

## Report: Forests form buffer against water crisis

*More than 50 scientists from 20 countries contributed to major assessment of forests-water-climate-people link*

**New York/Vienna (10 July 2018):** A global water crisis is looming on the horizon. In many places around the world it is at the doorstep rather than the horizon, exacerbated by a growing global population and accelerated climate change.

The solution may come, at least in part, from paying more attention to forests. The relationships among forests, water, climate and people are complex, go largely unrecognized and lead to the question: What can people do with, to, and for, forests to ensure a sustainable quality and quantity of water necessary to the health and wellbeing of both?

That question is addressed in a new and comprehensive scientific assessment report released today at the United Nations High-Level Political Forum (HLPF) on Sustainable Development in New York. The report underscores the importance of embracing the complexity and uncertainty of climate-forest-water-people linkages to prevent irrational decision-making with unintended consequence.

The publication, entitled “*Forest and Water on a Changing Planet: Vulnerability, Adaptation and Governance Opportunities. A Global Assessment Report*” has been prepared by the Global Forest Expert Panel (GFEP) on Forests and Water, an initiative of the Collaborative Partnership on Forests (CPF) led by the International Union of Forest Research Organizations (IUFRO).

“Governments and all stakeholders wanting to achieve the SDGs (the Sustainable Development Goals related to the 2030 Agenda for Sustainable Development) need to understand that water is central to attaining almost all of these goals, and forests are inseparably tied to water”, says Hiroto Mitsugi, Assistant Director-General, Forestry Department, FAO, and Chair of the Collaborative Partnership on Forests. “Policy and management responses must therefore tackle multiple water-related objectives across the range of SDGs, and take a multiple benefits approach.”

More than seven billion humans currently on this planet share it with approximately three trillion trees. Both humans and trees need water. Forests’ role in the water cycle is at least as important as their role in the carbon cycle in the face of climate change. In addition to being the lungs of the planet, they also act as kidneys. Thus, addressing forests-water-people-climate links wisely, comprehensively and expeditiously is crucial to our long-term wellbeing, if not survival.

“In our assessment, we focused on the following key questions: *Do forests matter? Who is responsible and what should be done? How can progress be made and measured?*” Panel co-chair Meine van Noordwijk, of ICRAF and Wageningen University, Netherlands, explains.

“Natural disturbances and human activities influence forest and water relations with their impacts, depending on their timing, magnitude, intensity and duration“, says Panel co-chair Irena Creed (University of



*Cloud forests in Rincón de la Vieja National Park in Costa Rica.  
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Saskatchewan, Canada). “Under a changing climate, these influencing factors vary more than ever, sometimes in unanticipated ways. Forest management for the future must therefore factor in uncertainty,” she concludes.

Unfortunately, water is rarely considered a priority in forest management. “Perhaps,” says Professor Creed “because the co-occurrence of forest and water is so common. But natural forests, in particular, contribute to the sustainable water supply for people in the face of growing risks. And it is also possible to actively manage forests for water resilience.” In the Hindu Kush – Himalaya region, for instance, various countries are successfully reviving dried up springs by paying more attention to water-sensitive land management.

The same lack of attention to the importance of forests and trees for water can be noted in international climate debates. “In view of the vital role water plays, even in facilitating the continuous sequestration of carbon in standing forests, a lack of understanding of landscape-scale effects amongst the forest and water science communities and policymakers is of increasing concern,” warns Professor van Noordwijk.

In areas of water scarcity, water should be at the center of discussions of forest-climate interactions because carbon-centered forest strategies will have important consequences on water resources. Numerous forestation projects, for example, have failed to consider adequately the water demands of newly introduced foliage, or to use species that are well-adapted to local conditions. In some cases, fast-growing species have been used without thinking about the relative impacts on the locally available water supply.

Forests can also disperse waters to relatively distant areas. Adding forest and vegetation cover, for example, to upwind coasts where moisture released in the air is likely to deliver water to drier inland areas represents one possible win-win strategy. Availability of waters in the Nile River basin, for instance, is potentially influenced by changes in the land use practice in the Tropic forest belt across the West African Rainforest and the Congo Basin. Consequently, managing forest-water interactions will require the engagement of forest managers, water users and other stakeholders across hydrologically connected landscapes.

Changes in forest-water relations will affect the quality and quantity of related ecosystem services such as the supply of water or forest products and will also have an impact on where, how and to whom these services will be available. Therefore, it is necessary to consider questions of distributional equity, fairness and justice in forest-water arrangements. Already marginalized and vulnerable communities should not be exposed to further risks.

As adaptive management strategies are developed, trade-offs may go beyond timber and water and also include, as an example, non-timber forest products. Poorer people throughout many parts of the world depend heavily on the direct use of non-timber forest products for their livelihoods. These are essential in the burgeoning discussion around ecosystem services and the safety net they provide for subsistence households must not be forgotten. These trade-offs will cause some conflicts.

The case of the Murray Darling basin, located in southeastern Australia, is one example of a continuous and still unresolved conflict over ecological water allocations. The basin covers over 1 million km<sup>2</sup> (14% of Australia’s landmass) and contains over 30,000 wetlands. However, the introduction of strict water allocation rules in response to threats to the basin’s capacity to cater to an increasing demand for water met with resistance from farmers depending on irrigation. Meanwhile, many areas of the floodplain forests of iconic Red Gums continue to decline. Conflicts between land and water users remain, and many forest, and former wetland, areas are consumed by bushfires that occur increasingly every year.

The report concludes that international governance can play a key role in optimizing climate-forest-water relations by creating norms such as the SDGs, by providing forums in which norms can be discussed, negotiated and agreed upon, and by providing opportunities for assessing progress. Similarly, new levels of collective action - especially across sectors and across spatial scales – as well as stronger participatory approaches are needed to shift policy goals away from more profit-oriented toward more sustainability-oriented strategies.

There is, the report says, a clear policy gap in climate-forest-water relations that is waiting to be filled.



Photo left: Riparian vegetation and landscape in Mongolia, a country where freshwater resources are scarce - © Alexander Buck

Photo right: Leaf area is an important measure for the water use of trees- © iStock: Keikona



Photo left: Spring in the temple forest of Dakshinkali, Nepal – © Dipak Gyawali

Photo right: Blue Nile falls in the Tis Abay, Ethiopia – © iStock: Joel Carillet

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**The report and policy brief are available electronically at:**

<https://www.iufro.org/science/gfep/forests-and-water-panel/report/>

The report will be launched at the **2018 High-Level Political Forum (HLPF) on Sustainable Development** in the course of the side event “Forests and Water on a Changing Planet: Scientific Insights for Building Sustainable and Resilient Societies”, held in New York on 10 July at 1.15-2.30 pm. The side event is hosted by the Permanent Mission of Austria to the UN and co-hosted by IUFRO.

<https://sustainabledevelopment.un.org/hlpf/2018>

The IUFRO-led **Global Forest Expert Panels (GFEP)** initiative of the **Collaborative Partnership on Forests (CPF)** established the Expert Panel on “Forests and Water” to provide policymakers with a stronger scientific basis for their decisions and policies related to forests and water, and to specifically inform relevant international policy processes and the discussions on the 2030 Agenda for Sustainable Development and related Sustainable Development Goals.

<https://www.iufro.org/science/gfep/forests-and-water-panel/>

The **International Union of Forest Research Organizations (IUFRO)** is the only world-wide organization devoted to forest research and related sciences. Its members are research institutions, universities, and individual scientists as well as decision-making authorities and other stakeholders with a focus on forests and trees. <https://www.iufro.org/>

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