

Ecosystem services and water security



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One of the greatest barriers to achieving sustainable development is the increasing depletion of natural resources resulting in the degradation of ecosystems that are essential for human well-being and economic prosperity.

Key messages

- **The conservation of ecosystem services is essential for water security and climate change resilience.**
- **All water users are beneficiaries of ecosystem services;** therefore, sectorial policies must be integrated to protect and sustainably manage these ecosystems.
- **Politicians and policy-makers need to address ecosystem challenges** in the context of the ever-growing demands of economic development, and put the conservation of ecosystem services higher on the political agenda.
- **The conservation of ecosystem services requires funding for protecting and managing ecosystems,** including substantial investments in awareness-raising, education, research, and political buy-in.
- **Coordinated efforts are required across governments, businesses, non-governmental organisations, and international institutions** to strengthen water management governance and ensure the conservation of ecosystem services, upon which sustainable development depends.
- **Ministries of Finance and governmental planning agencies need to better understand the role ecosystem services play** in supporting sustainable economic growth and development, and acknowledge the limits of nature by avoiding over-exploitation and degradation of ecosystem services. Payment for ecosystem services needs to be put into practice.

The importance of ecosystems for water security

Ecosystems are complex combinations of living and non-living organisms that interact and are involved in intricate processes affecting each other. They provide benefits to society and economies, and render multiple services that are essential for increasing water security. The benefits and services include natural freshwater storage, water flow regulation, water purification, replenishment of groundwater, air quality and climate regulation, soil protection, and a reduction in risks associated with water-related disasters. Ecosystems also provide water for crops and fisheries, and support livelihoods, navigation, recreation, and tourism.

The provision of ecosystem goods and services is vital for all water-using sectors (e.g. energy, agriculture, industry, tourism, and health) and contributes to an improved quality of life and the maintenance of social peace. The linkages between economic and social welfare sectors, and the strong nexus between ecosystem services and water supply, put ecosystems at the heart of the integrated water resources management (IWRM) approach and sustainable development. The economic value of ecosystem services is often disregarded despite prominent studies that prove their enormous contribution on a global scale.

A Water Secure World

The Global Water Partnership is an intergovernmental organisation of 13 Regional Water Partnerships, 84 Country Water Partnerships and more than 3,000 Partner organisations in 172 countries. The GWP network is committed to building a water secure world.

The progressive degradation of ecosystems

Freshwater ecosystems and rainforests are the world's most biologically diverse environments. Through ecological processes they contribute substantially to the provision of ecosystem services. However, the progressive loss of biodiversity is making ecosystems more vulnerable and is affecting their capacity to adapt. As the human population grows (at a rate of about one million people every 4.5 days), and the demand for water intensive goods and services increases, ecosystems are subject to increasing pressure from the unsustainable use of resources and other threats including change of land use, pollution, expansion of infrastructure, and urbanisation. This impacts on both water availability and quality, and adversely affects the well-being of people who depend on the goods and services provided by ecosystems (e.g. food, fuel, construction materials, clean water and air, and protection from natural hazards). Nature also needs water to ensure the provision of these services, so water security depends on the conservation of ecosystem services.

Ecosystem services and global development goals

The socio-economic drivers of ecosystem degradation are diverse – from the very poor in their efforts to survive to the unsustainable production and consumption patterns of the rich. The Millennium Ecosystem Assessment Report, commissioned by the UN¹, states that the degradation and subsequent loss of ecosystem services could increase significantly during the first half of the 21st century and is a barrier to achieving the Sustainable Development Goals (SDGs). The achievement of the SDGs – reducing poverty, hunger, and disease, among others – is critical to maintaining healthy ecosystems. The report states that better protection of natural

assets will require coordinated efforts across all levels of governments, businesses, and international institutions.

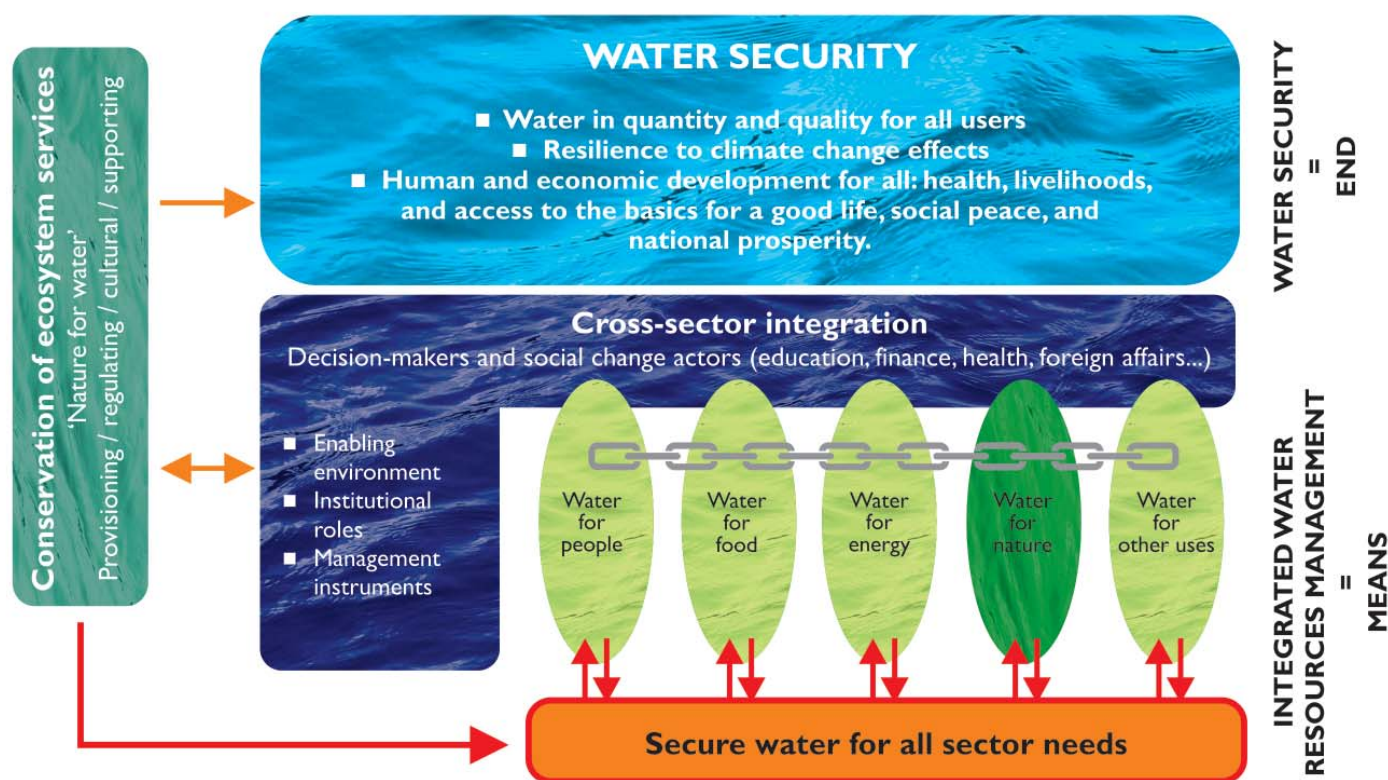
GWP and the conservation of ecosystem services

The UN Conference on Sustainable Development (Rio+20) adopted a document that states: "We recognise the key role that ecosystems play in maintaining water quantity and quality, and support actions within respective national boundaries to protect and sustainably manage these ecosystems." GWP was created for, and is engaged in, promoting IWRM as a means to maximise economic and social welfare equitably while maintaining the sustainability of life-supporting ecosystems.

The water crisis is essentially a governance crisis. Despite considerable progress by some countries, key issues still need to be addressed to improve their water governance framework.

A fundamental change is required in water management policies to embrace a much broader view of the dynamic nature of ecosystems and the short- and long-term benefits they provide. Policies should address how societies and businesses can extract the water resources they need while protecting the natural adaptive capacity of ecosystems.

GWP's vision incorporates sustainable economic development in which humanity harmoniously interacts with ecosystems under the guiding principle of sustaining their services to secure water and welfare for all. Ecosystem degradation threatens that welfare and therefore must be urgently addressed.



¹ Millennium Ecosystem Assessment (2005) *Living Beyond Our Means: Natural Assets and Human Well-being. Statement from the Board.* UN Environment Programme (UNEP).