IUFRO; Jan Cassin, Forest Trends; Nathanial Matthews, Global Resilience Partnership; John Matthews, Alliance for Global Water Adaptation; Anna Tengberg, SIWI Swedish Water House; Jacob Bourgeois, First Climate Markets AG; Mike Acreman, IUCN; Ingrid Öborn, ICRAF; and James Reed, CIFOR.

Access this statement and the workshop report online at: www.siwi.org/publications/forest-water-nexus