

Releasing the Pressure

Water Resource Efficiencies and
Gains for Ecosystem Services



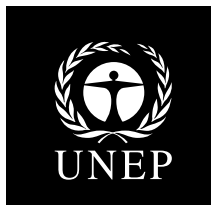
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Releasing the Pressure: Water Resource Efficiencies and Gains for Ecosystem Services



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PREFACE

Releasing the pressure: water resource efficiencies and gains for ecosystem services



At Rio+20 in 2012 the world will renew commitments and define more decisive ways of implementing sustainable development—20 years after the Earth Summit of 1992.

Despite progress in respect to the Millennium Development Goals for example, 13 per cent of the population still lacks a daily clean water supply.

Meanwhile there are growing concerns over the loss and degradation of aquatic habitats such as wetlands, lakes and river systems, in part due to the syphoning off of these precious resources to agriculture and energy developments.

The inequity in access is particularly challenging for the poor and marginalised, affecting vulnerability and opportunities in terms of livelihoods. The report puts water productivity at the centre of the debate but with a wider concept and context of what productivity actually means and to whom.

This is a challenge, because all too often the benefits from ecosystem services are neither immediately recognized, nor

easily valued. Water productivity as a concept (use of water per amount of produce) has been widely used in agriculture. This has led to water productivity gains often being out of balance with other water requirements in landscapes.

Assessing water productivity narrowly—for example by simply looking at crop, fodder and forest produce-- will continue to under-value the role of water for wider society and the economy.

Recognizing these wider benefits generated by water in respect to for example nutrient flows, cooling, providing habitats, and other supporting and regulating ecosystem services, is the aim of our work.

This report uses various cases to illustrate how to broaden the concept of water productivity and ecosystem services. It suggests ways in which water productivity can be used for addressing more balanced water resource management, so as to achieve multiple benefits for local people.

It complements the recent collaboration between UNEP-IWMI on the ecosystem services approach to water and food security and UNEP-Stockholm Environment Institute collaborations on rainwater harvesting.

With future challenges in water supply affected by climate change, and increasing demand by population growth and development, water will be a critically restricted resource for a growing number of people. This report forms the next contribution to the important issue on how to enhance the productive use of water for multiple needs.

Achim Steiner

Under Secretary General and Executive Director

KEY MESSAGES

The **KEY MESSAGES** are listed here, and then explored in detail throughout the following document.

1. The quantity, timing, and quality of water flows in landscapes need to be sustained to improve human well-being reliant on landscape ecosystem services.
2. Pressure on limited water resources can be managed, and thus made available for other ecosystem services, by using known management interventions to improve water productivity in low-yielding rainfed crop production.
3. Trade-offs between agro-ecosystem services and landscape ecosystem services must be managed so that improved agricultural water management and water productivity may lead to synergies with the surrounding landscape.
4. Wetlands maintain key regulating and supporting ecosystem services at landscape scales, thus contributing to high landscape water productivity in terms of multiple benefits for human well-being.
5. Livestock management practices can have co-benefits that require less water, allowing the unused soil water to support the surrounding landscape.
6. Forest ecosystems provide multiple services for human well-being locally, regionally, and globally, and should be considered as productive uses of water flows.
7. Managing both natural and man-made water storage in landscapes can support and enhance productive uses of water for ecosystem services and human well-being.
8. Agricultural water productivity gains are optimal when they are connected to and balanced with the surrounding supporting and regulating ecosystem services thereby ensuring adequate water flows for a wide range of uses in the landscape.
9. Integrated water resources management (IWRM) can be an approach to govern the complexity of upstream-downstream water-dependent ecosystem services, because water links multiple ecosystem services and multiple users of ecosystems services.
10. Capacity building and awareness raising, via the sharing of successful ecosystem services valuation practices can facilitate the integration of ecosystem services into IWRM programs.

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