



African Models for Transnational River Basin Organisations in Africa: An Unexplored Dimension

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ABSTRACT: One of the many legacies of colonialism in Africa is the multiplicity of river basins shared by two or more – and often far more – countries. Since changing national boundaries is not an option, African governments have no choice but to develop transnational institutions for developing shared water resources. Therefore, one finds a plethora of bilateral and multilateral committees, commissions, and authorities intended to facilitate agreements for infrastructural investments, management of water flows (quantity and quality), and response to disasters, especially floods. These efforts are supported by – indeed often, at least behind the scenes, driven by – western and international development partners. With few exceptions, the results to date are not impressive, as governments drag their feet on ratifying or implementing agreements and investing in creating the necessary institutional infrastructure, and donors' funds go unspent because such agreements are conditions precedent for investment. Despite the work done by many international and local non-government organisations (NGOs) as well as some governments, hardly any of the residents of African river basins are aware of these commissions. All of them are based on organisational models derived from western experiences and governing principles and are created by inter-governmental agreements. The citizens residing in the basin are rarely consulted. In some cases, powerful national hydraulic bureaucracies seek to control the process in an effort to gain leverage over infrastructural investments. There is a body of literature seeking to explain the ineffectiveness of transnational river basin management to date, largely based on political science, sociology and economics. Some but not all observers are concerned with the degree of democracy in the political process. This paper addresses a dimension that has received very little attention and therefore complements the existing literature. It explores the hypothesis that transnational river basin management institutions will achieve a higher degree of legitimacy and effectiveness in the long run if they are based on African institutional models rather than pursuing the current approach of imposing external models. This assumes the existence of local African indigenous models or principles that can be adapted to such large-scale hydraulic institutions. The paper argues this may indeed be the case though more detailed research is needed to document them, and a creative consultative political process would be needed to build on these foundations.

KEYWORDS: African institutional models, international waters, legal pluralism, river basin organisations, Southern African Development Community, transboundary rivers, transnational river basins

INTRODUCTION

Establishing effective institutions for managing river basins is one of the most complex challenges facing developing countries, one that has generated a large academic and advocacy literature. Even medium-sized basins within single countries often cross-cut local- and provincial-level political boundaries causing confusion and conflict, and satisfying competing demands for increasingly scarce resources has no politically easy solution. For example, economic analysis may favour a policy of diverting scarce water to urban and industrial uses (more dollars generated per drop), but the existence of large numbers of poor rural voters dependent on agricultural water for their livelihoods makes such a policy politically, if not morally, difficult. There is a tendency to assume that creating specialised river basin organisations will help solve these problems, but most developing countries have found that

establishing such institutional arrangements is not easy, can be expensive, and may not even be implementable.

The challenge is even greater on transboundary river basins. There are two levels of such basins: those cross-cutting two or more provinces within a federal national system, and those shared by two or more sovereign countries ("transnational").¹ Establishing workable agreements on sharing water – especially sharing the pain of responding to scarcity – and resolving conflicts over water have presented huge challenges in countries such as India and Australia, where the provinces have the constitutional upper hand, limiting the central government to offering financial incentives to encourage acceptance of painful compromise solutions.

But the most problematic challenges are posed by river basins shared by two or more sovereign nations. International basins account for nearly half of the earth's land area, 40% of the world's population and 60% of the flow in the world's rivers. During the 20th century, 145 treaties were signed for regulating non-navigational use of rivers, but most of these were between two countries, even on basins shared by three or more countries. Very few of these treaties address water allocation, only 20% have any kind of enforcement mechanism, and only half include a mechanism for monitoring. No treaties exist at all on 158 of the world's 263 basins that cross international borders (Molle et al., 2007). Molle et al. (2007) summarise the litany of complaints about the ineffectiveness of most transnational basin agreements. Relationships among riparian states are embedded in complex political and economic contexts that often trump agreements on jointly managing a river. While at national level, most efforts to find institutional mechanisms for managing river basins emphasise the critical role of stakeholder participation (often only on paper), at the international level this dimension is largely lacking: agreements are usually reached among technocrats and politicians in a closed room, and only in rare cases can national-level forums or councils, if they exist, influence higher-level agreements.

Africa offers the most extreme case of transnational waters. Every continental African state has territory on at least one transnational river basin, and such basins cover 62% of Africa's total land area. Depending on how they are defined, there are more than 60 transnational rivers and large lakes (these figures exclude shared groundwater aquifers, which are even more challenging than surface water). Nearly half (28) of these are shared by three or more countries and the ten largest basins are shared by four or more countries. Fifteen countries have five or more shared basins within their national borders; Guinea has 14, Cote d'Ivoire and Mozambique nine each (Sadoff et al., 2002). As Sadoff et al. (2002) note, "if joint management of one river basin is a challenge, joint management of many basins by one country is especially difficult". National boundaries are the product of colonial history, and have nothing to do with ethnic or natural boundaries, but they remain as immutable as watersheds.

Sadoff et al. (2002) argue that Africa faces greater basin management challenges than any other continent, not only because of these historical legacies and political realities, but also because of its highly variable climate resulting in unreliable and unpredictable rainfall, extremes of droughts and floods, and variable flows even during "normal" years. Frequent droughts affect large portions of Africa, retarding economic growth and bringing terrible suffering to millions of people. Devastating floods destroy infrastructure and property and kill many people, while also reversing economic growth. Unreliable rainfall results in agriculture that is the least productive on average in the world; there has been little growth in agricultural productivity over the past several decades, leading to rising food import bills and continuing malnutrition and poverty. The unreliability of water supply is a major reason why farmers hesitate to invest in new seeds and technologies. Making reliable controlled water supplies available for domestic, industrial and agricultural uses on a scale sufficient to encourage overall

¹ Lautze and Giordano (2005) say the United Nations convention is to use 'transboundary' for "waters that cross national boundaries", but this term in some uses also includes waters crossing provincial borders within a state. A reviewer of this paper notes the Convention actually uses 'international' for watercourses having parts situated in different states. Nevertheless, I have chosen to use the term 'transnational' for watercourses crossing international boundaries as it seems more precise.

economic growth will require harnessing the resources in Africa's transnational river basins. A point not sufficiently emphasised by Sadoff et al. (2002) is that Africa is characterised by relatively weak and ineffective governments and formal civil society structures. Thus, the most challenging water resources management context is being faced by countries that rank among the poorest and least effective in the world.

These challenges are generating a multitude of initiatives and activities, driven by both African champions and their development partners; and they are also generating a growing academic, advocacy and official literature. Much of the academic literature is based on two disciplines, broadly defined: political science (including political geography) and institutional economics. Advocacy literature presses for more effective stakeholder participation through basin civil society organisations, in many cases supported (sometimes driven) by international NGOs and donors. Official literature is by definition produced by governments, regional government associations such as the Southern African Development Community (SADC), and their development partners. Somewhat separate from these streams but relevant here is the growing number of studies that come under the rubric of legal pluralism. Much of this literature is focused on interactions between national laws and policies, and local traditions and practices; it has not been effectively linked to transboundary basin management research.

An important feature of transnational basin institution building is that it is conducted between governments, commonly supported by western development partners and international institutions. As a result, the emerging institutions are based on values, principles and procedures that are imposed from outside the basin. Therefore, they reflect international and western models and norms as to how these problems are to be solved – how water should be developed, shared or conserved; how disputes over water are to be resolved; who is empowered to speak, and who gets precedence. But local-level studies demonstrate that basin communities have their own traditions, values, priorities and institutional mechanisms for solving natural resources management problems, and these may have little in common with those imposed from elsewhere. This disconnect between local-level perspectives and the principles underlying budding transnational institutions may be an additional impediment to achieving effective cooperation on river basin management.

Therefore, this paper explores the hypothesis that transnational river basin management institutions will acquire a higher degree of legitimacy and effectiveness in the long run if they build on African institutional processes and models rather than pursuing the current approach of imposing external models. This assumes the existence of local African indigenous models or principles that can be adapted to such large-scale hydraulic institutions. The paper argues this may indeed be the case though more detailed research is needed to document them. The argument is related to, and supportive of, proposals for strengthening civil society participation in "transnational governance". The new dimension is the idea of encouraging creative processes that build up from local indigenous foundations, rather than squeezing local citizens and stakeholders into forums created by outsiders. The paper focuses largely on southern Africa, though the argument is surely applicable elsewhere.

The next section selectively reviews recent literature analysing African (especially southern African) experiences with transnational river basin management. The following section reviews evidence that local communities have natural resources management procedures and principles that are effective at that level, and may provide a basis for building higher-level institutions bottom up. The concluding section reiterates the main argument and proposes a research and action agenda for further testing of the hypothesis that a process involving adaptation of African institutional models can lead to more effective transnational basin institutions.

AFRICAN TRANSNATIONAL RIVER BASIN INSTITUTIONS: WHAT DOES THE LITERATURE SAY?

An analytical review of the existing range of conceptual approaches and perspectives on transnational river basin organisations, even if limited to Africa, would entail a paper by itself.² This section is therefore necessarily selective and incomplete; the interested reader should consult the publications cited and their bibliographies. But setting aside water resource engineering perspectives (e.g. Savenije and van der Zaag, 2000), much of the recent research emerges from sub-categories of political science as a discipline: international relations, international law, political geography, and political economy – taken together "hydropolitics". A smaller but growing literature is emerging from institutional economics. Transnational river basin institutions are invariably created by sovereign states; therefore the dominance of international relations and international law perspectives is understandable. Another way to classify this literature is to distinguish, on the one hand, those based on perceiving large-scale institutions – governments, regional economic communities, donors – as the primary entities interacting on shared river basins. In this perspective, the "state as container/actor" approach (Furlong, 2006), states engage with each other and cooperate or engage in conflict. The other set of literature emphasises individuals or at a slightly higher level of abstraction, communities, and other elements of civil society as actors whose interests are not necessarily represented by or consistent with those of the state. This opens the door to examining how those people directly or indirectly dependent on the resources in a basin – citizens or at least residents of the states – are involved, affected by, and influence decisions about shared resources.

Sharing benefits or sharing water

Governance of transnational river boundaries is a critical sticking point for water resources development in many developing countries, especially in Africa. Grey and Sadoff (2007) make a strong case for the necessity of achieving water security through investment in water infrastructure balanced with appropriate institutional investments.³ Countries that remain "hampered by hydrology" or worse, "hostage to hydrology" – unable to control floods and droughts or to use their water resources to support economic development – are condemned to remain poor. But transnational rivers present an extra layer of complexity in achieving water security. Developing countries have often developed the portion of transnational rivers within their borders unilaterally, settling for second or third best options compared to the potential from an unconstrained basin-wide perspective.

In earlier work, the same authors have made a compelling economic case for the mutual benefits that will accrue to cooperative management and development of Africa's transnational river basins (Sadoff et al., 2002; Sadoff and Grey, 2005). Their 2002 paper in particular is aimed at demonstrating the value of analytical tools of economics to explore costs and benefits of cooperation, and the potential benefits of alternative management schemes. In the past, analysis of and negotiations over cooperation in shared basins have been in terms of sharing water quantities, often a zero-sum game at best. These papers firmly shift the focus to sharing the *benefits* accruing from the development of shared water resources, opening increased possibilities of positive-sum outcomes. By separating the physical distribution of river development investments from the economic distribution of benefits, riparians can focus on generating higher basin-wide benefits while agreeing on sharing these in a fair manner. For example, in the Nile basin Ethiopia has a comparative advantage in hydropower; by agreeing to share the costs and benefits of development and the electricity generated, a net gain is possible for Ethiopia and the downstream riparians, Egypt and Sudan.

² In fact it is overdue – the literature on transboundary river basin management is scattered and incoherent. Dinar and Dinar (2003) reviewed some of the literature on conflict and cooperation on transnational waters in 2003.

³ See Merrey, 2009 and Van der Zaag and Gupta, 2008 for critiques of the thinking behind their assumption that major water infrastructure is the only means to achieving water security in Africa.

Benefit-sharing is not new but the concept is becoming more prominent in the international discourse (e.g. Phillips et al., 2006; Phillips et al., n.d.). However, as Anthony Turton argues (2008), while it sounds deceptively simple and straightforward, it is very complex in practice. Quantifying benefits is a serious challenge, and a very high degree of mutual trust is required given the relatively weak institutional frameworks; therefore sceptical negotiators are not convinced. Turton (2008) identifies nine critical elements of the benefit-sharing approach that differ from the "traditional paradigm" with its narrow definition of state sovereignty and security, and uses the example of southern Africa to make his case. In essence the traditional paradigm is simple but its inflexibility, focus on retaining direct control of resources, and zero-sum dynamic driven by perceptions of risk and threat lead to sub-optimal solutions. The proposed benefit-sharing approach requires more complex institutional arrangements at both national levels (greater inter-sectoral cooperation) and internationally within a "hydropolitical complex" to succeed, but potentially creates a much larger basket of benefits – a positive-sum outcome that generates increasing robustness and resilience. Turton notes that southern Africa through SADC has made considerable progress in establishing the conditions for effective benefit-sharing, though much remains to be done; the situation in SADC is discussed further below. Dombrowsky (2009) provides a recent conceptual analysis identifying the conditions most conducive to benefit-sharing cooperation among states. To balance such optimism, van der Zaag (2007) emphasises the complexities of relationships between upstream and downstream parties that can confound seemingly beneficial arrangements.

Hydropolitics

Turton had previously developed the idea of a "Southern Africa hydropolitical complex" (Turton, 2002, 2003; Turton et al., 2003, 2004; Ashton and Turton, 2005). This concept links water scarcity, national social and economic development aspirations and national security aspirations or threat perceptions of riparian states. The southern African hydropolitical complex is seen as centred around the four southern African states that are both the most developed and the most water-scarce: Botswana, Namibia, South Africa and (to a very reduced extent now) Zimbabwe. They are linked with seven other less- developed states that together share nine river basins.⁴ How these shared transnational river basins are managed (and linked through inter-basin transfers) is a paramount strategic regional concern. Because most southern African countries are co-riparians on more than one river, and share other economic, political and social ties as well, one implication is that analysis cannot be confined to a specific basin. Indeed, complementing this argument, Allan (2002) has argued that "virtual water is the dream solution for politicians in water stressed economies" because water-intensive products can be imported as a major component of the solution to water scarcity.

A second (hypothesised) implication is that hydropolitics must move away from the current bias emphasising water and conflict to focus on the potential for cooperation; Turton thus defines hydropolitics "as the systematic study of the authoritative allocation of values in society with respect to water" (Turton, 2002; Turton et al., 2003). A third hypothesis underlying this concept, derived from the work of Wolf and his colleagues, has two elements: there is a propensity to cooperate rather than fight over shared water resources, and the likelihood of violence is reduced as the scale of interactions among the parties increases (Turton et al., 2003). In water-scarce regions water security can easily become linked to national security, and in the absence of effective mediating transnational institutions, this can threaten peace. Managing transnational water resources is therefore more about international relations than about water resources management in the technical sense (Turton, 2003).

Although much has been written about "water wars", as Wolf et al. (2003) note, "the record of acute conflict over international water resources is overwhelmed by the record of cooperation". Most studies on both sides of the argument are flawed because of lack of precision, lack of data, or assumptions that

⁴ These basins are the Orange, Limpopo, Okavango, Cunene, Incomati, Maputo, Pungwe, Save and Zambezi.

are projected onto potential conflict zones. Wolf et al. (2003) attempt to use a more rigorous methodology to assess those basins where there is a future potential for conflict. They make use of the Transboundary Freshwater Disputes Database (online at www.transboundarywaters.orst.edu, accessed 16 February 2009), a comprehensive compilation of data on the 263 shared basins in the world, combined with other databases of conflicts and a wide-ranging literature review.⁵ This has enabled them to carry out various statistical analyses to test hypotheses regarding the potential for water conflicts. Although water can be an "irritant", a striking finding is that nearly all interactions over water are cooperative. There is no consistent correlation between water scarcity per se and conflict. However, they found that the basins at most risk are those where the rate of change is rapid and exceeds the institutional capacity to absorb such changes – for example where there is development driven unilaterally in the absence of institutions with the capacity to manage the process. Six of SADC's transnational river basins are in this category: the Incomati, Kunene, Limpopo, Okavango, Orange and Zambezi.⁶

International water law

International water law has been evolving for many centuries. Many modern international treaties on shared fresh water resources are based on the principles contained in the United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses, adopted by the UN General Assembly in May 1997. This Convention has not yet been ratified by the minimum number of countries (35) needed for it to take effect. Upper riparian states generally voted against it or abstained from voting, lower riparian countries generally favoured the Convention, and many complained it did not contain provisions for settling disputes. This inconclusive outcome occurred despite a 25 – year continuous process, and demonstrates the contentiousness of transboundary water issues (Akweenda, 2002; Eckstein, 2002; Boisson de Chazournes, 2003). Negotiators could not satisfy a sufficient number of countries on issues such as the need to balance using a watercourse in an "equitable and reasonable manner" with the desire of upper riparians to maintain absolute sovereignty over water resources originating within their boundaries. Eckstein (2002) notes that riparians on most major shared basins were divided in their votes, with the exception of North America and southern Africa. Zimbabwe was absent and Tanzania abstained; but most SADC member countries voted in favour of the Convention.⁷

Boisson de Chazournes (2003) argues that the expectation for a "framework convention" is that it provides a set of general principles and a legal roadmap that will be elaborated and reflected in specific agreements. In this sense, even though the UN Convention is not in force, it has had significant influence on other more specific framework agreements, for example on the Nile basin and the Revised Protocol on Shared Watercourses of the Southern African Development Community (Ramoeli, 2002). Boisson de Chazournes identifies five main building blocks or pillars for international water management, as follows:

1. Water-sharing principles, including "equitable and reasonable use" and "no harm" rules.
2. General obligation of riparians to cooperate, including collection and exchange of data, notification of planned uses, and establishing joint mechanisms for cooperation.
3. Protection of the environment.
4. Promotion of dispute settlement and avoidance mechanisms.

⁵ Aaron Wolf leads a research programme on international waters at Oregon State University, USA; see the website named in the text.

⁶ Nevertheless, SADC processes and agreements explicitly seek to ensure peace through cooperation in development and use of shared waters; see discussion below. This author does not agree these are "basins at risk".

⁷ As of 16 May 2009, South Africa and Namibia were still the only SADC countries to have signed and ratified it – and two of only 17 countries worldwide that had ratified it (http://treaties.un.org/pages/viewdetails.aspx?src=treaty&mtdsg_no=xxvii-12&chapter=27&lang=en).

5. *Involvement of non-state actors.* This is the least developed pillar, reflecting that the UN Convention "is a classical state-oriented instrument, with almost no provisions for the involvement of other stakeholders, such as local communities and non-governmental organisations (NGOs)" (Boisson de Chazournes, 2003). We return to this issue below.

International water law and treaties are a classic top down discipline, dominated by legal scholars and diplomats representing sovereign countries. Recent studies of African treaties on international waters by Lautze and Giordano have examined their characteristics, robustness, equity and appropriateness to African conditions (Lautze and Giordano, 2005, 2006, 2007).⁸ Over time, African transnational water treaties have evolved in a way that reflects changing global concepts such as equity and integrated water resources management (IWRM), giving more attention to water allocation and environmental issues and less to developing water resources for economic development; in other words, the trend "seems to be more synchronised with global trends than with basin conditions" (Lautze and Giordano, 2005). In a later paper, Lautze and Giordano (2007) further develop this theme. On the one hand, among the world's major regions, sub-Saharan African water resources are the least developed per capita while poverty and malnourishment are the highest. This would suggest the need for emphasising water resources development. But international transboundary water law and investments in recent decades have shifted from development to management of water resources, a shift in focus that reflects the relatively high levels of development achieved in other regions. In recent decades, sub-Saharan African water laws have followed this global trend despite the very different challenges facing the continent. In essence, African transnational water treaties have increasingly diverged from addressing African problems to embodying global "best practice" in water management. Only recently has there been at least a rhetorical shift by development partners such as the World Bank back to encouraging water development investments – but as discussed below this is not viewed by all parties as a positive development.

The SADC Protocol

The original SADC Protocol on Shared Watercourse Systems was negotiated in the early 1990s and signed by ten member countries in late 1995.⁹ Influenced by debates as the UN Convention was being finalised as well as reservations that some held, certain member states expressed reservations about some provisions; therefore discussions and consultations were reopened and the SADC Revised Protocol on Shared Watercourses was signed and adopted by the SADC Heads of State in 2000 (Ramoeli, 2002). It entered into force in September 2003 (SADC, n.d.). Its content was greatly influenced by the UN Convention, with additional details and adaptations to the southern African context. It strongly encourages establishing interstate river basin institutions. The Protocol has provided an important foundation for subsequent planning processes after extensive consultation in the region: the SADC Regional Water Policy, SADC Regional Strategic Action Plan on Integrated Water Resources Development and Management, and the SADC Regional Water Strategy (SADC, n.d., 2005, 2007). There have been numerous consultations and workshops with a large number of regional and international stakeholders, including the Global Water Partnership, development partners and international and regional NGOs. Nevertheless, the fifth "pillar" of the UN Convention, involvement of non-state actors, receives only lip service attention in formal SADC documents – these are agreements among sovereign states.

SADC makes its decisions by consensus, and its programmes are coordinated by a Secretariat based in Gaborone. The Water Division is within the larger Infrastructure and Services Directorate – intended

⁸ Lautze and Giordano have constructed a searchable on-line database of African international water treaties that complements the TBDD database mentioned above; see www.africanwaterlaw.org (accessed 18 February 2009). It also contains a useful bibliography on the subject, covering the period up to the early 2000s.

⁹ The formal Treaty of the Southern African Development Community entered into force in September 1993.

to signal water as an important infrastructural investment sector (Swatuk, 2008). This Division is responsible for coordinating and promoting the implementation of the Regional Protocol, Policy and Strategy. The Water Policy promotes negotiation of "appropriate shared watercourse institutions (SWCIs)", with support from the SADC Water Division. The Protocol does not explicitly allow for or exclude non-state actors in river basin governance (Sneddon and Fox, 2008), but the Regional Water Policy explicitly states that stakeholder participation in decision making by SWCIs shall be through the Member States' governmental representatives, while SWCIs should foster cooperative relationships with NGOs and civil society groups "in the interests of IWRM". It also encourages empowerment of stakeholders to participate in the management of water resources, "particularly in shared watercourses", and asks Member States to recognise the positive roles of NGOs and "facilitate" their participation (SADC, n.d.: executive summary).¹⁰ However, there is no regional legal or institutional framework for enabling stakeholder participation (Mushauri and Plumm, 2005). The more recent SADC Water Strategy (SADC, 2007) is a glossy document with considerable discussion of the importance of IWRM, institutional, legal and policy reform, stakeholder participation, environmental conservation, empowerment of stakeholders through dissemination of information, promotion of gender equity, and alleviation of poverty. These documents clearly reflect the global management and conservation agenda, but contain no specific proposals for infrastructural development (consistent with the observations by Lautze and Giordano, 2007).

From state domination to transnational democracy

The academic literature discussed above and indeed actual practices are largely based on international relations theory or frameworks. In this paradigm, "the state", interacting with other states, is the unquestioned dominant actor in transnational river basin management – a "sanctioned discourse" (Swatuk and Wirkus, 2009a). In a review of southern African literature, Furlong (2006) offers a wide-ranging critique of this "state as actor model". Among other problems, the model reifies sovereignty as if states had complete control of their territories, severs the connections between foreign and domestic politics, and assumes the state is prior to and "a container of" society (the "territorial trap"). In Africa, states are relatively weak, and are characterised by artificially created "permeable" boundaries (Boege, 2009). Although large-scale water projects, for example inter-basin transfers, may indeed build cooperation between states and powerful elites, this may also collide with the interests of particular social groups and lead to violent repercussions. Furlong uses the example of the Lesotho Highlands Water Project between Lesotho and South Africa. Designed and initiated by the apartheid South African government and a weak Lesotho state totally dependent on South Africa, the project is perceived from the states' perspectives and those of the World Bank and powerful elites in both countries as an outstanding success. But strong opposition by disaffected groups in both countries has been suppressed (violently in Lesotho), and other studies have shown that the livelihoods of affected rural people (especially women) have been worsened, while allegedly leading to South African policies that have hindered water access by the urban poor. There may be disagreement on details, but in both countries, Furlong (2006) argues, the distribution of the costs and benefits of the project has been skewed to disadvantage marginalised people.

Taking what he calls a critical (as opposed to liberal) political economy approach to analysing water resources development in southern Africa, Swatuk (2008) analyses the influential role of "ecocentric" interests – conservationists, environmentalists and rural poverty activists, many of them supported by international environmentally-oriented NGOs as well as bilateral donors – in the face of the widespread popular support for those advocating infrastructural investments to develop the region's water

¹⁰ For example, OKACOM, the intergovernmental commission for the Okavango river basin, has established a transboundary "Basin Wide Forum" comprising ten local community representatives from each of the three riparian countries. This is said to meet at least once a year "to share experiences" and provide inputs, but there is no evidence it has any authority or even influence (www.okacom.org/structure.htm, accessed 19 February 2009).

resources (technocentric interests). Southern Africa is characterised by severe underdevelopment and a deep schism between the wealthy few and the poor majority, a product of its colonial history; and the water sector is characterised by "water security for the few, water scarcity for the many" (Swatuk, 2008). The article provides an excellent analysis of the "configurations of social power" or actor coalitions along a technocentric-ecocentric continuum. Swatuk sees those holding technocentric views as being the most influential actors in the water sector and having widespread popular support; while those espousing an ecocentric approach are less influential among decision-makers and have less popular support but "wield considerable obstructive power where water resource infrastructure development is concerned". This may understate their impact: most official documents and workshop proceedings seem dominated by the conservation and stakeholder participation agenda, and regional as well as national water resources infrastructural investments are far lower than might otherwise be expected in such a water-challenged region. Swatuk argues that ecocentrists should support regional water infrastructural development as it offers a way to provide broad-based benefits to the poor; their focus should be on avoiding making the same environmental errors as in the past. In his list of 18 types of stakeholders, "residents of remote rural area" [sic] is the closest he comes to indigenous local communities as being key stakeholders.

Swatuk (2008) may be right that ecocentrists should support infrastructural development, but this misses the real goal of many participants in the coalition of international, regional and local advocacy groups and NGOs: they are really seeking to achieve a citizen-based participatory "ecological" and "transnational" democracy (Sneddon and Fox, 2008). There is a fundamental difference in philosophical perspective between technocentrists who seek to use major infrastructural interventions to harness and transform nature for economic development, and those whose world view integrates ecological values, ecosystem conservation and participatory *transnational* democracy: environmental politics and deliberative democracy are seen as mutually supportive. The latter seek to mobilise otherwise poor and disempowered citizens with shared interests that cross national boundaries, for example in maintaining ecosystem-based livelihoods in transnational river basins. Using the Mekong and Zambezi basins as case studies, Sneddon and Fox (2008) argue that current inter-governmental institutional arrangements in both basins "are in many ways anti-ecological and anti-democratic". In both basins, transnational social movements – coalitions of international, regional and national networks – have emerged to challenge the state-driven technocentrists. In both cases, these networks call for transboundary participatory democracy both at river basin level and at the level of formal governance. They are not simply seeking to block water development; they are articulating "a regional vision of alternative water resources development. [emphasising] empowering communities" (Sneddon and Fox, 2008).¹¹ Sneddon and Fox (2006, 2007) provide more detailed and nuanced analyses of attempts to promote participatory governance in the Mekong basin, with many parallels to southern Africa. In contrast to the riparian states on the Mekong, Sneddon and Fox (2008) claim the Zambezi basin states (with one exception) are more willing to engage with these transnational civil society networks and incorporate their perspectives.¹²

But that is not the same as abandoning planned water infrastructural investments in favour of ecosystem-based development. This emerges from the key recommendations of a major "Regional East and Southern Africa Seminar on Major Water Infrastructure Development in Africa: Balancing economic, environmental and social aspects for sustainable outcomes" (InWEnt, 2007). This seminar brought together a large number of stakeholders (88 participants are listed) including governments and regional

¹¹ Alhassan (2009) argues, from the case of Ghana, that these kinds of groups are indeed opposed to developing water resources, leading to the "subversion of development". Mike Muller (2009), former Director General of Water Affairs in South Africa, has also recently strongly criticised the hegemonic impacts of the West in limiting hydropower development in Africa. The deep chasm between development and ecosystem advocates was dramatised by the expulsion from Turkey of International Rivers anti-dam activists attending the Fifth World Water Forum in March 2009 (www.internationalrivers.org).

¹² This does not mean civil society institutions have it easy in the Zambezi; one anonymous reviewer of this paper suggests "few governments in the Zambezi are willing to do this".

economic communities, development partners, international NGOs and advocacy groups, and local civil society representatives. Some of the presentations contained in the proceedings argue against construction of large dams and in favour of smaller-scale alternatives. Nevertheless, the final key recommendations focused on creating a "new African culture of balancing social, environmental and economic components of water structure development", emphasising the need for capacity building and dialogue to achieve this balance (InWEnt, 2007).

Most analyses of transnational river basin governance are based on political science or institutional economics and are state-centric. States are the dominant actors, and states require formal institutions, for example river basin organisations, in which they make all important decisions. In addition to being ineffective in most cases, these formal institutions exclude civil society voices, especially those espousing alternative visions of sustainable development. These limitations have led to calls for new thinking (e.g. Swatuk and Wirkus, 2009a, 2009b). Even the transnational or ecological democracy advocates are largely agencies external to the basin seeking to create mechanisms for empowering civil society participation in terms of western or external models of how this is to be achieved – for example open transparent forums on the assumption that all interests will have an equal hearing. It is rare to find advocates or researchers who seek to build such institutional arrangements up from indigenous roots.

AFRICAN INSTITUTIONAL MODELS: WHAT DO WE KNOW AND WHAT DO WE NEED TO LEARN?

A mountain of literature has been published on the subject of local management of natural resources; and there is an international consensus on the desirability and benefits of local people managing their own resources. There is also a broad consensus, only rarely questioned, on the desirability of democratisation and popular participation in decisions about the management of natural resources. In many countries including those of southern Africa, new IWRM policies and water laws have begun creating new institutions through which people are expected to have a voice in water management. In the previous section, we have noted the growing movement towards transnational participatory democracy on shared river basins – parallel to, and sometimes in opposition to, intergovernmental river basin institutional arrangements. Researchers have documented cases where local stakeholders and interest groups get involved in transnational water politics, usually opposing major infrastructural developments seen by some local communities as harmful to their own interests, and often supported by international NGOs (e.g. Meissner, 2005; Sneddon and Fox, 2006, 2007, 2008; Alhassan, 2009). Separately, and for decades, anthropologists and others have been recording and analysing local practices and institutions for management of water and other natural resources, demonstrating that in many instances these work quite effectively. A related scholarly tradition under the rubric of legal pluralism addresses the question of how national laws and institutions, both colonial and post-colonial, undermine, distort or support local customary resource management institutions.

These studies are useful and important. However, nearly all the work on the functioning of local "indigenous" natural resources management arrangements assumes that these arrangements are relevant *only* at a local level. The question of whether the underlying organisational and decision-making principles can be scaled up to higher-level institutions is rarely posed. Similarly, the work on empowering local communities to manage resources through new "modern" institutions, or supporting their involvement in higher-level forums as part of a process of enhancing national and transnational democracy is nearly always based on outsiders' (western) norms for "democratic" institutions. In this sense, the NGOs promoting democracy and good governance, and governments and development partners creating higher-level institutions, such as river basin organisations, all have a shared perspective: they are imposing institutions and norms based on external models, not building on local cultural values and traditions. Likely reasons for this blind spot include assumptions that a) there are no viable institutional traditions and principles on which to build, b) those that may exist are inherently

inequitable or ineffective, and c) the global norms of participation, gender equity, democracy, sustainable development, open markets, and the like are universally "true" and not to be questioned.

Swatuk (2005) offers a perspective on the dynamics and thought processes underlying this apparent blindness. The ability to frame the global discourse is a source of power, and this is done very effectively by westerners and those trained in the traditions of the west. Global norms are pursued relentlessly by what he calls "transnational norm entrepreneurs" (P.167) seeking to achieve their own vision of the future – these paradigms are not contested and become what Molle (2008) refers to as "nirvana concepts". Resistance is perceived as immoral and unacceptable, and whatever seems "different" is discounted as inferior, backward and underdeveloped. African elites "privileged by Western actors" do not openly contest these "universal claims regarding development trajectories", but rather acquiesce while grafting on some rhetorical flourishes on "African-led development" or the "African way" (Swatuk, 2005). Rival perspectives and explanations are therefore heavily discounted and not pursued, suppressing debate and assessment of alternative views (Morales, 2006; Molle, 2008). If therefore institutional arrangements for managing African transnational river basins are weak, then more capacity building, political will and reform are needed. No fundamental questions are asked as to whether there are alternative solutions for managing shared resources.¹³

It is precisely because of this intellectual, economic and political hegemony that no counter-factual institutional arrangements exist for comparison. This creates a serious problem for the theme of this paper. While still at the International Water Management Institute (IWMI), the author wrote a proposal that was funded by the Challenge Programme on Water and Food (CPWF; www.waterandfood.org), entitled "African Models of Transboundary Governance" (CPWF Project 47). Unfortunately, he left IWMI when the project was less than half completed. The project researchers have produced some interesting studies on local indigenous water management arrangements in the Limpopo and Volta basins (see below), but the project was less successful in addressing the fundamental research question on whether alternative African solutions existed and could be built into transnational river basin management arrangements. This observation is not a criticism of the researchers; rather it confirms the inherent difficulty of imagining something that presently does not exist, and possibly illustrates the unconscious (and probably disputed) intellectual hegemony of western perspectives even among African researchers.

Therefore, this section briefly and very selectively reviews some of the literature documenting and analysing local indigenous water management institutions including the case studies completed recently by the CPWF Project 47, with a view to assessing whether there is a basis for pursuing the "Africanisation" of transnational river basin institutions. To achieve this, the next sub-section draws attention to the global and still growing literature on farmer-managed irrigation systems and more recently, legal pluralism; this is followed by a discussion of recent work on participatory governance at national and transnational levels of river basins, and finally by a brief discussion of the relevance of the CPWF Project 47 outputs for envisioning African transnational basin institutions.

FMIS, local water rights and legal pluralism

Farmer-Managed Irrigation Systems (FMIS) have been the subject of research for decades (e.g. Coward, 1979, 1980, 1986, 1990; Fleuret, 1985; Hunt, 1990; Tang, 1992; Ostrom, 1992). Work on this topic constituted a major research and networking programme in the early days of IWMI (then called International Irrigation Management Institute, IIMI; see Merrey, 1997). This early work generally had at least one of three objectives: 1) to document the underlying principles of "successful" indigenous management of irrigation systems built and managed by farmers; 2) to defend FMIS from top-down development efforts by governments and donors that in many cases undermined the principles on

¹³ Warner et al. (2008) analyse the "globally hegemonic ... 'holy trinity'" of multi-stakeholder platforms, for IWRM conceived at the river-basin level, which obscures how water is to be managed is a matter of political choice and therefore, ideally, requires democratic debate.

which their sustainability and performance were based (e.g. Sutawan, 1987; Roth, 2005 on Bali); and 3) to use the lessons from successful FMIS to inform attempts to improve the management of government-built schemes, including programmes aimed at transferring management of portions of these schemes to farmers (e.g. Hunt, 1990; Ostrom, 1992; Merrey, 1996). This kind of research continues in some parts of the world, especially in the Andes, for example through a collaborative programme called Water Law and Indigenous Rights¹⁴. This work is still largely focused on indigenous irrigation schemes, but is concerned with local water rights, the tensions and conflict between attempts to impose uniform national water laws and policies and a context of highly diverse ecologies and local conceptual and institutional arrangements for managing water, and conflicting conceptions of equity, empowerment, and justice (e.g. Boelens and Dávila Eds, 1998; the articles in Boelens and Hoogendam, Eds, 2002; Boelens, 2006, 2008).

As Boelens et al. (2005) note, while perspectives have remained highly eclectic and overlapping, there has been an evolution in terms of dominant theoretical perspectives: new institutional economics with its emphasis on cost recovery, accountability, financial autonomy and well-defined and enforceable water rights (e.g. Ostrom, 1992; Merrey, 1996); common property resource management with a strong emphasis on balancing rights and responsibilities (e.g. Ostrom, 1992); and a more recent emphasis on 'empowerment' to promote more effective participation by paying greater attention to unequal distribution of power (e.g. Boelens and Hoogendam, Eds, 2002), as well as on legal pluralism. Much of this literature is based on the assumption that it is possible to design or "craft" institutions based deliberately on fundamental principles. More recent work has emphasised that institutions are complex, contextualised, socially-embedded, contingent, fluid, dynamic, and include elements of formality and informality and principles derived from diverse sources (*bricolage*); they therefore "elude design" (Cleaver, 2001; Cleaver and Franks, 2005; Merrey et al., 2007; Sehring, 2009).

Legal pluralism refers to the existence and interactions of different normative orders, usually state and non-state, within the same socio-political space (Boelens et al., 2005). There is a rapidly growing literature on legal pluralism issues in Africa, largely focused on the interactions between local or customary law and both colonial and post-colonial state law.¹⁵ This work has several themes: the ways in which formal law supports, undermines or distorts customary laws and practices (e.g. Chikozho and Latham, 2005; Boelens, 2006); how colonial governments used local institutions ('chiefs') and customary law as means to maintain political control (e.g. Mohamed-Katerere, 2001); the continuing effectiveness (or lack thereof) of local traditional natural resource management institutions; and the extent to which local traditions uphold or contradict international norms. For example Chikozho and Latham (2005) argue that Zimbabwe's Water Act of 1998 lacks relevance for rural communities, who largely rely on indigenous institutions for managing natural resources; while Derman et al. (2005) claim that field research in Zimbabwe demonstrates local water rights support peoples' rights to water and livelihoods in a way that is responsive to gender issues. Important characteristics of local management arrangements that are different from generalised national law are their specificity, diversity, and dynamism. Institutions to manage local water sources are adapted to the specific characteristics of local contexts. They are not formalised or written and are therefore dynamic, reinterpreted in the light of new situations and ideas; they are repertoires of socio-legal principles and solutions drawn from many sources (Boelens, 2006). Some recent researchers suggest the possibility of incorporating indigenous principles or local institutions into laws and policies at national and regional as well as local levels, but provide no guidance on how this might be done (Mohamed-Katerere and van der Zaag, 2003; Derman et al., 2005; Malzbender et al., 2005; Boege, 2009).

¹⁴ See www.eclac.cl/DRNI/proyectos/walir/homee.asp (accessed 5 March 2009)

¹⁵ Examples can be found on the website for a conference held in 2005: www.nri.org/projects/waterlaw/workshop.htm (accessed 5 March 2009); and also a special 2001 on-line issue of *African Studies Quarterly* (<http://web.africa.ufl.edu/asq/v5/v5i3.htm>, accessed 5 March 2009).

Participatory governance of transnational river basins

The principle that basin stakeholders should participate in governance of national river basins has been written into water laws in many countries in recent years. For example, South African law calls for the creation of "catchment management agencies", Zimbabwe's law provides for catchment and sub-catchment councils (Manzungu, 2004; Tapela, 2009), Namibia's law calls them basin management committees (Amakkai and Swatuk, 2009; Falk et al., 2009), and other countries around the globe are implementing similar institutional arrangements for watershed and basin management. The literature on southern African experiences demonstrates how difficult it is to establish such institutions in a way that really gives a voice to the poor and marginalised alongside vested interests (e.g. Wester et al., 2003; Manzungu, 2004; Simpungwe, 2006). There is a high degree of acceptance of the principle of local communities managing their own local resources and good examples of attempts to build on traditional institutions at the local level (e.g. Namibia; see Falk et al., 2009); but local stakeholders playing an active and effective role in larger forums, for example at river basin level, is more problematic. There is often "deep distrust" of local communities' capacities among many policy makers and technocrats (Neef, 2009); on the other hand, many officials fear capture of such forums by elites and, based on this (often genuine) concern, retain control in government hands (e.g. Wester et al., 2003; Waalewijn et al., 2005; Merrey et al., 2009). Even in countries like Namibia that seem genuinely committed to stakeholder-driven management of river basins (Falk et al., 2009), if local stakeholders oppose government interests such as construction of a hydroelectric dam on a river shared with Angola, high-level politicians may take extremely aggressive positions against these stakeholders (Meissner, 2005). The high transaction costs of participation, questions about the legitimacy of representatives when many local communities are not well-organised, lack of a shared language in multi-ethnic basins and other impediments are real and not easy to overcome. All of these problems are only magnified many times in the context of transnational basins.

It is easy for workshops and consultants to advocate greater stakeholder participation in the governance of transnational river basins (for example, Mushauri and Plumm 2005; SADC, n.d., 2007). Networks such as the Global Water Partnership (www.gwpforum.org, accessed 18 March 2009) are actively working to build capacities of local NGOs and community organisations to participate actively at transboundary basin and regional as well as national levels. Examples of attempts to build "transnational democracy", often supported by international environmental NGOs have been discussed above. These cases are often precipitated by opposition to proposed large-scale infrastructural developments (e.g. Meissner, 2005; Sneddon and Fox, 2006). A common characteristic of all these cases is that they rarely, if ever, build on indigenous local institutions and practices. Rather, they are nearly always based on models for negotiation, consultation and decision-making that are external to the basin communities; in essence they follow "Robert's Rules of Order"¹⁶ and not local unwritten rules. As Swatuk and Wirkus (2009a) put it, the "governance dialogue" of the State, expert networks and technorationalist science emerging from western experiences "blocks out alternative models of social organisation, legitimate authority and ways of knowing" typical of rural African people.¹⁷

Towards African models of transnational water management institutions

The earliest paper examining the idea of building indigenous conflict resolution practices into arrangements for managing international waters is apparently by Wolf (2000). Based on some weeks of research among Berbers in the mountains of Morocco and Bedouins in the Negev desert, he identifies five indigenous methods of conflict resolution that could be applicable to modern problems on international basins. There is no evidence that this insight was pursued further. The CPWF project

¹⁶ See www.robertsrules.org (accessed 16 March 2009).

¹⁷ I am grateful to an anonymous reviewer for pointing out the original work on "dialogues" was described in Turton et al., 2007.

referred to above was intended to explicitly investigate this alternative model for transnational governance, but a recent conference paper by the joint project leadership intended to synthesise the insights from field research in the Volta and Limpopo basins emphasises the "serious challenges" of applying the findings beyond local levels (Sullivan et al., 2008). This is correct, but the researchers seem to have interpreted (and probably gathered) their data through a western-tinted lens. Therefore, in contrast to Wolf (2000; see also Derman et al., 2005), they emphasise the lack of gender equity and the non-democratic nature of traditional leadership, though balanced with observations on the advantages of indigenous multiple use, conflict-avoidance and risk-aversion features. Nevertheless, the field studies do seem to identify, without developing adequately, several interesting customary principles and practices that could be adapted for wider-scale processes. Further, the field studies do not universally support the perspective that traditional leadership is non-democratic. We return to these issues below.

Boege (2009) has recently drawn attention back to the idea of "amalgamation" of local informal customary practices with more formal ones at transboundary levels, emphasising the need for adjustment and transformation (see also Mohamed-Katerere and van der Zaag, 2003). Further drawing on the concept of "institutional *bricolage*", (Cleaver, 2001; Cleaver and Franks, 2005), he suggests we must get away from the western rationalist (social engineering) concept of "institutional design" and conceive of institutional formation as a process of social interaction shaped over time by historical factors, power relationships, and world views (see also Merrey et al., 2007).¹⁸ In much of Africa, national boundaries are a "fiction" contrasting with the "lived reality" of social networks transcending political borders and watercourses (Boege, 2009, referring to Swatuk and Vale 1999). Boege (2009) concludes by advocating further attention to combining state-based international water management structures with "transfluvial cross-border customary institutions of water management and conflict resolution".

Results from CPWF Project Field Studies

Advocating further attention is not the same as advocating promotion of specific indigenous institutions or customs. Aside from being premature given the current state of knowledge, this would also defeat the purpose proposed here, which is to encourage a creative locally legitimate institutional formation process in African watercourses. But it is possible to point out examples of indigenous practices and institutions that provide potential foundations for such processes. Boege (2009) suggests one example drawn from other literature, a custom in Botswana he refers to as *kgotla*. *Kgotla* (literally meeting place within a *kraal*: see Manzungu et al., 2007¹⁹) is a culturally sanctioned part of life in rural communities in Botswana, a process of consultation between local chiefs and community members as a basis for decision-making. Said to be resisted by some modern officials, it nevertheless gives legitimacy to decisions and ensures full community support. It seems likely that stakeholder consultations implemented using *kgotla* principles will prove more effective and legitimate in the long run than decisions based on majority voting, for example. Such culturally sanctioned consultation is common throughout southern African rural communities.

Manzungu et al. (2008) document local indigenous water management arrangements in several villages in each of two areas in the Limpopo basin portion of Zimbabwe. In Sibasa communal lands, a dam, multiple boreholes and a government-constructed canal providing water to an irrigation scheme are all managed through local customary institutions. The researchers document a "water security system" based on the following principles: water access rights based on residence, centrality of livelihoods in determining water access (in place of the usual distinction between domestic and

¹⁸ Sehring, 2009 provides an interesting application of this perspective in post-Soviet societies.

¹⁹ An anonymous reviewer of this paper provided additional insight into the term *kgotla* as a place where matters of common interest are discussed – the process being called *legotla*. Other southern African cultures share the same concept.

productive uses²⁰), balancing of multiple sources of water for complementary uses to accommodate seasonal variations in supply and demand, flexible enforcement of rules during normal times (these stiffen during periods of scarcity), and overall governance through traditional chiefs balanced by consultation and consensus building (and supported by rituals and spirit mediums; note the parallel with the *kgotla* in Botswana). Manzungu et al. (2008) note that in this area water scarcity is a serious threat and people depend on a number of scattered water sources; they suggest this is precisely why relatively strong overarching institutions encompassing regulation of use and access to multiple sources of water have emerged. The authors note that there is an unfortunate disconnection between these effective local management arrangements and the formal state-sponsored local institutions.

In nearby Maramami communal lands, at the confluence of the Shashi and Limpopo rivers, a different ethnic group dominates, and livelihoods are based on management of a large flood plain as well as a government-constructed irrigation scheme. Here too, livelihoods are central – setting up conflicts with government which gives priority to the environment on the flood plain. Access rights on the flood plain are based on land clearing, i.e. property is created through investment (and not based on residence) – and contrary to government rules, a similar principle governs actual access to land and irrigation on the government irrigation scheme. These rules have led to some inequity as more successful households exploit multiple plots, but they are widely accepted and therefore followed. Further, all local residents, including those with no land in the irrigation scheme, can use water from the canal for livelihood purposes. Unlike Sibasa, there is no central control through chiefs.

Manzungu et al. (2008) say the implications of the results of this research for transnational basin management are "difficult to decipher" but conclude that effective local management arrangements offer another useful entry point to transnational basin management along with state-sponsored institutions. While agreeing with this view, we suggest that the underlying principles of the local indigenous arrangements documented in Zimbabwe by Derman et al. (2005), Manzungu et al. (2008) and others could also become building blocks for developing higher-level institutional arrangements – but such a process must be led by local stakeholders and not by technocrats (or social scientists). These principles include: culturally sanctioned stakeholder consultation processes; flexible rules that are applied in a way that recognises the social web or relationships and the degree of water scarcity; priority to water for livelihoods rather than an artificial separation between domestic and productive water; a universal right to drinking water even in times of scarcity usually combined with broad rights to land and water for basic livelihoods (Derman et al., 2005); and exploitation of multiple sources of water for multiple uses.

The other CPWF project studies are a mixed bag, interesting and informative in their own ways, but less focused on teasing out underlying institutional principles. The Mozambique study (Pereira and Ricardo, 2008) notes that informal local management arrangements are legal in nature and are in principle supported by higher-level statutory institutions (at sub-district level and above). They found cases where statutory institutions have supported and assisted local associations, but also note that the information flows are often weak and achieving full community buy-in is commonly problematic. In contrast, Goldin and Thabethe (2008) paint a bleak picture based on the South Africa case studies, of confusion, conflicts and contradictions among traditional authority, water management committees in some communities, ward councillors, municipalities and national departments. This has resulted in significant problems in terms of extending or even maintaining water infrastructure and access to water by poor people. Neither of these studies offers much insight into how indigenous institutional arrangements work either normatively or in practice.²¹

²⁰ Formal law, for example in Zimbabwe, classifies basic domestic uses as "primary" to which people have a right, but excludes small-scale gardening – a very restrictive definition of water access rights not shared by rural Africans (Derman et al., 2005).

²¹ Malzbender et al. (2005) document a positive South African case where a local community built a hose-based reticulation system and manages to sustain it financially, with no support from government. This is managed by traditional authorities with community consultation.

The Botswana (Manzungu et al., 2007) and Ghana (Ampomah and Opoku-Ankomah, 2008) studies offer more nuanced documentation and analysis of effective local management of water resources. In Botswana, traditional arrangements, led by local chiefs but including associations or syndicates for managing boreholes and dams, come across as relatively effective. As emphasised for Zimbabwe, water resources management and livelihood goals are well-aligned, with livelihoods being of highest priority. In some cases, local institutions are resisting encroachment by state authorities; and Manzungu et al. (2007) emphasise their effective cost recovery capacities (which contrast with many cases elsewhere). A more recent paper documents the tensions and contradictions between local values and institutional arrangements, and the pressures from government and others for "modernisation" (Manzungu et al., 2009).

Ampomah and Opoku-Ankomah (2008), in their report on the Volta Basin (Ghana) case studies, also emphasise the focus on water resources management for livelihoods and the diversity of local arrangements combining indigenous and western principles in ways that seem complementary and not contradictory. They classify local water management institutions into three categories:

1. "Value institutions", mainly traditional chiefs and ritual specialists emphasising social solidarity, culture, and traditional values as the basis for carrying out water resources protection and management.
2. "Production institutions" promoting growth and economic development "using Western organisational patterns" that have a statutory existence; examples are local district assemblies and NGOs.
3. "Service-asset management institutions" that integrate productive and social goals. These have a long history in many areas and are indigenous in origin and organisation. Examples include water users associations, fishermen's and farmers' associations, women's and men's associations and local water and sanitation boards.

What emerges from the Ghana study is the relative effectiveness in terms of cooperation and integration between indigenous and formal statutory organisations in many cases. But as with the other CPWF project case studies, there is little information on the underlying principles that could inform future institutional formation processes.

CONCLUSION: BUILDING AFRICAN TRANSNATIONAL BASIN MANAGEMENT INSTITUTIONS

The process of developing effective governance institutions on Africa's transnational river basins is moving slowly, and is fraught with many complex challenges. Some of the academic literature on international water law provides an optimistic perspective on Africa compared to other regions of the world, but this seems to be in reference to agreements on paper among states, not necessarily practical outcomes on the ground. The champions of this process to develop transnational watercourse governance arrangements – African technocrats and officials, development partners and their consultants, and some academics and NGOs – would like to see faster progress if for no other reason than to promote large water infrastructural investments. There is little agreement on why progress is less than its champions would like: some note the weak capacity of governments, the perceived "unreasonable" opposition and blockage by international environmental NGOs, and politicians' concerns about possible deleterious impacts on national water and food security. At the moment, attempts to reach agreement on and build transnational watercourse management institutions are almost entirely interstate processes, dominated by technocrats (water resources and civil engineers), politicians and lawyers. Despite calls in the academic literature for new approaches to developing transnational river basin institutions, and numerous critiques of conventional state-based approaches to transnational water governance, few among the implementing agencies and their development

partners seem to be listening. And it is clear that hardly anyone is thinking in terms of developing these institutions from locally based indigenous foundations.

If further evidence is needed for the latter statement, one only needs to examine the set of draft "IWRM Performance Indicators for African Transboundary Basins Management" (INBO-ANBO, n.d.). This set of draft documents was prepared for discussion at the March 2009 World Water Forum in Istanbul, and is sponsored by the African and International Network Basin organisations (ANBO and INBO, respectively), with assistance from Ecologic, and the Office of Water in France (see www.aquacoope.org/pitb accessed 19 March 2009²²). It seeks to promote "best practice" in designing institutional arrangements and managing African river basin organisations – best practice being defined implicitly as what is done in Europe. It includes a draft scorecard spreadsheet for scoring the functional development of river basin organisations. Twenty-one functions are classified under five "groups", and to be fair, "stakeholder consultation" and "community awareness" are among the 21 functions. Each function can be scored on a scale of 1 to 5. A related scorecard is used to assess "IWRM performance indicators for Transboundary River Basin Organisations (RBOs)" in terms of planning and coordination indicators. Other scorecards are focused on technical indicators. This approach represents a quintessential western formal management approach. It would be easy to imagine an RBO scoring very high on most of these indicators (and therefore getting a high overall score) without making any positive contribution to the livelihoods, well-being and empowerment of basin residents.

This continuing formal state-focus is only one dilemma for the theme of this paper. Another is the danger involved in juxtaposing "modern" formal (or "western") institutions with "indigenous" or "customary" African informal institutions, leading to an entirely artificial reification of two ideal types, neither of which exists in any pure form. It is to avoid this danger that we have suggested bottom-up interaction processes, rather than imposing institutional designs, as a way forward. A third problem for the argument is that while there are numerous examples of effective indigenous resource management principles at local levels, there are no good counter-examples at higher institutional levels anywhere in the world: the remarkable hegemony of western-inspired institutional models, social engineering implementation approaches, and internationally advocated norms of equity and inclusiveness (ideal values found nowhere on earth in concrete terms) has stifled alternative perspectives and institutional formation strategies. Finally, African river basins are shared by a very diverse set of stakeholders. In addition to rural Africans, there are large-scale commercial interests, eco-tourism sites, and towns and cities. These interests dominate decision-making and investment resources, and do not share the same values and informal institutional arrangements of rural people. Governance arrangements must recognise and accommodate this diversity while seeking to achieve a more equitable balance in voice and development priorities.

We cannot return to some mythical pre-colonial past and start over. Therefore, the way forward is to encourage more investment in action-oriented programmes to strengthen local capacities for resource management. The lack of physical access to water for productive purposes is widespread; therefore, facilitating a combination of co-investment in creating local infrastructure as local community-owned hydraulic property with support for local communities to develop their own management capacity and mechanisms for recording and widely sharing lessons learned can make an important contribution. Support is also required to facilitate a creative African-led process to create transnational institutional arrangements that resonate with people's values, and – again – to promote sharing and networking among local people. State-led institutions need to be encouraged to open up and support these processes, including transnational civil society processes. Everyone needs to resist temptations to impose alleged universal values. Researchers can contribute much to supporting this new direction and stimulating creativity and the emergence of African organisations.

²² The author received some documents by email for this project that are not on the website.

ACKNOWLEDGEMENTS

Amy Sullivan, project leader at IWMI of the Challenge Program on Water and Food Project Number 47 (African Models of Transboundary River Basin Organisations) kindly shared unpublished final reports from that project, for which I am grateful. These reports are in the public domain and the authors have also confirmed this. I thank the two anonymous reviewers for Water Alternatives for their useful comments and suggestions. The third reviewer identified himself (Pieter van der Zaag): his comments were very insightful and thought-provoking and I am grateful for this. I also thank Flip Wester for assistance in accessing journal articles, and Larry Swatuk and Lars Wirkus for sending me a copy of their recently published edited book.

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