



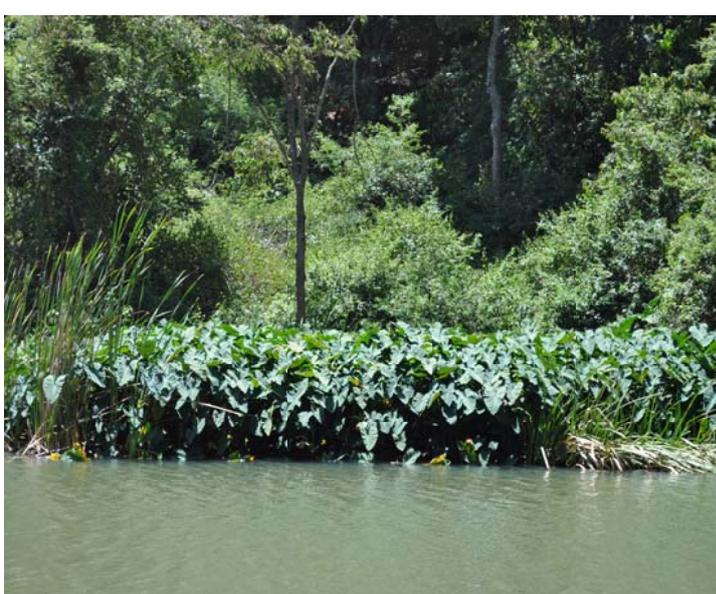
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POLICY BRIEF

THE CASE FOR AN INTEGRATED FOREST AND WATER MANAGEMENT IN SADC

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In the SADC region both forests and water are highly valued resources and yet there is no clear strategy on how to manage them in an integrated manner. Conceptual clarity on the effect of forest cover on water yield and water quality is evident. However, the lingering question is still whether forests are major regulators, consumers or producers of water (Dudley and Stilton, 2003; Calder *et al*, 2007).

On the one hand, studies suggest that forest cover contributes to water yield, regulation of seasonal flows, improved water quality and preventing floods in downstream areas. On the other hand, other findings suggest that forest ecosystems are major users of water, and tree canopies reduce ground water and stream flow by intercepting precipitation (FAO, 2006; Calder *et al*, 2007; Hamilton, 2008). It is observed that this lack of scientific consensus on the relationship between forests and water has partly contributed to the slow progress in integrated forest-water management in the SADC region (SARDC, undated).

THE CHALLENGE

New legislative reforms in the region aim at forming institutions that define roles of stakeholders and provide for multi-layer water management institutions and recognition of forests as viable land use system in the transboundary ecosystems (FAO, 2006). Article 14 of the SADC Forestry Protocol stipulates that "State Parties shall, where appropriate, establish programs and enter into agreements to promote the co-operative and integrated management of transboundary forests and protected areas; however this has not taken off.

The SADC protocol on Shared Water Resources provides for transfrontier conservation area initiatives (TFCA). There are 17 existing and potential TFCAs within the SADC region. However, the TFCA approach is very silent when it comes to forests; its major focus is wildlife. The

TFCAs and the river basin approaches to development are indeed good approaches; however, they can be improved by expanding their scope to embrace the forests and trees in them.

A POLICY SOLUTION

Although awareness about the environment has generally increased over the past three decades, the actual practice of integrating environmental quality objectives in the legal framework, planning and management of water resources is still limited. For example, in the SADC region new legislative reforms have been introduced and are aimed at defining the roles of stakeholders and providing for multi-layer water management institutions, as well as providing for the recognition of forests as viable land use systems in the transboundary ecosystems (FAO, 2006). Whereas this is echoed by Article 14 of the SADC Forestry Protocol that states that "State Parties shall, where appropriate, establish programs and enter into agreements to promote the co-operative and integrated management of

transboundary forests and protected areas"; there is no significant movement on this with respect to transboundary forests. More attention and resources have been directed at transboundary protected areas.

However, developments at the global level provide useful lessons to the SADC region to address the relationship between forests and water. At the international level policy reforms in many countries seek to align forest and water policies, programs and strategies. These efforts involve use of incentive based schemes or payment for ecosystem services, among others. For instance, direct payment of forest hydrological services by downstream water users are envisaged to promote and compensate upstream forest stewardship (Calder *et al*, 2007). In more recent developments, the United Nations Economic Commission for Europe (UNECE) Convention on the Protection and Use of Trans-boundary Watercourses and International Lakes (2007) recently endorsed the concept of payments for ecosystem services including the conservation and development of the forest cover.

EXISTING POLICIES

Legislative challenges in the SADC region have been compounded by conceptual ambiguities on the precise relationships between forests and water. As a way to resolving this, it would appear that institutions have over-relied on environmental impact assessment (EIA) as a tool to address environmental issues, which then include forest concerns.

Many studies suggest that both in very wet and very dry forests, evaporation is likely to be greater from forests than from other land use systems; and this leads to decreased water yield from forested catchments as compared to other land uses such as grasslands or crops fields. It has been concluded that planting new forests, particularly of species with high transpiration rates, can lead to reduced water flow (Dudley and Stolton, 2003). However, in general, research suggests that cloud forests and some older natural forests can increase net water flow, but other types of forests, particularly young forests and plantations, are likely to have the reverse effect.

The Call to Action

The role and contribution of forests in water ecosystems has to be articulated clearly in order to facilitate development of relevant programs based on proven scientific evidence. This essentially implies that forest-water relations will continue to be a focus subject for further research. Research should focus on clarifying the role, effect, and benefits of forests in water ecosystems under different geographic and climatic conditions. Research outcomes should then inform program design and policy development on integrated resources management in the forest water inter-phase. Policy reforms are needed to align forest and water policies, programs and strategies. For example, transboundary activities should not be implemented in a fragmented and compartmentalized manner but should be holistic to include forest, water and wildlife issues.

It is therefore important to improve the understanding of the role and benefit of forests in watersheds and catchments, as well as on how to develop programmes and activities for managing the forest water interphase; both of these are critical in the protection of ecosystems and enhancing the quality of the services they provide.

Sources

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An integrated approach to forest and water management in SADC could take into account at least the following:

- Forests in catchments and watersheds should be seen as legitimate water users when water budgets are being drawn up;
- Water management should be done under an ecosystem approach which recognizes the importance and contribution of forests and riparian vegetation in general;
- Guidelines should be developed to maximize the contribution of forests in forest-water relations;
- The SADC protocols on shared water, wildlife and forestry should embrace the ecosystem approach.

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