

From Community-based Management to Transboundary Watershed Governance

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ABSTRACT *Effective sustainable management of a transboundary watershed system requires coordinated actions among governments. This inter-state approach is important, yet inadequate. Policies and management plans developed by formal inter-state processes eventually rely on the implementation at local sites; hence community-based actions are critical to the effectiveness of policies. In transboundary watershed management, there exist a gap in the policy-making at the regional level, and implementation at the local level. Sulan Chen advocates integrating community-based actions in watershed management, and cites the recent development in the Nile River to demonstrate this approach.*

KEYWORDS *Nile River; ecological integrity; integrated water resources management; global water partnership*

Challenges

Water is vital for human survival, health and dignity and a fundamental resource for human development. Today more than two billion people are affected by water shortages in over 40 countries. Transboundary watershed management directly influences human welfares of large population of the world. There are an estimated 263 major rivers and it is estimated that 45 percent of the world's territory are located in international watershed basins (Conca, 2006: 94).

The world's watersheds are under increasing pressure. One major set of pressures has come from land-use changes and land degradation, particularly deforestation, along the watershed. It has been estimated by some scholars that a third of the world's watersheds have lost more than 75 percent of their original forest cover and that 17 rivers have lost more than 95 percent (Revenga, 1998). Water withdrawals have increased more than twice as fast as population growth and currently one-third of the world's population live in countries that experience medium to high water stress. Pollution is further enhancing water scarcity by reducing water usability downstream.

The degradation of transboundary watersheds is partly due to unsustainable development in the basins, and partly results from ineffective management schemes and practices in managing transboundary watersheds. Water issues are often simultaneously transboundary and local by nature, resulting in unsymmetrical rights and

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responsibilities that form the basic dilemma in the management. The relationships between upstream activities and downstream impacts are very complex, further complicating the inter-governmental negotiation processes of water governance.

The current practices of watershed management tend to be top-down approaches – focusing on inter-governmental cooperation, mainly due to political considerations. Unless governments of riparian countries are willing to cooperate on transboundary issues, it is nearly impossible to jointly develop and implement an effective basin-wide management plan. While inter-governmental consensus and willingness to cooperate is key to watershed management, the implementation of watershed management plans (actions) must be undertaken at the local level by local governments and communities. It is impractical and inefficient that all interventions will be made centrally by a transboundary agency or entity to protect the ecosystem's integrity.

Issues related to watershed management could be solved at different levels: regional, national, local and community levels. The critical question lies in how to integrate various levels of governance to maximize the benefits of the resources without compromising the sustainability of the ecosystem. The problem in transboundary watershed management is: the process of securing inter-governmental cooperation can be so sensitive and long time that less effort can be possibly devoted to secure local communities support, which directly use and impact the water and resources of a watershed system. The management key lies in incorporating local communities. How to incorporate local communities in transboundary watershed management, and effectively implement regionally developed policies and management plans at the community level will eventually determine the success of sustainable watershed management.

Approaches

In recent decades, there have been substantial changes in water management approaches as a result of the emergence of new paradigms and

problems. Traditionally, a hydro-centric or single-sector (water)-oriented approach was undertaken by governments in addressing river basin issues. The approach centred on the use of the water, and viewed the basin as a resource system whose waters were to be exploited for economic development. Accordingly, this approach emphasized the determination of maximum possible yield and the development of mechanisms for the most effective water allocation between users. This single-sector-development approach acted as a catalyst for many large development projects.

The ecological and ecosystems approaches to water resources management pose questions to the single-sector approach and its strong development emphasis. The ecological approach is based on the understanding that every river basin is a self-sustaining ecosystem that does not recognize human-made boundaries. It recognizes river basins as large, complex, integrated ecological systems. The complexities of the ecosystem and subtle interactions between the elements that form the system require horizontal and vertical integration of management across sectors and levels of governance.

It is clear that water resources management occurs within the context of complex physical and institutional systems and delicacies. On the one hand, transboundary water management is characterized by sovereignty disputes, diverse political interests, the dynamics between central and local governments and the relationships between the government and communities. On the other hand, the political arena struggles with the intricacies of ecological relationships between various components of an ecosystem. The ecosystem approach has at least the following four characteristics:

- a primary focus on ecological integrity,
- a perception of the ecosystem as somewhat self-sustaining,
- a natural ecological boundary,
- a holistic orientation towards resource management (Mackenzie, 1996).

In implementing the ecological approach, there was a tendency that the practitioners often interpret the ecological approach as synonymous

with a comprehensive approach, in which all components and linkages in the ecosystem are considered. Consequently, there is a high probability that the period of time of river-basin analysis 'will be very long, resulting in a final plan that is no more than an obsolete historical document' (Hooper, 2003: 14). A practical integrated approach in operationalizing the ecological approach is the recently adopted Integrated Water Resources Management (IWRM), defined by the Global Water Partnership as:

[IWRM is] a process which promotes the coordinated development and management of water, land, and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without comprising the sustainability of vital ecosystems (Global Water Partnership, 2000: 24).

Rather than focusing on all components and connections in a system, IWRM considers only those elements that are judged to be the key drivers of variability in the system. 'Integration' occurs both horizontally and vertically. Horizontally, it encourages participants to consider a wide array of social and environmental interconnections, and includes key physical, biological and socio-economic variables in managing a watershed for environmental values and human utilization, resulting in the integration of multi-disciplinary, cross-sectoral and inter-agency type of management.

Vertically, integrated approaches can and should be applied to water and development problems at all levels, from local to global. However, the forms and the extents of such integration can vary significantly at various levels. Actions at one level will need to be reinforced by actions at other levels. While transboundary water management regimes and national policies provide the enabling environment for the watershed management, the implementation and end result are always dependent on actions at lower levels, from the household and community levels on up.

Development practices

The mainstream practice of transboundary watershed management has been mainly a state centric, inter-governmental process. Agreements,

action plans and commissions are inter-governmental institutions and policies to govern transboundary watershed systems. Development of these formal transboundary institutional and policy frameworks is one issue, and the implementation of such formal institutions is another challenge. Agreements are often reached through long process of inter-state negotiation, but the implementation responsibilities rely on the actions at the local and community level in the sites of water and resource uses. Therefore, policies, agreements and institutions that have been developed through state-centric approaches could render ineffective at the local or community levels.

The Global Environment Facility (GEF), a multi-lateral fund established in 1991 to help developing countries to protect the global environment, takes a lead in funding multi-country projects in promoting regional and transboundary cooperation in watershed management. In the international waters focal area, there are 101 regional projects, ten global projects, and only 35 single-country projects.¹ GEF has supported multi-country interventions in 13 transboundary watersheds. These projects have greatly fostered international, multi-country cooperation in addressing priority transboundary water concerns, through the formulation of Transboundary Diagnostic Analysis (TDA), and the development and implementation of Strategic Action Programme (SAP). These international or multi-country cooperation efforts have been usually undertaken between national governments, sometimes resulting in the signing of inter-governmental agreements or other legal instruments.

The TDA/SAP process is critical for riparian countries to agreeing on regional priorities, fostering trust and confidence, and securing government commitment to sustainable international waters management. The TDA provides sound scientific foundation for governments to prioritize transboundary problems; the SAP helps governments identify where the actions are most needed and how they will be undertaken. The TDA is a scientific and technical report, analyzing and outlining the common regional priority issues in a shared waterbody. Based on the identification of regional priority issues/problems, governments,

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through a high-level intergovernmental decision-making body, adopt a SAP to address these issues. SAP is therefore an inter-governmental policy document at the regional level outlining what will be done, where, when and how. It is an action-oriented document, and lays good political foundation for cooperation and collective actions at various levels.

GEF's multi-country approach in watershed management helps to break the political barriers and build confidence and trust among governments sharing a waterbody, and provide inter-governmental cooperation platform. Due to political sensitivity and lack of trust at an early stage of institutional building, GEF full-sized projects tend to focus on *inter-governmental, formal* and *political* process in developing SAP and formulating regional institutional arrangements, with less involvement of non-state actors, such as communities and non-governmental organizations. However, the implementation of the SAP requires strong involvement of coastal villages and fishing communities, and needs to take into consideration local communities' needs. Although a number of projects include small grants components, community involvement in implementation remains to be strengthened.²

Bridging the gap: Integrating community-based management to regional governance

How to ensure regional initiatives reach down to the community level, and that community-level actions incorporate regional perspectives is a challenge to Nile basin management. With a length of more than 4,000 miles, the Nile River is the longest river in the world. The riparian countries of the Nile River include Burundi, Democratic Republic of Congo, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda. Throughout the year, the Nile serves as a constant source of water. This enables farming along its banks in spite of the high temperatures that occur. In addition to its vital role in agriculture, its waterways also play a major role in transportation. During seasonal flooding it enables transportation to those areas where road access is not possible.

Bridging the gap between the actions on the ground at a local site and decision-making processes at the regional level is easier said than done. It requires cooperation between various actors. In the Nile River basin management, GEF's Small Grants Programme (SGP) complements GEF large interventions with community-based actions, and has recently experimented a partnership with an inter-governmental regional initiative in implementing community-based activities in Nile River, and bringing community-based experiences into regional decision-making processes.

GEF's SGP, launched in 1992 and implemented by the United Nations Development Programme, is a global programme targeting small non-governmental organizations and community-based organizations in undertaking community-based actions to address global environmental issues. It has funded more than 8,000 projects around the world, with a total funding of over US\$300 million. Nile Basin Initiative, launched in 1999, is an inter-governmental regional partnership to provide a policy dialogue forum, and promote shared benefits among riparian countries. The Nile Transboundary Environment Action Programme (NTEAP), a GEF-funded multi-country programme, promotes a basin-wide management, and develops a regional Strategic Action Plan that represents a regional approach to watershed management.

These two initiatives are naturally complementary to each other. SGP focuses on on-the-ground activities, and promotes a bottom-up approach to environmental protection; while the NTEAP mainly takes a top-down approach that emphasizes regional perspectives and approaches in national policy-making. A partnership focusing on implementing a microgrant component, and sharing of knowledge and information was launched in 2005 between the two programmes. This partnership provides a channel for community-based experiences to be reflected at regional forums, and regional perspectives are incorporated into the selection process of community actions.

SGP has a strong community-oriented institutional presence in six Nile riparian countries, including Egypt, Ethiopia, Kenya, Rwanda, Tanzania, and Uganda. It has established a national steering

committee in each of the country programme, reviewing and approving country programme strategies and projects to support the implementation of the strategies. Through the collaboration of the SGP National Coordinators, NTEAP microgrant component approves its projects via the national steering committees of the SGP with an addition of two members, a Technical Advisory Committee member of the Nile Basin Initiative and a representative of the environmental host institution of the country. Since 2005, a total of 191 community projects with \$4.4 million funding have been approved and implemented.³

The cooperative activities between the two initiatives include: exchange of data and information, sharing of knowledge and experiences, sharing of institutional setting/mechanism for programme implementation, and training and capacity building. Through the collaboration, community-based experiences and lessons learnt were provided directly to regional policy forums for community wise decision-making, and the policies made at the regional level are taken into consideration in selecting intervention sites, and hence are effectively implemented through community actions.

Conclusions

Due to the transboundary nature of river basins, governments of riparian countries must cooperate on watershed management. There are limitations to such a state-centric approach, especially when ecosystems are a mismatch to territorially defined political boundaries. Increasing community involvement in watershed planning and lessening reliance on top-down, regulation-based approaches may result in higher effectiveness in policy implementation; yield better results and avoid future conflicts.

The importance of local communities' involvement in transboundary water decision-making and its implementation cannot be over-empha-

sized. Communities form an integral part of the watershed ecosystem, and have interacted with the watershed for thousands of years. Their livelihoods depend on the watershed ecosystems, and they have the most direct experiences with the rivers. The benefits of community involvement, among others, include: better and more locally appropriate projects, local people are more likely to look after something if they are involved in decision-making; the potential for conflicts can be limited; empowerment of local communities (Warburton and Yoshimura, 2005).

Regional approaches and local community-based approaches are naturally complementary and mutually re-enforcing to each other. In Nile River basin, the partnership between SGP and NTEAP demonstrates a mechanism for replication of local models at the regional scale. The design of NTEAP's microgrant component was modelled after SGP, with the activities built on experiences gained by SGP. NTEAP provides a channel for SGP to influence and change policy-making at the regional level in governing the Nile River basin. At the global level, the experience of a strategic partnership between a regional inter-governmental project/process and community-based implementation should be replicated by other transboundary waterbodies, including the river/lake basins and regional seas.

Despite the extreme importance of integrate local and regional level of governance in watershed management, experiences have shown considerable difficulties in the process resulting from political wills, high transaction cost, long time-frame, language problems and lack of funding. Both academics and development practices should consider and explore further the specific distributive functions/roles at various levels of governance, and the modalities through which these various levels can be linked and integrated with each other to achieve sustainable management of highly threatened transboundary watersheds.

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Notes

- 1 See GEF database (www.gefweb.org). GEF has two basic types of projects: medium-sized projects (funding below \$1 million) and full-sized projects (funding above \$1 million).
- 2 According to a recent evaluation report of the GEF's Small Grants Programme (see GEF Evaluation Office. 2007. *Joint Evaluation of the Small Grants Programme*. Washington, DC), the small grants components within full-sized projects tend to be less effective in delivering project activities than SGP.
- 3 Information provided by Amir Baker, Lead Specialist, Microgrant Component, Nile Basin Initiative.

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