Transboundary water management — why it is important and why it needs to be developed

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In many aspects water is among the most 'shared' resources on Earth. Close to 50 per cent of the Earth's land surface area is comprised of shared river and lake basins. Some 276 river basins cross the political boundaries of two or more countries, and about 40 per cent of the world's population lives in river and lake basins that cross international borders.[1] Globally, about 2 billion people depend on groundwater, which includes well over 300 transboundary aquifer systems. These facts represent the basic premise of the transboundary water management challenge facing the international community. Therefore, developing approaches that balance interdependencies of transboundary waters is a matter of high importance. The 2006 United Nations Development Programme (UNDP) Human Development Report[2] acknowledges that "managing that interdependence is one of the great human development challenges facing the international community." Even so, about two thirds of the transboundary rivers do not have any cooperative management framework. It is clear that much remains to be done.

States that share transboundary waters are facing increasing demands for water, hydrologic variability, unilateral basin development and other conflicts that could contribute to tensions over transboundary water. Adding to these challenges, institutions for promoting joint management of shared water resources and managing differences are often missing. Where they do exist, they often remain ad-hoc, disparate and underfinanced. Among other challenges are a lack of common global platforms to advance joint management of

Image: Michael Moore, 2006

A bridge in Croatia. Managing interdependencies of transboundary waters is one of the great human development challenges facing the international community

transboundary waters and a lack of coordinated approaches among development partners. In response to these challenges the United Nations General Assembly, through resolution 65/154, declared 2013 as the International Year of Water Cooperation. It urged states and other relevant actors to take this opportunity to promote actions at all levels, including appropriate international cooperation aimed at the achievement of internationally agreed water-related goals.

The challenges to effective transboundary water management appear different in diverse parts of the world. In regions that are 'securitised' (where there is a strong focus on security issues such as military conflicts, for example the Middle East region), cooperation and advancement of cooperation beyond the water sector is arguably less likely than in regions where there are less pressing security issues.[3] In other parts of the world, financing for appropriate institutional development for joint management is lacking, and in yet other contexts, underfinancing of much-needed infrastructural development to meet increased climate variability and change prevails.[4]

There follows an outline of the importance of adequate management of transboundary waters and suggestions for ways in which it can be improved and developed, as well as the identification of a number of new challenges for the effective management of transboundary waters. A case study featuring the Middle East illustrates the importance of adequate management of transboundary waters by highlighting examples of success and failure between riparian countries within the Jordan Basin.

Image: Manfred Matz, 2005

Around 40 per cent of the world's population lives in river and lake basins that cross international borders

The importance of adequate management

The potential costs of tensions between riparian nations over transboundary waters are high. They can limit prospects for regional integration, trade and stability. This in effect limits the potential for sustainable development to materialise. On the other hand, if transboundary waters are appropriately managed they can serve as a focal point for cooperation, thereby diminishing tensions between countries while promoting regional integration and development, both within a basin and in a wider region.

In contrast, human security and development can be made vulnerable by ignoring transboundary waters, since conflict or improper management may lead to a lack of regional preparedness or capacity to address challenges such as floods and droughts. These vulnerabilities are further exposed by the absence of adequate systems or mechanisms to effectively share hydrological data and information within a basin. In certain cases, information may be available in the upstream part of a river system, but without joint management and open communication, downstream neighbours may not receive adequate information needed to develop an appropriate response. In the case of a flood, this lack of openly shared intelligence can have potentially devastating effects. Consequently, the effects of improperly managed transboundary waters bleed into other sectors. For example, efforts to eradicate poverty can be severely hampered as they are related, at least indirectly, to the ways in which transboundary waters are managed.[5]

The quality of transboundary cooperation is another area that must be addressed.[6] Although the coordination of shared resources between countries is fundamental from the perspectives of justice, equity and sustainability, it merely forms the foundation from which higher levels of cooperation are built. Furthermore, Granit and Claasen have identified different power levels as a challenge and a barrier to development towards sustainable transboundary water management.[7] Power asymmetry between parties is often an impediment to effective cooperation.[8] Moving beyond the basic coordination of shared resources and closely examining these dynamics is essential to the enhancement of transboundary cooperation from a qualitative standpoint.

Improving transboundary water cooperation

Advances in transboundary water management are urgently needed and there is a range of ways to overcome the challenges. A key insight is to understand the various actors at play in the transboundary arena. Earle and others provided an understanding of how various stakeholders act (and interact) in a complex system in the development of transboundary water management.[9]

An improved understanding of this context is crucial for those wanting to better understand and efficiently engage in transboundary water management. Notwithstanding contemporary challenges, there are also new challenges emerging that need to be addressed – preferably in a cooperative manner. While national institutions and legislative bodies provide mechanisms for addressing conflicting demands within a country, there are no equivalent institutional mechanisms to respond to transboundary problems. Without such mechanisms, competition for water might lead to disruptive conflicts.

Zeitoun and Mirumachi argue that it is imperative to make a thorough analysis of the power structures prior to any engagement in the support of transboundary waters management.[10] While maintaining that power should be at the centre of analysis they do not support the notion that a region cannot move towards wider cooperation and integration without taking it into account. However, without recognizing the power structure dynamic, resulting policy measures may be misguided and unin-

tentionally result in favour of the stronger party — thus entrenching a status quo that in the long run may be disruptive for effective, just and sustainable cooperation. The authors maintain that it is important to strengthen the weaker parties in a region so that all actors can interact on equal terms with each other when negotiating the management of a shared resource such as water. In this way, creating an equilibrium between all riparians within a basin means to establish the enabling environment necessary to achieve higher levels of cooperation and coordination — an assertion shared by Zeitoun and Jägerskog.[11]

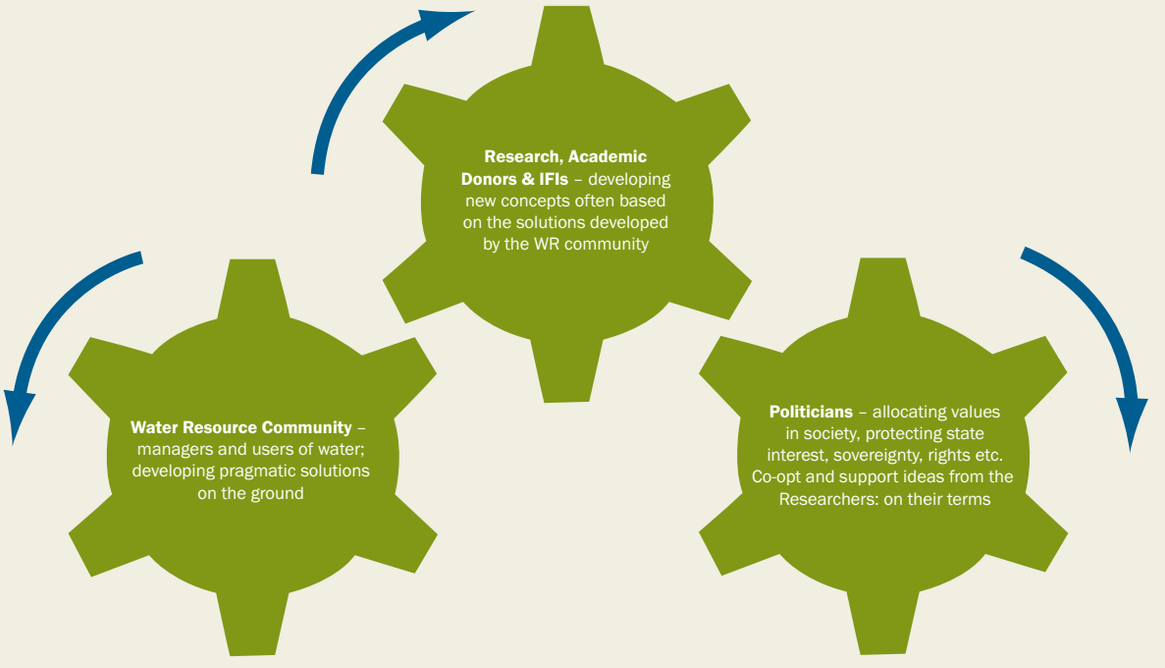
Notwithstanding the challenges posed by an uneven distribution of power within a basin, there are new challenges on the horizon. The impacts of climate change are profoundly evident throughout hydrological systems. From the transboundary perspective, increased climatic variability is greatly concerning. In certain regions climatic variability will result in an excess of water during certain parts of the year contrasted by a deficit during others. Unfortunately, few transboundary agreements (where they even exist) have been designed to compensate for increased variability as they are often restricted by a rigid definition of water allocation expressed by volumes of water and not according to percentages of flow which would allow for greater flexibility. Thus increased climatic variability will result in an increased pressure on, in many instances, rather weak agreements.[12] Another important challenge relates to the increasing investments in land by foreign capitalists that are being made primarily in Africa, but also in Latin America and parts of Asia.[13] Often the agreements guiding these investments are 'water blind'. They do not always include provisions for water and, where they do, it is not made clear whether that water is derived from national or transboundary sources. It can be presumed that in cases where the investments will draw on transboundary waters this will adversely affect the hydro-political relations in the basin.[14] Part of this equation also relates to the 'water, food, energy' nexus where 'virtual' trade-offs (for example, as manifested through trade in virtual water[15]) between water for food production as well as energy production are outlined.[16] This also has implications for transboundary relations — in particular where there is a lack of water resources and the trade-offs are 'real'.

At present, the promotion of transboundary water cooperation is underfinanced within the international system, and mechanisms to fill the financial gap are scarce. Development partners are generally not programmed to finance processes without a clear result and timeline. Generating cooperation in transboundary basins largely consists of promoting a process of building collaborative structures and institutions, commonly at both national and regional levels. This process is inevitably time-consuming and often means taking two steps forward and one step back. For a development partner to engage in building such cooperative structures in a shared river basin, patience and the understanding that this process most often transcends the lifetime of a single project are prerequisites. Process financing is often what is needed to secure, deepen and improve water-related collaboration in transboundary basins where the parties have little or no history of such collaborative efforts across other sectors of mutual interest.[17]

Transboundary waters in the Middle East

The Middle East represents a region rife with political and ideological conflict throughout history. To this day, many conflicts remain unresolved and there

Stakeholder action and interaction in the development of transboundary water management



Source: Earle et al, 2010

still exist deep cleavages between neighbouring nations. However, there are some encouraging signs of cooperation over shared waters. There are, in fact, situations where water seems to be the singular bond between countries that have been historically prone to conflict. For example, the Jordan Basin features a peace agreement between Israel and Jordan that regulates water allocations stemming from the Jordan River to quite a large extent and even includes a provision for storing of Jordanian 'winter water' in Lake Tiberias in Israel for later release during the dry summer months when the water is needed. Since the signing of the agreement in 1994, there has been a functional relationship — albeit not always smooth — made possible by the parties' arrangement to share water. Alternatively, the distinct power asymmetry between Israel and Palestine has prevented a similar arrangement between those two countries. Since Palestine does not have the same political clout regionally or internationally as Jordan, it is all too easy for Israel to dominate the water situation. Consequently, there is no fully-fledged agreement between them addressing water issues, either quantitatively or qualitatively, in great detail. Although it is noted in current agreements that the Palestinians have 'water rights'— those rights are not clearly defined.[18]

Conclusions

It has been suggested that regional cooperation over water as a shared resource can be a recipe for wider cooperation. While this may be the case, it is clear that such an assertion should not be overextended.[19] Phillips and others point out that the level of securitisation in a river basin is an impediment to a functionalist (cooperation leading to cooperation) approach since the preoccupation of the states will be on national security, thereby clearly limiting the room for regional perspectives.[20] This is clearly evident in places like the Jordan Basin,[21] but also in other regions with a strong security focus. This does not mean that cooperation cannot happen, but the assertion that this would almost automatically lead to wider cooperation is far-fetched.

The challenges faced by the international community are daunting. However, development partners can contribute to overcoming these challenges by supporting the processes of cooperation that underpin systems of best or ideal practice in transboundary water management. Staying for the long haul is essential to the achievement of sustainable and effective cooperative outcomes. Öjendal and others[22] conclude that, given the challenges at hand — compounded by the uncertainties surrounding climate change and increased population growth — it is more relevant than ever to discuss transboundary water relations as a matter of continuous negotiation.

Image: Rami Abdelrahman, SIWI 2013

The Jordan River along the Jordan-Israel northern border: there are some encouraging signs of cooperation over shared waters in the Middle East