Governance of a shared and contested resource: a case study of the Okavango River Basin

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Abstract

The three riparian states that share the perennial flow of the Okavango watercourse system established the Permanent Okavango River Basin Water Commission (OKACOM) as a basis for managing that river’s basin. The institution has a collective responsibility to advise the basin states about the best options for joint utilisation and protection of the basin. This complex task is compounded by the pristine nature of the ecosystems, the pressing development needs of all the basin states and international pressure to protect the unique Okavango Delta. The development of the basin for the benefit of the population requires an understanding of the potential of the natural resources to support identified development options. The Commission is responsible for ensuring good collective governance that meets the objectives and expectations of the sovereign basin states, while strengthening the levels of governance in each individual state. This case study examines the relevance of the trialogue hypothesis, which states that effective interactions between political, social and scientific processes are essential for good governance. The study has revealed that the close relationship between the political will to create a management institution, understanding the needs of civil society and facilitating the scientific investigations required for planning purposes supports the trialogue hypothesis of good environmental governance.

Keywords: Development pressures; Okavango River Basin; Transboundary water resource management

1. Introduction

For management purposes, a river basin can be regarded as a single unit or “basket” that contains a variety of resources. These include natural resources such as land, minerals, wetlands, wildlife, water and many other elements, while the people that inhabit the basin are also an integral part of the overall ecosystem. Whilst each of the natural resources may be utilised by people in a variety of ways, the resources are all interlinked and interdependent. Importantly, water is the universal “driver” for patterns of human resource use and few resources are perceived to have any real value to society if water is not available to sustain their utilisation. However, despite these obvious patterns of co-dependencies...
between resources, most management approaches tend to focus on separate resources and assign their management to different institutions and authorities. In the case of water, this approach has the obvious disadvantage that it isolates water management from other water-related issues such as climate change, biodiversity, wetlands and desertification. In recent years this deficiency is being overcome by the adoption of the integrated water resource management (IWRM) approach, which encompasses all components of the hydrological cycle and engages all stakeholder groups that have an influence on, or are influenced by, water management decisions.

In any watercourse system or river basin that comprises the territory of more than one sovereign state, the resources have to be shared equitably by the countries concerned. In the case of water, there is a pressing need for countries to reach agreement on what constitutes an equitable share of the resource, since attempts to meet their own needs for water independently of their co-riparians could eventually lead to some form of dispute. That is the primary reason why neighbouring governments collaborate with each other to establish river basin organisations to oversee the management of shared river basins. These institutions seek to ensure that the available natural resources are developed in a balanced way and, through good governance practices, help to avoid disputes or possible conflict. As a result, good governance has become one of the central issues that must be addressed in integrated natural resource management.

This paper examines how Angola, Botswana and Namibia jointly approached the management of the Okavango River Basin, a vitally important source of water for each of the three basin states. The paper outlines the procedures adopted by the three countries to reach consensus on the need to form the Permanent Okavango River Basin Water Commission (OKACOM), a multilateral institution designed to advise the respective governments on the sustainable management of the basin. The paper also discusses the series of activities that have been implemented by the Commission to meet its obligations towards promoting good governance.

In this context, the paper provides support for the hypothesis that, for joint governance to be truly effective, there need to be close interactions between effective government processes that create and legitimise a collective management institution, science processes that improve the knowledge base for decision-making, and society processes that engage and support the stakeholders who will benefit from good governance. The relevance of appropriate communication processes to enhance and strengthen the interfaces between these processes will also be discussed.

2. Geographic features of the Okavango River Basin

The Okavango River Basin covers an area of some 413,000 km², encompassing portions of Angola, Botswana and Namibia, and forms approximately 57% of the larger Makgadikgadi basin (725,000 km²), which also includes a small area (20,000 km²) of western Zimbabwe (Figure 1). Population data for the Okavango basin are scarce, but it is estimated that over 600,000 people live in the basin, which gives a very low average population density of about 1.2 persons per square kilometre. Most of the people are concentrated along the perennial watercourses or in the main urban centres at Menongue in Angola, Rundu in Namibia and Maun in Botswana (Mendelsohn & Obeid, 2004).

The Okavango River Basin receives summer rainfall and is drained by both perennial and ephemeral watercourse systems. The main perennial watercourses of the Okavango are the Cubango and Cuito rivers, which drain southwards from the Bié Plateau in Angola, where the mean annual precipitation is
about 1200 mm. The Cubango River turns in an easterly direction to form the border between Angola and Namibia before joining the Cuito River to form the Okavango River downstream of their confluence (Figure 1). The whole border section of the river is known in Namibia as the Kavango River. Further downstream, the Okavango River turns southwards across the Caprivi Strip in Namibia and terminates in the Kalahari Desert of Botswana as an endorheic wetland system that constitutes the Okavango Delta. In years of exceptionally high inflows to the Okavango Delta, outflows from it enter the Thamalakane River and thence into the Boteti River which drains towards the Makgadikgadi Pans. Occasionally, outflows from the Okavango Delta also reach Lake Ngami (Figure 1). Mean annual rainfall over the Okavango Delta is approximately 600 mm and declines sharply to the south. The rivers draining the southern portion of the Okavango basin and the Makgadikgadi basin are ephemeral and seldom contain surface flows for more than a few days after a rainfall event.

The long-term mean annual runoff in the Okavango River at Mohembo, on the border between Namibia and Botswana, is approximately 10,000 million cubic metres per year (Mm$^3$/yr). However, it should be kept in mind that flows in the Okavango River are highly seasonal and that annual flows can
range between about 7000 and 15,000 Mm³/yr (Heyns, 2000). The Cubango and Cuito rivers each contribute about 50% of the total flow of the Okavango River.

The ephemeral Omatako River is an Okavango tributary that originates in the Omatako Hills of central Namibia where the mean annual rainfall is about 400 mm. The river occasionally flows in its upper reaches during the rainy season but, in living memory, surface flows have never reached the Okavango River. The ephemeral Nata River drains part of north-western Zimbabwe and flows into the Sowa Pan in Botswana, but flows reach the pan only occasionally because the mean annual rainfall in the upper Nata catchment is only some 600 mm. Sowa Pan is part of the Makgadikgadi Pan complex in the Okavango basin and, although this ephemeral wetland system is topographically connected to the Okavango Delta, flows from the Nata River can never reach the Okavango Delta. Only Angola, Botswana and Namibia have direct access to the perennial flow in the Okavango River and that is the main reason why Zimbabwe is not a member of OKACOM.

3. The case for shared governance

The modern concept of governance is much broader than stated in earlier assertions, i.e. that it consisted solely of the ways in which a political entity made decisions on behalf of the people in a country. In particular, governance is now understood to encompass much more than the actions and activities of government. In effect, it includes the application of political authority and public administration capacity, as well as the norms and standards that guide the way people interact with each other, to create an enabling environment for the country to prosper, and allow the people to express themselves, while respecting their individual and collective legal rights, and requiring each person to meet their obligations and responsibilities to their society and their country (Rogers & Hall, 2003).

The term “water governance” has been used to refer to the management of water resources and good water governance forms an important facet of the wider governance activities within a country. To achieve the objectives of good water governance, the government of a country needs to ensure that adequate institutional, technical and administrative arrangements are in place to facilitate the assessment, protection, regulation, development, allocation and sustainable use of water resources (Heyns et al., 1998). The explicit recognition that water management is closely linked to and dependent on the management of many other natural resources, the involvement of the public in water management processes, and the consideration of the interests of all stakeholders, are indicators of the extent and success of effective water governance processes (Heyns et al., 1998).

Importantly, on internationally shared watercourse systems water governance processes must transcend international boundaries and are therefore much more complex than the governance processes expected from within a single sovereign state.

The primary dimension of transboundary water governance is reflected in the political commitment demonstrated by each state to engaging with its neighbours to create an over-arching institution that will have the capacity and resources to advise the respective governments on the most suitable options for joint utilisation of the resources, as well as the likely impacts such uses may have on the people and the ecosystems in the basin. This allows the states, both individually and collectively, to take responsibility for ensuring that all parties understand the positive and negative implications that are linked to specific socio-economic development options, and that these costs and benefits are apportioned equitably between the parties.
The second dimension to the governance discourse is vested in the people that must benefit from the available resources. The objective would be to maximise the benefits for all, and stakeholders have an obligation to participate in processes that will ensure the equitable, sustainable and beneficial use of their resources.

The third dimension relates to the investigations that are needed to obtain reliable information for proper planning purposes, to ensure sustainable development. Scientific studies are required to establish baseline conditions; further investigations will reveal the safe exploitation potential of available resources; and monitoring is necessary to assess the success of management actions and to determine the impacts of all facets of development on the full spectrum of natural resources.

One of the most important elements in the governance of international waters is the creation of a suitable institutional framework within which sovereign riparian states with different interests, objectives, abilities and resources can openly discuss their development objectives, agree to cooperate and execute the actions that are needed to ensure the sustainable management of the basin. In fact, such an institution constitutes a form of “collective government” that is responsible for creating an enabling environment that promotes effective governance in the shared river basin.

When the representatives of sovereign states meet under the auspices of such an institution to deliberate on the management of shared waters, they need to be open and transparent about their interests, expectations and fears. However, in some cases these national interests, objectives and expectations may be perceived to be in conflict and, in the absence of sufficient information, fears may be exaggerated. This causes uncertainty and anxiety amongst participants and hampers decision-making. The only way to bridge this situation of uncertainty is to make a thorough study of the resources available within the basin, evaluate the safe and sustainable limits to different patterns of resource exploitation and then to reach consensus on the most feasible mix of development options that will not exhaust the available resources (Pallett, 1997). When this information is available and is fully understood by the national representatives, inter-state tensions or concerns will be reduced and sound decisions can be taken on an informed basis.

Another issue is the need for a common law, or set of legal principles, to guide the institution in its operations as well as the way it presents advice to the respective national parties that it represents. Each sovereign state has its own constitution and laws that must be applied in their respective territories in the basin. Although international water law provides a useful opportunity as a collective legal framework, it is very seldom enforceable (Heyns, 2004). In the final analysis, the most successful option is for the parties to agree amongst themselves on the principles to be adopted, instead of allowing a situation to deteriorate into a lengthy legal dispute that may be very costly, antagonistic and unmanageable. A so-called “gentlemen’s agreement”, that is based on consensus decisions about the most appropriate and beneficial solutions, seems to offer the best alternative. While this level of agreement can be difficult to achieve, the resulting interactions between parties become far more cordial and the decisions taken are also accepted as being legally defensible.

Importantly, an effective demonstration of good governance is not possible with insufficient resources, especially funding. While each basin state in a shared basin has its own budgetary systems, the obligation to contribute to the funding of joint activities often becomes a thorny issue that is difficult to resolve. The theoretical approach that requires costs to be shared on an equitable basis may be difficult to achieve when one or more of the basin states are at an economic disadvantage. One option could be to solicit the support of cooperating partners from the donor community. This possibility is greatly
facilitated in those cases when the basin states can demonstrate a clear commitment towards establishing a river basin institution that is designed to cooperate, manage effectively and avoid conflict.

Each of the three states in the Okavango River Basin is at a different level of socio-economic development. Simply by examining the anticipated future development opportunities in each country, it is obvious that the basin states must collaborate in their planning so that the most suitable, equitable and sustainable development scenario can be implemented within a framework of good governance.

Angola is the upstream state in the Okavango River Basin and provides almost all (>95%) of the surface water in the Okavango River (Mendelsohn & el Obeid, 2004). The prolonged civil war in Angola prevented any form of socio-economic development within the Angolan portion of the basin and therefore very little use has so far been made of the river flows. However, with the cessation of the Angolan civil war, Angola now has an urgent need to develop its economy, repair devastated infrastructure, provide employment and ensure food security for all its peoples. Therefore, it is reasonable to expect that Angola will seek ways to initiate a variety of industrial and agricultural projects in the upper Okavango River Basin that can help to revitalise the local economy and reinstate civil society structures. Earlier studies demonstrated that there is good potential for the generation of hydroelectric power and for the irrigation of up to 50,000 ha of commercial and subsistence crops (Mendelsohn & el Obeid, 2004). It is not known whether any or all of these developments may actually be implemented, and their individual and collective demand for water is not known with certainty (Heyns et al., 2003). These types of development could have serious detrimental effects on the water available for use by the downstream states if the Angolan developments simply materialise without proper basin-wide planning.

Botswana is the downstream riparian state and makes virtually no contribution to the flow in the Okavango River, except for direct precipitation over the river’s riparian zone and the Okavango Delta. The Okavango Delta was declared a RAMSAR site in 1997 (Mendelsohn & el Obeid, 2004) and is regarded by all basin states, and especially the international environmental community, as a wetland of global importance. Botswana utilises the expanding tourism potential of this system to its own advantage. Many environmentalists have expressed the opinion that the Okavango Delta not only needs all the water it can get, but also that no upstream water-use developments should be allowed (e.g. Greenpeace, 1991). Fortunately, this somewhat extreme opinion is not shared by the OKACOM country representatives.

Namibia has an extremely arid hydroclimate. The combined potential of Namibia’s internally generated surface runoff and groundwater resources are estimated at only 500 Mm$^3$/yr. Recent estimates have shown that Namibia’s future water demand would exceed this figure by the year 2020 (Heyns, 2004). This means that Namibia must be able to draw water from the perennial rivers on its borders to augment the scarce internally generated water resources in the interior of the country (Heyns, 2002). Namibia has access to the flow of the Okavango River, but makes a negligible (<3%) contribution to its surface flows. At present, a very small quantity of water is abstracted by Namibia from the Okavango River for domestic and irrigation purposes along the river. However, the need to utilise the waters of the Okavango River for irrigation along the river and to supply water to the central area of Namibia via the proposed Eastern National Water Carrier (ENWC) was identified in the 1974 Water Master Plan (DWA, 1974). The Namibian Government has announced plans to irrigate about 15,000 ha of croplands along the river (DWA, 1984) and by 2020 to abstract about 100 Mm$^3$/yr for distribution to the arid interior of the country (DWA, 1993). This proposed water withdrawal amounts to approximately 1% of the Okavango River’s long-term average annual flow. Small quantities of water are already transferred
from the upper Omatako River to the Swakop River Basin in Namibia and it was anticipated that the abstraction of water from the Okavango River by both Angola and Namibia would be contested by those concerned for the preservation of the Okavango Delta. The riparian states should therefore ensure that they are able to reach agreement on the possible use of water from the Okavango River long before any major demands actually arise. It was also apparent that it would be in the interest of all three riparian states to establish a river basin institution for the specific purpose of managing the affairs of the Okavango watercourse system (Heyns, 1995).

The above discussion has highlighted the real need for a shared or collaborative system of governance in the Okavango River Basin. While the best method or approaches that are needed to ensure good governance may be understood theoretically, the biggest challenge facing water resource managers throughout southern Africa is the need to determine the most practical and cost-effective ways of achieving this objective in their shared river basins. Here the OKACOM experience can serve as an example that can be examined for its potential applicability to other southern African river basins.

4. Sharing governance through the OKACOM commission

4.1. Background

Prior to 1990, the creation of an Okavango River Basin management institution could not be undertaken between the riparian states because Namibia was not a sovereign state. Shortly after Namibia’s independence, the new government took the initiative to establish a number of river basin institutions between the riparian states that share the country’s border rivers (Heyns, 1996). In the case of the utilisation of the Okavango River, Namibia had access to both Angola and Botswana through the Permanent Joint Technical Commission on the Cunene River (PJTC) between Angola and Namibia, established in September 1990, and the Joint Permanent Technical Commission (JPTC) between Botswana and Namibia, established in November 1990. The Namibian Government suggested that the Commissioners of the PJTC and the JPTC could be brought together at a joint meeting in Windhoek to discuss the possible future development of the Okavango River Basin, and to evaluate the possibility of establishing a tripartite water commission for this basin (Heyns, 2000). This historic meeting took place in Windhoek in June 1991 and subsequently led to the formal establishment of OKACOM on 15 September 1994 in Windhoek, when representatives from Angola, Botswana and Namibia signed the formal OKACOM Agreement (OKACOM, 2004). Throughout their interactions, the procedure of establishing OKACOM was kept relatively simple by utilising existing river basin institutions to facilitate the discussions and negotiations.

4.2. The OKACOM agreement

Although the formal agreement to establish the OKACOM is not a very complex document (OKACOM, 1994), it took more than three years for the basin states to agree on its contents. In the preamble section of the OKACOM agreement a number of important issues were explicitly recognised. In particular, the preamble states that the Parties are aware of the existing and emerging socio-economic
development programmes in the Okavango River Basin and their potential influence on the environment. In addition, the parties also realised the importance and relative scarcity of the basin’s water resources and accepted the concepts of environmentally sound natural resource management, sustainable development and the equitable utilisation of shared watercourse systems. The so-called Helsinki Rules (ILA, 1966) were considered to provide a useful basis for negotiations between the parties. The parties further agreed on the need for close cooperation regarding the judicious development of joint projects in respect of the water resources of common interest in the Okavango River Basin that would contribute towards the prosperity of the people.

Although the OKACOM agreement recognises the Helsinki Rules as a basis for negotiations, all the basin states have since become signatories to the United Nations Convention on the Non-navigational Uses of International Watercourses (UN, 1997) and the Revised SADC Protocol on Shared Watercourses (SADC, 2000). The SADC Protocol incorporated the key principles contained in the UN Convention and serves as a sound basis for negotiations between riparian states. The Parties therefore expressed the wish to consolidate the existing friendly relations by promoting coordinated and environmentally acceptable regional water resources development objectives in the Okavango River Basin. In effect, the OKACOM agreement is a form of constitution for the joint governance of the Okavango River Basin.

The main purpose of OKACOM is to advise the respective governments on technical matters relating to the sustainable development, beneficial utilization, integrated management and conservation of water resources of common interest among the watercourse states. It is anticipated that each riparian state will obtain an agreed, equitable and reasonable share in the waters of the Okavango River. The establishment of OKACOM is the result of a collective, collaborative process between sovereign governments to create a river basin institution that would be responsible for ensuring the joint governance of the basin and required to advise the basin states accordingly. In this regard, the primary functions of OKACOM are:

- to make arrangements to determine the potential of all water resources;
- to determine the reasonable water demand of all consumers;
- to develop criteria for the conservation, equitable allocation and sustainable utilisation of water resources;
- to undertake investigations related to the development of water resources in the basin, including the construction, operation and maintenance of any related water works;
- to prevent the pollution of the water and control aquatic weeds;
- to assist any one or all of the Parties to alleviate short-term difficulties that may result from water shortages during periods of drought; and
- to attend to such other matters as the Commission may determine.

The OKACOM agreement can be criticised for not being comprehensive enough, although it did create a unique opportunity to promote and demonstrate good governance in the Okavango River Basin, a responsibility which rests squarely on the shoulders of the Commission.

4.3. The commission (OKACOM)

The Commission comprises three delegations, one from each of the three riparian states. Each delegation comprises three permanent members and each government appoints their own Delegation
Leader. The meetings of the Commission are held on a rotational basis in the different member countries and the respective country’s Leader of Delegation acts as the Chairperson when a meeting is hosted by that delegation. Any number of technical experts can be co-opted to advise the delegations on technical or other matters. Any advice that OKACOM may offer to the Parties (the respective governments) on any matter must be contained in a report, which must be jointly signed by the leaders of the three delegations, and submitted to their respective governments. When the governments reach agreement on a proposed course of action, the Commission would normally be instructed to direct and oversee the implementation of the decision.

4.4. The Okavango basin steering committee (OBSC)

The Okavango River Basin Steering Committee (OBSC) was established by OKACOM to guide the technical activities of the different OKACOM projects and to advise the Commission on matters related to its work. The OBSC consists of nine permanent members, three appointed by each Member State. Each delegation nominates a co-chairperson and the chairpersonship rotates, according to the country in which a meeting is held. Each delegation may nominate any number of experts to attend an OBSC meeting as co-opted members, as determined by the scope and magnitude of the work. Any other person can be invited by any one of the delegations to attend a meeting as an observer, on condition that the other delegations have no objection.

The OBSC determines its own working procedures and the frequency of meetings. The minutes of all meetings and reports on the progress with particular assignments or projects are presented at OKACOM meetings. The OBSC meetings are normally held more frequently than the OKACOM meetings in order more closely to monitor and direct projects that are being executed under the auspices of the Commission. The advantage of this form of governance is that, by the time the results of any study become available, all parties have participated in the process and are in a position jointly to agree about the recommendations arising from the work.

4.5. Vision of the OKACOM commission

At the first formal OKACOM meeting in 1995 each state informed the others about its planned measures for development in its portion of the basin, to the extent that it was possible to do so at that time. This information made it clear that OKACOM should address the issue of coordinated planning as a matter of urgency. The first major achievement of OKACOM was therefore to develop a proposal for a project to execute a broad-scale environmental assessment of the basin and to develop an integrated management plan (IMP). The effective implementation of an integrated management plan for the entire Okavango River Basin can therefore be seen as the ultimate vision of the Commission.

4.6. Seeking global support

From the outset, the OKACOM Commissioners agreed that external sources of funding were needed to finance the preparation of an IMP for the Okavango River Basin. This represented an opportunity to
approach the Global Environmental Facility (GEF) for support. Since the GEF’s key areas of interest were all aligned with and applicable to the environmentally sound management of the Okavango River Basin, OKACOM decided in June 1995 to approach the GEF to support its vision to develop an IMP for the basin (Heyns, 2000).

The GEF agreed to make project development funds available to conduct a transboundary diagnostic analysis (TDA). This would provide the baseline on which to formulate a Strategic Action Program (SAP) that would enable OKACOM to commission or undertake the studies needed to prepare an IMP for the basin. The formulation of the SAP relies heavily on the factual basis determined by the TDA, coupled to the outcomes of a consultative process with all stakeholders that confirm a clear set of priorities that can be endorsed at the highest level by each of the basin states. This illustrates the need for close interaction between society, science and politics to develop a plan that would support and facilitate good governance.

Although the work on the TDA was completed between 1997 and 1999, the final report (OKACOM, 1999) was never finalised and approved by OKACOM. However, much of the information that was gathered during the TDA has since been used to draft a project brief for submission to the GEF for further consideration.

4.7. The OKACOM secretariat (OKASEC)

The most significant achievement of the OKACOM agreement is that it succeeded in bringing the three parties together and enabling meaningful discussions to be held about the Okavango River Basin. In the beginning, the OKACOM Commission started as a relatively small institution with a minimal staff complement and a low budget, simply because there were very few actions that needed to be executed. After this initial modest beginning, OKACOM and the OBSC jointly provided the framework for decision-making and endorsed a significant number of actions. It soon became apparent that the scope of work that was needed, simultaneously, to meet the demands of an adequate scientific process and an effective social process as advocated in the principles of good governance were beyond the capacity and resources available to the OBSC. While the Commission had clear objectives, well-defined tasks and limited financial resources, there was a marked shortage of qualified and competent staff. This severely limited the Commission’s ability to engage with stakeholders, manage the basin, initiate resource potential investigations and implement specific projects that would benefit the residents of the basin. In essence, OKACOM could be considered analogous to a government that lacked a public service.

It became painfully clear that, despite OKACOM’s initial successes, it had lost momentum. In particular, it was slow to respond to its obligations, for example to approve the final report on the GEF project. The Commission could therefore not afford to let the situation continue, as this would have resulted in a poor and worsening reputation among the very stakeholders with whom it needed to cooperate. The Namibian Delegation therefore submitted a formal proposal for the creation of more permanent administrative arrangements at an extraordinary OKACOM meeting held in Maun, Botswana, in May 2003.

Following further debate amongst the OKACOM Commissioners, it was decided to approach the Swedish International Development Agency (Sida) to support OKACOM by means of a consultancy to study the feasibility of establishing a formal OKACOM secretariat. The feasibility report was duly submitted to the OKACOM in April 2004 and the Commission accepted the principle that an OKACOM Secretariat (OKASEC) was indeed necessary (OKACOM, 2004). Sida then made an offer to support a stakeholder workshop at which the modalities for the implementation of OKASEC could be identified.
and finalised. This workshop took place in October 2004, and Botswana offered to host OKASEC at Maun (OKACOM, 2005a). At the OKACOM meeting in April 2005 the Commission accepted the recommendations of the workshop and signed a Memorandum of Understanding to establish OKASEC (OKACOM, 2005b).

The tasks of OKASEC can be grouped into five clusters as follows:

1. A secretariat function related to administration, financial control and technical back-stopping to the Commission in order to facilitate its functions.
2. A management function related to the provision of support to the joint management of those projects in the basin that are under the auspices of the Commission.
3. A coordination function related to harmonising development activities in the basin and facilitating the participation of all stakeholders in the activities of OKACOM.
4. A communication function related to the maintenance of a comprehensive database on the basin, with a view to enabling transparent dialogue between the Commission, the scientific community, NGOs and other stakeholders.
5. A screening function related to ensuring the execution of decisions made by the Commission and the assessment of proposals for new activities submitted by a variety of outside interests.

The staff complement and the eventual size of OKASEC will be determined by its functions and the eventual scale of its duties, but it was agreed that it should start as small as possible and should justify its existence in practice. Its growth would depend on the proliferation of OKACOM projects and, although donor support may be possible in the beginning, the basin states would eventually have to be responsible for its long-term financial sustainability.

The competencies within OKASEC will include water resource management, economics, social affairs, communication, awareness-raising, information technology, environment, legal affairs, capacity-building and training. The secretariat will initially comprise one senior expert to serve in the role of an Executive Secretary, plus a technical expert. The senior person should have a background in water resources management and/or economics and/or the environment. The technical person should have experience in water management, communication, awareness-raising and training. In addition to support staff, the two core experts should be assisted by technical staff from the basin states and by those consultants employed to undertake specific tasks.

Sida offered to fund the OKASEC for five years, on a gradually reducing scale, to allow the basin states time to phase in their financial contributions to the operation of the Secretariat. In the interim, USAID have offered to fund a so-called “interim secretariat” until the Sida funds become available. The decision to establish the OKASEC followed an evolutionary process and all parties are confident that this will greatly enhance the capacity of OKACOM to perform its functions more efficiently. It is clear that OKASEC will play a key role in developing the required competencies and financial means to give effect to the political, social and scientific processes needed for improved governance in the Okavango River Basin.

4.8. Managing potential conflict

Internal conflicts arose within OKACOM because of issues related to the failure to complete the 1999 TDA, the difficulties experienced in finalising the GEF project document and the frustrations...
experienced by the Commissioners due to a lack of progress with projects, misunderstandings due to the incorrect translation of discussions (Portuguese/English) and the general level of commitment to the activities of OKACOM.

Members of OKACOM conducted a study tour to the United States of America (USA) and Mexico in April 2001. The OKACOM delegation visited the International Joint Commission between the USA and Canada and attended a meeting between the International Boundary and Water Commissions between the USA and Mexico. This inspired and motivated the delegates to give more dedicated attention to conflict resolution and, in July 2001, the Commission requested the United States Bureau of Reclamation (USBR) to train officials from the three basin states in collaborative planning and conflict management so as to achieve more effective transboundary river basin management.

This request resulted in the design of a workshop on “Collaborative Decision-Making and Conflict Resolution in River Basin Management”. A collaborative approach was used to make the course content as relevant as possible and inputs were requested from all the identified participants. Each participant had to respond to a questionnaire, while personal interviews with the Commissioners were used to develop the course focus and content. A customised agenda and course material that met the specific needs of OKACOM were prepared. The workshop was attended by approximately 30 participants and was extremely beneficial in the way that it facilitated discussions and a spirit of cooperation within the Commission. In fact, during the first OKACOM meeting after the workshop, many officials noted the positive change in the atmosphere between the Commissioners at the meeting. Constructive negotiating skills and open cooperation are essential skills in the process of agreement and consensus-seeking when it comes to collective governance.

4.9. The OKACOM projects

In order to achieve its objectives, OKACOM solicited the support of the donor community and endorsed a number of projects for implementation. The Commission also participated in specific feasibility studies that were conducted by the member states. This is an important part of the process of good governance in shared river basins, because it builds collective capacity and mutual understanding between the parties. Brief details of the key projects are provided below.

4.10. Environmental protection and sustainable management of the Okavango river

Based on the project brief developed from the 1999 TDA, the GEF agreed to support OKACOM through a project that will facilitate the environmental protection and sustainable management of the Okavango River Basin. The final result will be achieved by updating the 1999 TDA to support the formulation of the Strategic Action Program (SAP). The OKACOM Commissioners anticipate that the process will attract support from other development partners and will provide the basin stakeholders with financial, technical and human resources. In the process, an IMP will be agreed upon that will allow sustainable infrastructure and socio-economic development in each of the basin states.

The project documents were approved by OKACOM in March 2003 and it was agreed that the project management unit (PMU) would be located in Luanda. A project manager was appointed and a basin
planner recruited. The project started towards the end of 2004 and a National Coordinating Unit (NCU) will be established in each basin state to support the PMU.

In May 2005, a training course was held in Windhoek, Namibia to introduce the so-called “TDA/SAP approach in the GEF International Waters (IW) Programme” to stakeholders from Angola, Botswana and Namibia. It is anticipated that this process will contribute to strengthening good governance practices in the basin.

4.11. The “Every River has its People” project

One of the goals of OKACOM is that stakeholders, particularly those who are most heavily dependent on the natural resources of the basin, should be involved in the development of the IMP. Here it is recognised that it is very important to formalise collaboration amongst the stakeholders at an early stage, because the success of any planning exercise depends as much on the goodwill and participation of the stakeholders as on the efforts of the individual governments and other technical specialists.

The Every River has its People (ERP) project was therefore developed, endorsed by the Commission and implemented to support the work conducted by OKACOM. It is part of a strong partnership between the implementing NGOs, OKACOM and the communities that will ultimately benefit from the project. The ERP project produced a Socio-ecological Survey Report for the Okavango (Jones, 2001), a brochure for OKACOM, a map of the Okavango River Basin, a booklet called “A preliminary profile of the Kavango Region in Namibia”, an atlas of the Okavango River Basin and a set of educational materials that is already being used in schools throughout the basin.

One of the most significant achievements of the ERP project has been the help given to local communities in Angola, Botswana and Namibia in discussing their aspirations and in electing a Basin Wide Forum (BWF) to represent their interests. The first meeting between OKACOM representatives and all the members of the BWF took place at N’kwazi Lodge near Rundu in Namibia during February 2003, and the chairperson of the BWF also attended the OKACOM meeting that took place in Gaborone, Botswana in April 2005. These events were unique in southern Africa, because it was the first time that people from the grassroots rural community level of each of the three sovereign states were able to meet and discuss issues of mutual interest, and were also able to participate in the activities of an institution that was functioning at the inter-governmental level to manage the resources of a shared watercourse system. This project provides a very good example that supports the hypothesised need for close linkages between government and society, and society and science, to achieve good governance.

4.12. Participation in specific feasibility studies

The OKACOM Commission has participated in two feasibility studies on proposed water infrastructure projects in the Okavango River Basin. In both cases the Commission was informed about the planned measures of the particular member state and requested more information.

4.12.1. The Rundu–Grootfontein pipeline feasibility study. After the failure of the 1995/96 rainy season in Namibia, it became ominously clear that the country would face an unmanageable water
supply crisis at the end of 1997 if insufficient rains were to fall during the 1996/97 rainy season. The only solution to the challenge was to complete the proposed Rundu–Grootfontein pipeline component of the ENWC within the available twenty months between May 1996 and December 1997 (Heyns, 2003).

During June 1996 and September 1996 the Minister responsible for water in Namibia and the Namibian Delegation to OKACOM met with their counterparts in Gaborone, Botswana, and Luanda, Angola, respectively, to discuss the impending critical water shortage in Namibia (DWA, 1997). The Ministers expressed their satisfaction over existing cooperation in the water sector and the exchange of information, endorsing the principle of mutual consultation about studies on the need to draw water from the Okavango River to address the short-term and long-term water supply deficits in Namibia.

The sensational press release made after the meeting between the Ministers in Gaborone brought the whole issue of the abstraction of water from the Okavango River into the international arena. A number of internationally supported NGOs and environmental interest groups expressed their concern about the proposed project. Most of the interested parties were unaware of the long-standing Namibian intention to utilise the waters of the Okavango River to augment the central area water resources, and very few understood that Namibia was complying fully with the conditions stipulated in the OKACOM Agreement. This gave rise to somewhat alarmist reactions that did not fully represent the details of the issue (e.g. Ramberg, 1997).

Both the technical and the environmental feasibility studies were eventually completed in consultation with OKACOM and included a broad base of stakeholder participation in Botswana and Namibia. Fortunately, however, the good rains that fell in Namibia during the 1996/97 rainy season improved the water situation to such an extent that the emergency project was shelved – to the relief of all concerned parties.

4.12.2. The divundu hydropower study. In 1969 a very preliminary technical assessment was carried out on the potential to develop a run-of-river hydropower station at Popa Falls on the Okavango River within Namibia (DWA, 1969). At the OKACOM meeting in July 2001, Namibia announced its plan to do a further pre-feasibility study to re-evaluate the earlier results in the light of new knowledge and information, in line with Article Four of the Revised SADC Protocol on Shared Watercourse Systems (SADC, 2000). The OKACOM Commissioners took note of this announcement and appointed representatives to sit on a steering committee that was specifically established to allow all the basin states to participate in the study that was to be done by the Namibian power utility company, NamPower.

The outcome of this study indicated that the project was technically feasible, but that the in-stream processes of sediment transport, which are very important to the functioning of the Okavango Delta, required further study and might require major mitigation actions if the project proceeded (NamPower, 2003). The OKACOM Commissioners subsequently agreed that NamPower could proceed with a full feasibility study when it was ready to do so. This was the first occasion when all the states comprising OKACOM participated in a feasibility study for the development of infrastructure on the Okavango River. This study illustrated the need for a visible and effective interface between society and science to ensure that good governance processes are explicit.
4.13. The “Sharing Water” project

The Sharing Water Project (SWP) sought to work towards a consensus on the transboundary management of the Okavango River Basin in support of OKACOM. The SWP was funded by the United States Agency for International Development (USAID) and the project objectives were to:

- promote the long-term sustainable management of the Okavango River and its basin;
- promote joint fact-finding through the development of a shared data management system, and a transparent, decision-making model for the basin;
- broaden stakeholder participation in the OKACOM planning process, particularly for the Angolan water managers and stakeholders; and
- build capacity to analyse complex scenarios and develop management strategies.

The SWP project produced several valuable tools to assist in managing the Okavango River Basin (USAID, 2005a). A prototype river basin planning model was developed that built on existing modelling efforts already underway in the basin and elsewhere in the world. The database that was established included over 200 datasets and GIS layers that described basin hydrology, land use, topography, history, vegetation, tourism and socio-economic features. More than 200 journals, articles, book chapters and other literature relevant to the Okavango basin have also been included in the database. All of this information is in the public domain and is accessible by stakeholders everywhere. The database fulfills an important prerequisite to provide information for the development of a river basin management plan that is based on factual information rather than on perceptions. The availability of such a shared database in the Okavango basin is far ahead of that on other international watercourses, where much of the available information is not yet shared for the benefit of constructive, co-operative planning. This scientific and social information provides a sound basis for good governance.

4.14. Integrated river basin management

In response to the looming regional water scarcity in southern Africa, the Regional Centre for Southern Africa (RCSA) of the USAID introduced its proposed 2004 to 2010 Strategic Plan to OKACOM. This plan had four strategic objectives and the Commission was interested in the program for improved river basin management (IRBM).

The main strategy of this programme was to meet the long-term water needs of society, while simultaneously ensuring that essential ecological services and the flows of economic benefits are maintained. The programme was designed to strengthen the capacity of the basin states and OKACOM to engage constructively in planning and finding solutions to developmental challenges. The main components of the program were:

- to strengthen the institutional capacity and abilities of OKACOM;
- to collect information for policy, planning and management; and
- community participation and enterprise development.
The RCSA IRBM programme was endorsed by OKACOM in April 2004 and the project started in November 2004. A strategic action planning workshop was held in February 2005 to enable all stakeholders to agree on the detail of the project program (USAID, 2005b). This project contains all the elements required to develop good governance practices in the Okavango River Basin.

4.15. The “Water and Ecosystems Resources in Regional Development” project

The objective of the Water and Ecosystems Resources in Regional Development (WERRD) project was to improve the collective and institutional understanding of the preconditions for improved livelihoods in the Okavango River Basin, without compromising essential environmental concerns, and to evaluate policies on land and water issues (OKACOM, 2005c). The specific research objectives were to:

- monitor and simulate fluctuations in hydrological and ecosystem variables;
- articulate local and other dimensions of knowledge;
- link the natural resource systems to socio-economic dynamics and policy; and
- disseminate the findings through an interactive website and outreach activities.

The WERRD project started in January 2002 and ended with a technical workshop in October 2004. As anticipated, the scenario modelling showed that the proposed upstream developments would have adverse effects on the Okavango Delta. Upstream water abstractions were likely to have small, short-term effects on the flooding pattern in the Okavango Delta, whilst the construction of dams or deforestation would have more pronounced effects. However, these effects were considerably smaller than the possible effects of potential future climate changes.

The WERRD project contributed new perspectives on the management options and possible future of this unique basin, both among the OKACOM Commissioners and other stakeholders. Concepts and models were discussed at several workshops and this stimulated a broad range of stakeholders to revisit their perceptions and understanding of the social and physical dynamics in the basin.

4.16. Monetary value of the OKACOM projects

The existence of OKACOM made it possible for the three basin states jointly to solicit and endorse a number of projects that would otherwise not have been possible. Significant donor support, of the order of US$22.4 million, could also be mobilised to assist with the future development and protection of the Okavango River Basin.

5. Discussion

The governance of a shared river basin depends on all parties reaching agreement on the creation of some form of joint institution, or “collective government”. In the Okavango River Basin this has been achieved through the creation of OKACOM, an institution that represents the interests of all basin states. This institution must evaluate the options for joint management of the basin, reach consensus on the option most likely to ensure sustainable development goals are met, and then advise the respective
governments accordingly. In turn, the three governments have an obligation to accept the collective advice of the Commission and enter into agreements where joint projects can be executed in the interest of the basin. The activities of OKACOM align well with the principles of good governance (Rogers & Hall, 2003) and support the triologue hypothesis that an effective partnership between government, science and civil society is needed to underpin good governance.

One aspect of governance that still needs to be considered relates to the set of laws or legal principles that should guide basin states in their pursuit of an effective system of shared governance. The approach adopted by OKACOM relied on consultation between all parties, and agreement was reached by consensus so as to avoid possible conflict that might force one or more states to revert to the tedious and costly process of arbitration in international law. A process of formal training and instruction by an independent third party helped the parties to avoid emotional issues, thereby improving co-operation and enabling the Commissioners to focus their attention on more meaningful decisions and activities.

The establishment of OKACOM is a clear and explicit demonstration of political will by the basin states to establish an institution that, through processes of good governance, can deal effectively with potentially difficult issues to ensure the long-term benefit of the people in the basin. Ultimately, the ability of OKACOM to ensure that the resources of the Okavango River Basin are managed and developed effectively will reflect the level of governance achieved. The existence of an institution like OKACOM has already made it possible for the basin states to mobilise international funding for many projects that might otherwise not have been possible. Ultimately, all development projects in the basin should be endorsed by OKACOM before they are implemented. This would allow the basin states jointly to evaluate each project so as to ensure that it meets the objectives of the Commission. Thus far, OKACOM has succeeded in facilitating projects aimed at scientific studies, resource investigations and feasibility studies for proposed infrastructure. In each case, the inclusion of community participation, stakeholder involvement, capacity building and training have progressively helped to realise the wider objectives of good governance.

Despite the Commission’s disappointment at the failure to finalise the 1999 TDA, the interaction between OKACOM and the populace of the basin, as well as the enabling role of the Commission to execute scientific studies and to involve all stakeholders, have provided very positive outcomes. The Basin Wide Forum also provides a unique means of communication between OKACOM and the grassroots basin population.

While there is clear agreement that the hypothesised three interactive processes between government, civil society and the scientific community are essential for good, collective governance, effective outcomes still cannot be achieved without appropriate levels of support – especially funding. Essentially, the issue of appropriate funding is a reflection of the degree of commitment shown by the parties to their collective objectives. However, in cases where the parties have widely differing levels of economic strength, individual financial contributions are not a useful measure of commitment. Clearly, it is here that external interventions by the international donor community can provide an essential stimulus or catalyst for progress, while also enabling the recipient countries to benefit from the many different opportunities that this type of assistance introduces. Over time, however, the recipient parties need to become progressively less dependent on external sources of funding and to become increasingly self-sufficient.

Having started as a relatively small institutional unit staffed by “part-time” members who also had to execute their normal duties, OKACOM quickly experienced an increase in work load that exceeded its institutional capacity. This prompted the establishment of a formal secretariat to strengthen the Commission’s ability to execute its mandate and to ensure that good governance processes characterise all its dealings. In effect, the Okavango River Basin Secretariat needs to function as the “civil service” or “delivery arm” of OKACOM, as a “collective government institution”.

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6. Conclusions

Despite many assertions to the contrary, water allocation is not the main issue of concern within the Okavango River Basin and, while many individuals perceive that the water resources in this basin are contested, this is not really the case. In fact, shared recognition of the need to ensure the most beneficial future use of water and all the other natural resources in the Okavango Basin has brought three nations together in a joint venture that has grown over time. The high degree of collaboration and cooperation achieved to date is reflected in the number of projects that OKACOM has facilitated and the fact that the outcomes of these projects provide good examples of the collective benefits that can be gained from shared water governance. The achievements of OKACOM support the view that international cooperation is essential and that it is vitally important to undertake a rational assessment of all natural resources, including water, since they are all crucial to ensuring sustainable development, long-term economic growth, food security, poverty alleviation and conflict prevention.

Good governance of shared watercourses creates opportunities for socio-economic development through participation, transparency, responsiveness and the reduction of conflict. In contrast, poor governance inevitably leads to increased political risk, institutional failure and insecurity, which collectively hamper the ability of nations to deal with shared challenges. Ultimately, this type of situation gives rise to mismanagement and becomes a formidable barrier to progressive socio-economic development.

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