

Water, forests and the World Water Development Report

D.G. Donovan

Scope for further discussion of forestry in future editions of UN-Water's periodic report on the state of the world's freshwater resources.

The relationship between forests and water remains controversial, often surrounded by myths, misinterpretation and extrapolation from unsuitable examples. Farmers have complained of falling well-water levels as a result of afforestation projects intended to improve watershed conditions. Authorities have directed the removal of trees to conserve water. Logging and deforestation are widely blamed for flooding. The need for better understanding of the relationship of forests and water clearly remains a challenge.

The organizations in the UN system have taken on the task of systematically marshalling global water knowledge and expertise to prepare a periodic review and assessment of global freshwater conditions, called the World Water Development Report. The report is the flagship publication of UN-Water, the interagency mechanism established to promote coherence and coordination of all United Nations activities in the area of freshwater. Produced by UN-Water's World Water Assessment Programme (WWAP), the report pools expertise from 24 UN agencies working closely with governments, non-governmental organizations and civil society. The World Water Development Report is meant to provide an authoritative picture of the state of the world's freshwater resources and associated ecosystems, identifying key issues, monitoring progress and documenting lessons learned – information critical for better informed water-related policy and planning. The second edition, entitled *Water – a shared responsibility*, was released on 22 March 2006, World Water Day, at the fourth World Water Forum in Mexico City, Mexico.

Assessing freshwater worldwide

Organized in five sections, *Water – a shared responsibility* begins by highlighting the critical issues affecting water use and management today, most importantly the challenge of realizing good water governance through integrated water resources management and addressing the pressures of rapid urbanization and changing climatic conditions on water resources.

Next, an examination of supply-side issues draws the connection between the state of freshwater resources and the condition of associated ecosystems. It recognizes that maintaining

healthy ecosystems means not only preserving landscape diversity and habitats for other life forms, but also ensuring a regular supply of clean water for all living things.

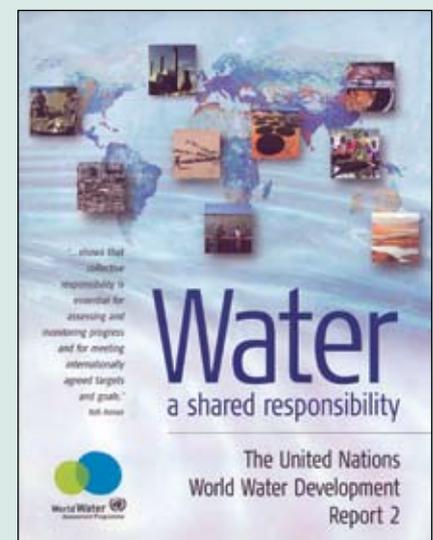
The third section voices the concerns of the main sectors accountable for water demand, namely health, agriculture, industry and energy, including issues of desalination and the harnessing of water's kinetic energy for electricity production.

Returning in the penultimate section to governance issues associated with changing environmental, political and economic conditions, the report focuses on water-related disaster risk management, sharing water resources and developing water-related knowledge and capacity as well as economic issues such as valuing and charging for water. Finally, examples from different countries and regions illustrate attempts to address specific water challenges, while the conclusions provide recommendations for the way forward.

The forestry angle

The World Water Development Report touches on the role of forests and forestry only briefly. It notes that poor forest management practices can lead to sedimentation. Given the challenge of providing adequate clean water supplies in the rapidly growing urban areas of many developing countries, the recognition that "a third of the world's largest 100 cities rely on forests ... for a substantial proportion of their drinking

Deanna G. Donovan is Forestry Consultant, former Programme Officer, World Water Assessment Programme, United Nations Educational, Scientific and Cultural Organization (UNESCO) Division of Sciences, and contributor to the second World Water Development Report.



water” is significant. While the discussion on water in relation to food, agriculture and rural livelihoods focuses mainly on irrigated agriculture, it notes that crop production actually uses only a small fraction of land-destined precipitation as compared with non-domesticated vegetation, including forests and rangelands. The chapter on valuing water raises the question of payment for environmental services, such as catchment management.

Improving environmental governance is essential to more efficient, more equitable and more sustainable use of freshwater resources. Concluding remarks recognize that “healthy ecosystems are integral to the proper functioning of the hydrological cycle” and that environmental protection must therefore be at the heart of integrated water resources management. Better environmental management, however, requires a broad understanding of ecological systems and water-related eco-

logical processes, including those of forest ecosystems.

Policy-makers, planners and the public would surely benefit from a deeper discussion of the relationship of forests and water in future editions of the World Water Development Report. Beyond observing the harmful hydrological effects of poor forest management (e.g. sedimentation), it would be appropriate to note that properly managed forested watersheds can be a source of generous economic as well as environmental benefits, as is acknowledged by the developing field of “ecohydrology” – the cross-disciplinary study of the functional interrelations between hydrology and biota at the catchment scale. For example, the role of watershed forests and high mountain cloud forests in ensuring regular supplies of clean water and the role of mangroves and other littoral forests in protecting coastal populations against water-related disasters could be

further explored. Phytoremediation (removal of pollutants through uptake by plants) could be considered as an increasingly popular alternative to engineering solutions for industrial water pollution. The dependence of hydroelectric schemes, both large and small, on sound upland management could be examined. Consideration of good water governance could give more attention to problems of environmental management in transboundary catchments and the need for multidisciplinary training and research to support truly integrated water resources management. It is hoped that with the recent advancement of FAO to the leadership of UN Water, readers may look forward to greater recognition of the role and potential of forests and forestry in the next edition.

The second World Water Development Report is available at: www.unesco.org/water/wwap/wwdr/index.shtml