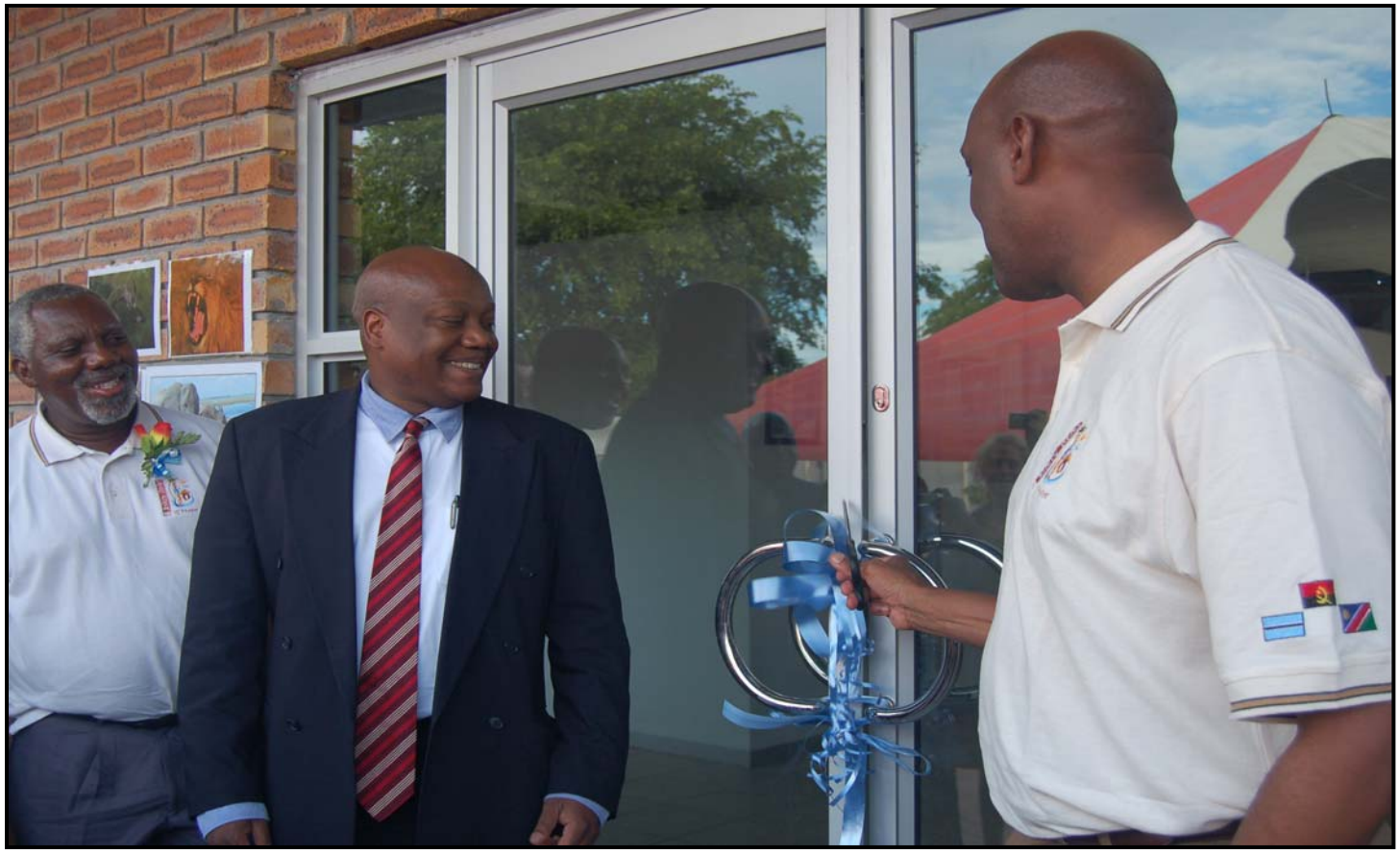
# Guidelines and Procedures:
# Funding Requirements and Mechanisms
# For Southern African River Basin Organisations



**30 April 2009**

This publication was produced for review by Permanent Okavango River Basin Water Commission (OKACOM) and the United States Agency for International Development by ARD, Inc., Private Bag 351, Unit 469, Gaborone, Botswana. The information provided in this report is not official U.S Government or OKACOM information and does not represent the views or positions of the U.S. Agency for International Development or the U.S. Government.

## Preface

The Directorate of Infrastructure and Services - Water Division (DIS-WD) for the Southern African Development Community (SADC) organized and conducted two regional workshops for transboundary river basin organizations (RBOs). The First Regional River Basin Organizations (RBOs) Workshop was held in Gaborone, Botswana, in September 2007 under a collaborative arrangement led by the SADC Water Division and supported by GTZ, USAID, and InWEnt.

The main objectives of this initial RBO Workshop were to create a dialogue platform for the RBOs in the region to discuss common challenges, exchange experiences, and identify the main areas where regional support was required under the RSAP-2 Capacity Building activity – Number 3 (CB-3). A key intervention area identified by participants of this workshop was the development of Systems, Guidelines and Procedures as tools to assist the RBOs with their institutional growth. Importantly, ***Guidelines and Procedures for Resource Allocation and Sharing of Benefits in Transboundary River Basins*** was considered key to future negotiations within RBOs within the SADC region.

The recommendations of the Workshop were articulated in a Programme to Strengthen RBOs in the SADC Region which was endorsed by the SADC Water Resources Technical Committee (WRTC) meeting held in Maputo, Mozambique, in May 2007, and later approved by the SADC Integrated Committee of Ministers (ICM) in June 2007. The Second RBO workshops, held in March 2008 confirmed the Scopes of Work for all the USAID and GTZ supported consultancies.

The USAID Southern Africa Okavango Integrated River Basin Management Project (IRBM) agreed to support the development of the resource allocation and benefits sharing guidelines and commissioned the Centre for Applied Research (CAR) to review commonly accepted practices and best management approaches from other parts of Africa and globally. Based upon lessons learned, CAR has developed an approach to preparing programs for sustainably funding river basin organizations. These guidelines will be used by the SADC Water Division to assist regional transboundary RBOs develop programs related to the funding and financing of RBO operations and development programs. The Principle Investigator for CAR was Dr. Jaap Arntzen and he was assisted by Mr. Peter Rutherberg.

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**Acronyms**

| | |
|---|---|
| ADB | Asian Development Bank |
| ADF | African Development Fund |
| AFD | Agence Française du Développement (French Agency for Development) |
| AIFP | Agriculture, Irrigation and Forestry Programme |
| AusAID | Australian Agency for International Development |
| BDP | Basin Development Planning – Basin Development Plan |
| CNMC | Cambodia National Mekong Committee |
| CPWF | Challenge Programme on Water and Food |
| DRPC | Danube River Protection Convention |
| DSF | Decision Support Framework |
| DSIMP | Decision Support and Information |
| EIA | Environmental Impact Assessment |
| EMP | Environment Management Programme (EP- Environnent Programme) |
| ESKOM | Electricity Supply Commission |
| EU | European Union, |
| FMMP | Flood Management and Mitigation Programme |
| FP | Fisheries Programme |
| GEF | Global Environment Facility |
| GEF-EPSMO | The Environmental Protection and Sustainable Management of the Okavango River Basin Project |
| GMS | Greater Mekong Sub-Region |
| GTZ | Gesellschaft für Technische Zusammenarbeit |
| HP | Hydropower Programme |
| IBFM | Integrated Basin Flow Management |
| ICBP | Integrated Capacity Building Programme |
| ICLARM | International Centre for Living Aquatic Resources Management |
| ICP | International Cooperating Partner |
| ICPDR | International Commission for the Protection of the Danube River |
| ICPR | International Commission for the Protection of the Rhine |
| IKMP | Information and Knowledge Management Programme |
| IRBM | Integrated River Basin Management Project |
| IRWSS | Integrated rural water supply and sanitation |
| IWQM | Integrated water Quality Management |
| IWRM | Integrated Water Resource Management |
| JRP | Junior Riparian Professional |
| KOBWA | Komati Basin Water Authority |
| LMB | Lower Mekong Basin |
| LNMC | Lao National Mekong Committee |
| M.a.s.l | Metre above sea level |
| MDBC | Murray-Darling Basin Commission |
| MoU | Memorandum of Understanding |
| MRB | Mekong River Basin |

| | |
|---|---|
| MRC | Mekong River Commission |
| NAP | Navigation Programme |
| NMC | National Mekong Committee |
| OBSC | Okavango Basin Steering Committee |
| OKACOM | Okavango River Basin Water Commission |
| OMVS | Organisation pour la Mise en Valeur le fleuve Senegal |
| ORASECOM | Orange-Senqu River Commission |
| P.a. | Per Annum |
| PDIES | Procedures for Data and Information Exchange and Sharing |
| PIA | Project Implementation Agency |
| PMFM | Procedures for Maintenance of Flows in the Mainstream |
| PNPCA | Procedures for Notification, Prior Consultation and Agreement |
| PWUM | Procedures for Water Use Monitoring |
| RBO | River Basin Organization |
| RBMP | River Basin Management Plan |
| RC | Research Coordination |
| SAP | Strategic Action Plan |
| SEA | Strategic Environmental Assessment |
| SIDA | Swedish International Development Cooperation Agency |
| SWBM | Shared Water Basins Management Initiative |
| TACT | Technical Assistance and Coordination Team |
| TNMC | Thai National Mekong Committee |
| TP | Tourism Programme |
| TRIB | Transboundary River Basin Initiative |
| UNDP | United National Development Programme |
| UNDP | United Nations Development Programme |
| UNICEF | United Nations Children and Education Fund |
| USAID | United States Agency for International Development |
| VNMC | Viet Nam National Mekong Committee |
| WG | Working Group |
| WMT | WUP Management Team |
| WUP | Water Utilisation Programme |
| ZRA | Zambezi River Basin Authority |

# CHAPTER ONE

## Introduction

The First Regional River Basin Organizations (RBOs) Workshop was held in 2007 by the SADC Water Division, with support from GTZ, USAID, and InWEnt. The main objective of this workshop was to create a platform for the RBOs in the region to discuss common challenges, exchange experiences, and to identify priority areas for support. The recommendations of the workshop concerning priority support areas were articulated in a Programme to Strengthen RBOs in the SADC Region, which was endorsed by the SADC Water Resources Technical Committee (WRTC) meeting in May 2007, and later approved by the SADC Integrated Committee of Ministers (ICM) in June 2007. One of the intervention areas identified by the First RBO Workshop and contained in the approved Programme to Strengthen RBOs is the development of Systems, Guidelines and Procedures, as tools to assist the RBOs in their institutional development processes. As part of the implementation of the aforementioned Programme the SADC Water Division, with the support of GTZ and USAID, is currently developing these tools.

This particular report deals with financing of RBOs, including guidelines for funding. The objectives of the study are to:

- Examine models, methods, and frameworks for financing of river basin organizations (RBOs); and
- Prepare guidelines and procedures for financing river basin organisations that can be used by the SADC Water Division to support RBOs develop its programs.

The tasks to be carried out were the following:

- Review existing literature and case study material from the regional and global experiences;
- Review representative treaties and protocols to determine responsibilities and requirements for sustainable financing of river basin organizations, including different organisations frameworks, from Joint Technical Committees to River Basin Authorities;
- Identify typical cost requirements, both capital and recurrent, necessary to manage and sustain an RBO;
- Review typical revenue sources RBOs utilise and determine reliability and sustainability of these sources, dependent on type of RBO (size and legal framework);
- Determine alternative and potentially creative sources of financing used by other similar organizations and the potential to use these mechanisms for managing an RBO;
- Determine risks and strategies for minimising or mitigating impacts from funding shortfalls; and
- Prepare options for consideration by RBOs for financing their operations.

This report presents the main findings (Chapters 2-4) and the draft guidelines for financing of River Basin Organisations (Chapter 5).

# CHAPTER TWO

**International and Regional Conventions and Protocols**

## 2.1 Introduction

Some 60% of global freshwater flows are contained in the world's 263 international rivers basins, which cover nearly half of Earth's land surface and are home to around 40% of its human population. Much of the global fresh water is thus contained in catchments shared by two or more countries (Pochat, undated; Watkins, 2006).

The use and management of internationally shared water resources is subject to shared water resources agreements such as the Helsinki Rules, the United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses, the SADC protocol on Shared Water Courses (SWC) and other treaties. Typically, a River Basin Organisation (RBO) is formed to manage such water resources. This chapter briefly discusses such agreements with particular reference to the role and responsibilities of RBOs as this determines their funding requirements.

## 2.2 Helsinki Rules

The *Helsinki Rules* were drawn up more than forty years ago in 1966 and serve as the foundation of most agreements between basin states. The rules work on the principle that each basin is entitled, within its territory, to a reasonable and equitable share of the water of an international river basin (Article 5(1)). Determinants of reasonable and equitable share include the:

- Geography and hydrology of the basin;
- Economic and social needs of each state;
- Availability of other water sources; and
- Need to minimise water wastage.

An important element of the rules is the degree to which one state can satisfy its needs without compromising or threatening the potential of another state to meet its own needs (Article 5(2)). Consistent with the principle of equitable utilisation of the water resources of an international drainage basin, a state should take all reasonable measures to decrease existing water pollution in an international drainage basin to such an extent that no substantial damage is caused in the territory of a co-basin states(Article 10b). Article 27(1) requires states to settle international disputes as to their legal rights or other interests by peaceful means so that international peace and security and justice are not endangered. This encourages cooperation and consultation among riparian states. Article 11, emphasizes that the state which violates the rules shall be required to cease the wrongful conduct and compensate the injured co-basin state for the injury that has been caused to it.

The rules do not refer explicitly to water commissions. Nonetheless, it is possible to derive RBO responsibilities from the Helsinki Rules:

- Acquiring and sharing/exchanging information on water course related matters;
- Maintaining the river flow, especially during low flow periods, and exert flood control;
- Water allocations based on the notion of fair and equitable use;
- Avoiding and/or resolving conflicts;

- Minimising adverse impacts across international boundaries; and
- Control and manage pollution, and the re-use and reclamation of water.

It should be emphasised that the Helsinki Rules are not fixed rules and form guidelines that can help to prevent conflicts between basin states, and enhance a spirit of cooperation and understanding between the various parties (Pallet, 1997; Pochat, undated).

## 2.3 UN Convention on the Law of the Non-Navigational Uses of International Watercourses

The Convention mainly applies to uses of international watercourses and their waters for purposes other than navigation and focuses on measures of protecting, preserving and managing relating to the uses of watercourses. States should utilise shared watercourses optimally and sustainably taking into consideration the interests of other states. The convention outlines factors relevant to equitable and reasonable utilisation:

- Geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character;
- The social and economic needs of the watercourse States concerned;
- The population dependent on the watercourse in each watercourse State;
- The effects of the use or uses of the watercourses in one watercourse State on other watercourse States;
- Existing and potential uses of the watercourse;
- Conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect; and
- The availability of alternatives, of comparable value, to a particular planned or existing use.

In utilising the watercourse, states shall take all appropriate measures to prevent causing of significant harm to other watercourse states. In case significant harm is caused to another state, the state whose use causes such harm shall take all appropriate measures and consultation with the affected state, to eliminate or mitigate such harm and where appropriate discuss compensation.

The convention provides for cooperation between watercourse states, on the basis of sovereign equality, territorial integrity, mutual benefit and good faith in order to attain optimal utilisation and adequate protection of an international watercourse. Furthermore, watercourse states may consider the establishment of joint mechanisms or commissions to facilitate cooperation on relevant measures and procedures (Art. 8). This article highlights the importance of RBOs in transboundary water resources management. Article 9 encourages regular exchange of information and where requested information is not available; the state that seeks such information should consider paying for collection of such information.

A watercourse country planning to implement a development project that may cause significant harmful effects should timely notify other riparian states of such a proposed development and provide available technical data and information including the results of an environmental impact assessment. The notified states are given six months to study and evaluate the possible effects of the proposed development. In case of an emergency situation occurring in a watercourse state and with the potential harmful effect on other watercourse states, the former should timely inform the latter of the emergency situation. Emergency situation could be floods or industrial accidents.

## 2.4 UN Convention on the Protection and Use of Transboundary Watercourses and International Lakes

All riparian states shall take appropriate measures to prevent, control and reduce any transboundary impact in order to:

- Prevent, control and reduction pollution of waters causing or likely to cause transboundary impact;
- Ensure that transboundary waters are used with the aim of ecologically sound and rational water management, conservation of water resources and environmental protection;
- Ensure that transboundary waters used in a reasonable and equitable way, taking into particular account their transboundary character in the case of activities which cause or are likely to cause transboundary impact; and
- Ensure conservation and, where necessary, restoration of ecosystems.

Measures for the prevention, control and reduction of water pollution shall be undertaken, where possible, at source and these measures shall not direct or indirectly result in transfer of pollution to other parts of the environment. The preventative measures shall be guided by the following principles:

- Precautionary principle, by virtue of which action to avoid the potential transboundary impact of the release of hazardous substances shall not be postponed on the ground that scientific research has not fully proved a causal link between those substances, on the one hand, and the potential transboundary impact, on the other hand;
- Polluter-pays principle, by virtue of which costs of pollution prevention, control and reduction measures shall be borne by the polluter;
- Water resources shall be managed so that the needs of the present generation are met without compromising the ability of future generations to meet their own needs.

The convention provides for joint bodies meaning any bilateral or multilateral commission for cooperation between riparian parties. Where more than one joint body exists in a shared river basin, the bodies are required to coordinate their activities to minimise transboundary impacts.

## 2.5 Revised SADC Protocol on Shared Watercourses and SADC Water Policy and RSWAP

In August 1995, the majority of the SADC nations agreed and signed the Protocol on Shared Watercourse Systems (came into force in 1998). The signatories of this protocol undertake to follow the principles of the Helsinki Rules to achieve equitable and sustainable use of shared water resources, for optimum benefit (Pallet, 1997). The Revised SADC Protocol on Shared Watercourses was signed in August 2000; the overall objective of the protocol is to foster closer cooperation for judicious, sustainable and coordinated management, protection and utilisation of shared water courses and advance the SADC agenda of regional integration and poverty alleviation (Article 2). The protocol implies the importance of cooperative use of shared water resources which is also emphasised in the overall objective. Article 7(3) of the SADC revised protocol) seek to resolve matters arising between SADC and a state party.

The main thrust of the legally binding Protocol is to ensure efficient conservation and utilisation of shared water resources. The Revised Protocol on Shared Watercourses derives many of its provisions from the Helsinki Rules and the United Nations Convention on the Law of the Non- Navigational Uses

of International Watercourses (Pochat, undated). Shared watercourses may be used by each riparian state without prejudice to its sovereign rights and subject the protocol's conditions. State parties shall take all appropriate measures to prevent the causing of significant harm to other Watercourses States. The country whose use causes such harm must take appropriate measures to eliminate or mitigate it and where appropriate, discuss compensation (Pochat, undated).

Article 5 of the revised protocol, which describes the institutional framework for implementation, defines the relevant institutions and their functions. Art 5 (3) refers to the possibility to establish 'appropriate institutions for water management such as water course commissions, water authorities or boards'. The responsibilities of such institutions depend on the institutions' objectives, which should conform to the protocol's principles. The institutions are required to provide regular information about the progress of the protocol implementation in their particular basin. In return, state parties promise to 'adopt appropriate measures to support the institutional framework. This can be understood to include financial and other support. Article 6 is about the shared watercourse agreements while in the previous protocol article 6 focused on financial and regulatory framework for river basin management institutions and it has been removed.

The *SADC Regional Water Policy* states that member states should ensure that they receive adequate financial resources that are financial sustainable for national as well as regional projects for water resources. The policy insists that member states should strive to recover all management costs through user fees and least cost designs, and planning and water demand management should be seen as important measures for increasing financial resources for water resources development. Partnerships between government, donor agencies, and the private sector are encouraged by the policy to enhance financial support for development and management of water resources in the SADC region.

*SADC Regional Strategic Action Plan on Integrated Water Resources Development Management 2005-2010* notes a number of institutional, procedural and communication challenges and conditions for the policy's implementation, including:

- Inadequate staff and funding arrangements;
- Management of change process where change precipitated by SADC's restructuring processes was inadequately handled;
- SADC National Committees are not functioning effectively;
- Coordination between SADC Secretariat and member states poses major challenges;
- Coordination between International Cooperating Partners (ICP) regional offices and headquarters is not to the required standard;
- Communication problems at all SADC levels;
- Lack of procedures suited to the regional character of SADC, as well as the complexity and multiplicity of procedures; and
- Different economic status of member countries.

The conditions necessary for programme funding include:

- Democracy, good governance, respect for the rule of law, peace, stability and security must be in place;
- Firm ownership of the framework of the strategy and policy must exist; and
- Effective participation must be achieved. ICPs and other relevant groups need to regularly engage.

## 2.6 Concluding remarks

The Conventions and Protocols provide opportunities for the establishment of joint bodies but do not provide much detail. Consequently, a great deal of flexibility exists among countries to choose a suitable and acceptable institutional management model. In fact, the SADC Protocol is most specific about institutional requirements. Based on the SADC Protocol, riparian states have adopted for the water commission model. The UN Conventions require collaboration between such a body and already existing joint bodies in the same basin (e.g. bilateral ones).

The responsibilities of states regarding shared water course management are clearly articulated. These include the following major ones: eequitable and fair use of water resources, minimising damage to other countries, conflict resolution, EIA and exchange of info, timely notification of water abstraction plans and use and pollution prevention, including control of alien species. The Protocol does not prescribe what the responsibilities of the RBOs should be other than providing regular progress reports and information. It gives countries the flexibility to delegate responsibilities to the RBOs or to restrict their responsibilities to advisory duties and progress monitoring, leaving much of the decision-making tasks to member countries. Obviously, funding requirements of RBOs depend on their role and responsibilities.

Finally, the Conventions and Protocols refer to several environmental economic principles that may open access to financing. Reference is made to cost recovery as well as the user-pays- and the polluter pays- principles (UPP and PPP respectively) and the pre cautionary principle. Implementation of the UPP and PPP principles generates financial resources for riparian countries and/or the RBOs. The pre-cautionary principle requires the advancement of knowledge and understanding of the river basins (i.e. research and data base) and that great caution is exercised with projects that have major but uncertain impacts on the river basin.

# CHAPTER THREE

## Funding requirements and financing mechanisms for transboundary water management

### 3.1 Introduction

This chapter explores the funding requirements and financing mechanisms available for RBOs. It is based on available literature and some (five) responses to a mail questionnaire distributed among RBOs and International Cooperating Partners (ICPs)/donors in southern Africa.

### 3.2 Integrated water resources management

Integrated Water Resource Management (IWRM) emerged in the 1990s as the water specific version of sustainable development. IWRM now informs water policies and strategies of most southern African countries and SADC. According to the Global Water Partnership's toolbox, IWRM is a '*process, which promotes the co-ordinated development and management of water, land and related resources in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems*'. The overall IWRM goal is to ensure an efficient, equitable and environmentally sustainable water provision in the short and long term. In 1992, four guiding principles for IWRM were established in Dublin:

- Water resources are finite and must be managed in a sustainable manner;
- Water management must be decentralised to the lowest spatial relevant level;
- Water management must be participatory and involve women; and
- Water must be treated as an economic good.

Afterwards, social and political aspects of water have been added to consider it as an environmental, economic, social and political good (Lundqvist and Sandstrom, 1997). Serageldin (2000) suggests that effective IWRM requires radical technological changes, strong political commitment and substantial funding from both the public and private sectors. He considers funding to be most challenging in developing countries.

The relevance of IWRM for RBOs relates to its contribution to the Strategic Action plan (SAP) or the River Basin Management Plan (RBMP) with specific projects and activities that will be implemented and the implications for funding. RBOs need to promote water use efficiency and cover both water supply and demand management activities. The wider range of options includes:

- Increase in traditional water supplies (e.g. dams and boreholes);
- Increase in non-traditional supplies (e.g. water harvesting, water recycling/re-use and desalination);
- Reduced wastage and greater user and locative efficiency (e.g. demand prioritisation and reform of water allocations).

If water is an economic good, users need to pay for its use (i.e. user pays) and degradation (i.e. polluter-pays). In other words, users should contribute to funding IWRM of the river basin. Moreover, users should minimise wastage and make efficient use of the resources. User and pollution charges provide

incentives for greater water use efficiency and contribute to cost recovery of IWRM. Social concerns need to be acknowledged and incorporated into the system of charges. For example, subsistence users could be exempted or alternatively large water users or polluters could cross-subsidise the small users.

## 3.3 Funding needs and requirements

Funding requirements are related to the stage of development of the RBO as well as to the responsibilities and tasks given to the RBOs. The following three stages may be distinguished:

1. *RBO initiation* through consultations and negotiations leading to a memorandum of understanding and potential agreement;
2. *RBO establishment and development*: defining and clarifying organizational framework, establishing a RBO secretariat, usually preparing either a transboundary diagnostic analysis (TDA) and ultimately a Strategic Action Plan (SAP) or River Basin Management Plan (RBMP); and
3. *RBO full operation*: this stage includes the (supervision and monitoring of) implementation of projects and activities contained in the RBAP or RBMP and may include the development of joint development and infrastructure projects (sometimes defined as the fourth stage of RBO development).

RBOs in southern Africa are mostly in either stage 1 or 2; none has reached stage 3. Bilateral agreements in parts of shared water courses are actually in the implementation and operational stage.

The general literature on funding needs of RBOs is sparse. There is more documentation about donor funding cutting across individual RBOs (see funding sources in Section 3.4) and about RBO case studies (see Chapter four).

***Categories of expenditures***

RBOs require funds for operation and maintenance of the RBO as well as for the (supervision and monitoring of) implementation of RBMP activities. The extent of RBO involvement in project implementation depends on their responsibilities as specified in the MoU. Typical expenditure categories could include the following:

- Operational costs of the secretariat, including staff salaries, running of equipment and vehicles, travel costs, RBO meetings, utilities bills, stationery and internet;
- Training and capacity/staff development;
- Studies and consultancies, including the TDA and development of the RBMP;
- Procurement of equipment, such as computers, furniture and vehicles; and
- Monitoring progress of the RBMP and Protocol implementation.

Given the need to involve stakeholders, RBOs also require a budget for an outreach and communication program. If RBOs get directly involved in project development and implementation, a separate budget category is required and expenditures will probably increase significantly. Compilation and maintenance of a RBO data base will requires additional funds.

Determination and specification of required finances, including provision of investment planning, estimates of recurrent expenditures and revenues, should be included in any SAP or RBMP.

Salaries account for the bulk of recurrent RBO expenditures, showing the need to (1) have efficient secretariats and (2) make informed decisions by member countries regarding the responsibilities and size of the secretariats and the financial implications.

The SADC Protocol requires member countries to provide RBO support for the implementation of its tasks and responsibilities. National development plans and budgets should include explicit financing estimates for attaining the RBO targets of member countries (Watkins, 2006). Member countries have the opportunity to reduce the RBO costs by restricting the mandate, ensuring efficient RBO operations, and by making in-kind contributions (e.g. payment of own delegates and provision of office space).

Chapter four illustrates several examples of detailed breakdown of RBO expenditures in southern Africa, Europe and Asia.

***Levels of funding***

The level of RBO funding is largely determined by the RBO tasks and authority and the stage of development of the RBO. Obviously, the operational efficiency of the RBO also influences the budgetary requirements and delivery. A predominantly advisory RBO will have a lower budget than a RBO that is also responsible for project implementation or for development and hosting of a data base. Currently, most RBOs in SADC fall within the former group; as their role is mainly advisory and decisions are made by member states. The stage of RBO development defines its level of institutional progress, whether the RBO is at an initial stage of development or it is fully functioning with a secretariat. The initiation phase requires a modest budget, but costs rise significantly with the establishment of the secretariat and the implementation of a RBMP.

Given the early development stage of most RBOs, the funding requirements of RBOs in SADC are likely to increase significantly in future.

## 3.4 Sources of funding

According to ODI/Arcadis Euroconsult (2002), funding of the water sector in developing countries amounted to some US$80 billion in 2002. This is similar to the estimated expenditures in 1996 (Table 1). In 1996, international flows contributed less than 20% of the total expenditures. Governments of developing countries contribute over US$50 billion. In 1997 the largest proportion of donor funding came from the World Bank.

***Table 1: Water investments in developing countries (1996)***

| | US$ billion pa | % of total |
|---|---|---|
| **International flows** | | |
| Multilateral and donor aid | 9.1 | 11-12 |
| Private investments | 4.1 | 5 |
| **Domestic flows** | | |
| Government, public sector | 51-55 | 61-72 |
| Domestic private & community | 12-15 | 14-20 |
| **Total** | **76-83** | |

Source: Global Water Partnership, 2000

Transboundary water management and RBOs receive a small part of the donor funding, but the contributions are increasing through special projects and growing donor participation. Out of the total development assistance spent globally on water and sanitation ($3.5 billion), less than $350 million is allocated to transboundary water resources (Watkins, 2006: 231; ODI/Arcadia Euroconsult, 2002). RBOs in developing countries appear to be mostly financed by International Cooperating Partners (ICPs)

and to a lesser extent by national governments. In Europe, the EU contributes 2.5% to RBO expenditures as they implement the EU-Water Framework Directive. In southern Africa, ICPs are instrumental in the initial development phase and the establishment of RBOs. Boxes 1 and 2 provide two examples (TRIB and SWBM) of donor assisted transboundary water management projects.

***Box 1: Transboundary River Basin Initiative (TRIB)***

UNDP established the Transboundary River Basin Initiative (TRIB) in 2000 with the main goal to support riparian countries and to improve their dialogue on shared rivers and build intra-riparian trust. Up to date, TRIB provided assistance to 36 countries through 12 projects implemented in 7 basins in four regions of the world. TRIB leveraged US$76 for every US$1 invested. TRIB funding equalling US$ 297,795 was utilised in three components (Kura-Aras, Senegal and Niger II). These funds leveraged US$22.6 million in funding from GEF. The role of this initiative is to strengthen relationships between RBOs and multilateral and bilateral donors. UNDP partnered with numerous actors, among others, World Bank, UNESCO, CIDA, GEF and the Carnegie Foundation and also coordinated with non-donors organisations, varying from large basin organisations such as Mekong River Commission, Nile Basin Authority, to the smaller local NGOs such as Asdeverde in the Rio Frio Basin (www.undp.org).

***Box 2: The Shared Water Basins Management Initiative (SWBM)***

The Shared Water Basins Management Initiative SWBM was launched in 2005 by UNDP to develop multi-donor partnerships to support regional projects and programs that build trust and promote riparian cooperation. It develops and strengthens regional institutions for shared water management. SWBM brings the parties together so that they can ultimately access more forms of financing. SWBM initiative liaises with donors active in transboundary work and seeks to augment opportunities for collaboration and co-funding. UNDP is currently collaborating with Cap-Net, DGIS (Netherlands), GEF, SIDA, US State Department, and World Bank (www.undp.org).

Private sector funding and contributions from water and river basin users are still uncommon and RBOs do not have direct, 'own' sources of funding.

National governments mostly finance major water development and augmentation schemes. In the primary water sector, the continued reliance on external financing is not sustainable. In 1999, 95% of all the integrated rural water supply and sanitation (IRWSS) programmes were funded by external support agencies and the maintenance of facilities has been very low (Anonymous, undated)

Funding for basin plan implementation may come from government sources, donors, private sector and revenues from user charges. Ultimately the RBO should strive to recover costs associated with water resources management by levying charges for water abstraction and pollution commensurate to the level of use or pollution discharge (Watkins, 2006).

### 3.4.1 ICP funding

***General ICP support and transboundary water management***

ICP funding of RBO activities makes sense for several reasons. First, transboundary water management generates international public goods and managing these basins contributes to regional peace and security, as well as poverty reduction and environmental sustainability (Watkins, 2006). Second, river basins are valuable and their financial maintenance secures their sustainability and long term viability, which is captured in the *existence value* of basins. Though the *existence value* is difficult to quantify, ICP

funding is sometimes considered as a proxy for it. Third, some low income countries may not be able to make the required financial contributions themselves (or give it a low priority).

In developing countries, international donors and banks often cover the management cost of negotiating an international treaty, but they also finance river basin commissions and research projects for a longer period, and give loans for specific projects (Raadgever *et.al.*, 2008).

The role of donors goes beyond financing. ODI & Arcadis Euroconsult (2001) indicate that donors also operate as '*sincere negotiators*', particularly in the process of creating new institutions. Multilateral organisations are better positioned in this regard than bilateral donors because of their larger outreach and skills. Other roles donors might play include:

- Leveraging funds to increase overall funding;
- Stimulating partnerships between countries; and
- Promoting stakeholder participation and communication (including civil society).

The ODI/Arcadis study advocates a process approach that includes financing by donors to facilitate the development of coordinated and coherent transboundary institutional arrangements through four principal stages (Table 2).

***Table 2: Stages in process financing transboundary water management***

| | Financing Goal | Current Means | Possible Arrangement |
|---|---|---|---|
| **Initiating process** | Cost of establishing and tailoring transboundary institutions. | Mixed and patchy | By international or regional organisations with sufficient strength and capacity |
| **Institutional Arrangement** | Management cost of the transboundary institutions. | By riparian countries and externally | By riparian countries solely |
| **Program implementation** | Cost of basin management, development of uncontested data base, planning, monitoring | By bilateral donors and UN agencies | On the basis of formulated programmes, including trust fund financing by bilateral, multilateral and private donors |
| **Investment in shared water management works** | Cost of investment in water related infrastructure | Uncoordinated national investments by public and private sector. | ▪ Coordinated national and regional investment;<br>▪ Risk financing (co-financing regional development banks and private sector);<br>▪ New financing to include inter-riparian financing and cost recovery. |

Source: ODI/Arcadis Euroconsult, 2002.

Stage 1 is the initiating process, or establishment of institutional mechanisms for effective management, including agreement on anticipated benefits and modes of cooperation. This critical starting point requires a feasible political environment for inter-riparian engagement. Stage 2 is the operation of the

institutions themselves. Stage 3 is the implementation of water management programmes including data collection, surveys, joint planning and monitoring and steps towards confidence building. Finally, Stage 4 is investment in infrastructure for shared river management.

An example of a process-oriented approach is the Nile Basin Initiative (NBI), which has created a significant process of institution- building within complex political environments in the region and linked this process to a shift from water sharing to a benefit sharing as the basis for transboundary cooperation. The Nile Basin Initiative has taken several years to develop the shared vision and commitment of all riparian states. There is now a secretariat in Uganda and a body capable of managing the process. An external institution (the World Bank) also played an important role in establishing and facilitating the institutional development of the NBI (ODI/Arcadis Euroconsult, 2002).

***Transboundary water management donor funding in the SADC region***

Beekman and Pieterson (2008) carried out an inventory of donor support for RBOs in the SADC region. SADC is the main recipient of donor support amongst regional and pan-African institutions. They found that a total of 18 ICPs were active in the region, covering 15 shared river basins. Data from 15 ICPs were obtained (9 bilateral and 6 multilateral). The main conclusions of the inventory are that:

- The larger river basins receive most support: the Zambezi was support by 9 donors; the Orange by 6; the Limpopo by 5 and the Okavango and Ruvuma by 4 ICPs. This raises the issues of donor coordination and balancing of donor support among RBOs;
- All river basins receive external support from at least one ICP;
- German ICPs are most active and support five basins; followed by the UK and AfDB with four. Many ICPs support three basins. This allows donors to transfer experiences from one RBO to another;
- In terms of expenditures, multilateral ICPs tend to spend more: AfDB, UNDP, FAO, EIB and EC spent over €10 million. Only Germany and Sweden, as bilateral donors, spent more than €10 million.
- Donor support started in the early 2000s and increased over time for each basin. This probably accelerates RBO development but holds the risk of ICP-dependency if RBOs do not develop a strategy towards long term financial sustainability.

Germany through GTZ, InWEnt and KfW, is the major bilateral donor in the SADC region. The projects and programs supported by Germany are mostly sub-regional in coverage, funding several basin organisations. For example, Transboundary Water Management in SADC is a capacity development programme supporting RBOs' institutional capacity growth, to successfully deal with complex issues that arise in transboundary management. This program is aimed at strengthening the Orange-Senqu, Limpopo, Ruvuma and Kunene RBOs. Germany, through its implementing organisations, contributed €42,350,000 from 2005 to 2012. Mostly, GTZ supports the initial stages of RBO formation, such as convening meetings, setting up of RBO secretariats and capacity building of RBOs.

Sweden, through the Swedish International Development Cooperation Agency (Sida) funds SADC programmes such as WaterNet, WARFSA and GWP-SA. These programmes mainly focus on human and institutional capacity building and facilitation of IWRM implementation. Sida programs and projects amount to €32,840,000 in the region. Several other bilateral donors support transboundary water management in the SADC region: DANIDA, USAID, DFID, Switzerland, France, Netherlands and Finland.

The major multilateral donors in SADC are the European Investment Bank (EIB), European Commission (EC), African Development Bank (AfDB), Food and Agricultural Organisation (FAO), World Bank, Global Environmental Facility and UNDP. The EIB funded projects worth €143,500,000 implemented and on-going between 1998 and 2012. EIB mainly funds infrastructural developments such as Phase 1B of the Lesotho Highlands Water Project and rehabilitation and extension of sewerage networks in the Plaines Wilheims area of western Mauritius. The AfDB funded surface and groundwater assessment and capacity building in Buzi, Ruvuma and Save River Basins. AfDB funds a project aimed at reducing food insecurity in three countries of the Zambezi River basin; Botswana, Zambia and Zimbabwe.

***The Global Environmental Facility (GEF)***

GEF-funded projects and activities are mainstreamed into the UNDP programme. Globally, as of February 2008, UNDP's GEF-funded projects amount to approximately US$7.5 billion (US$2.1 billion in GEF Grants and US$5.4 billion in co-financing) representing over 560 full and medium-sized projects as well as more than 530 enabling activities. UNDP projects and programmes are implemented through their network of over 130 country offices and with guidance and support from a central UNDP GEF environment team. (www.undp.org). The Global Environment Facility (GEF) has become the largest source of multilateral aid for global environmental issues and is one of main financing instruments for directing aid towards transboundary resources (Watkins, 2006). The strategic goal of GEF-funded international waters activities is to meet the assisting groups of countries to better understand the environmental challenges of their international waters and work collaboratively to address them, building the capacity of existing or new institutions (Duda, 2002). Since 1991, GEF has provided funding to 135 developing and transitional countries for 110 transboundary water resources projects. GEF's committed $888 million for project with a total costs exceeding $3.8 billion (http://gefweb.org). The GEF international waters program targets transboundary water systems, such as shared river basins, groundwater resources and/or shared marine ecosystems. Some of the issues addressed are transboundary water pollution, over-extraction of groundwater resources, unsustainable exploitation of fisheries, protection of fisheries habitats and balancing competing uses of water resources (http://gefweb.org/)

In southern Africa, UNDP/GEF projects focus on assisting RBOs develop individual basin Strategic Action Plans. GEF and UNDP fund the formulation and implementation of Strategic Action Programmes (SAP) for ORASECOM, Lake Tanganyika and OKACOM. UNDP/GEF is not involved in large investment projects.

***International Development Banks***

International development banks (IDB) are of particular importance because they finance initiatives, have direct communications with governments and make sizeable contributions in terms of water development programs, as indicated in Box 3.

***Box 3: Financial flows from international development banks***

The development banks lend substantial funds to the water sector, although this component in their portfolio has slowly decreased over the past fifteen years, and in the case of Asian Development Bank ADB has even declined in real terms. Between 1981 and 1998, the World Bank invested some 15% (US$ 33 billion) in water related projects. Since its Water Policy became operational in 1993 it invested US$16 billion in projects in 80 countries with an overall price tag of US$80 billion.

At ADB, the water sector's share has declined from 30% of total lending in 1981 to an average of 15% in the nineties. IDB lent approx. US$16.7 billion (in 1995 dollars) to the water sector in 1981-1995, or some 23% of total lending. It is unclear how much of this funding benefits river basin management, but it is likely to be a relatively small but growing share.

Though it may be clear that the lending volume offers a powerful opportunity to engage in a dialogue with governments over their priorities, this effort is still limited as globally approximately US$60 billion is invested annually in water projects. Only 10% is funded by external sources of which the World Bank contributes around fifty percent.

Source: Alaerts, undated, p. 2.

***Donor effectiveness***

According to Mostert (2005), effective donor operation requires lessons are learned from past operations and that donors regularly review their involvement in particular basins. In addition, public participation increases the chances of effective agreements. This requires that information exchange is not limited to exchange between the member states' parties. Many RBOs may invite observers to their meetings, but these are usually international organisations and international donors (Mostert, 2000).

***Donor coordination***

Examples of donor coordination have been documented. In 2006, ADB approved the establishment of Water Financing Partnership Facility to mobilise co-financing and investments from development partners. So far, the Netherlands, Australia, Norway and Austria have contributed to the facility. ADB is also making use of financial instruments introduced through its innovation and efficiency initiative. Since the Water Financing Program began in 2006, ADB has approved projects to introduce integrated water resources management in 14 of 25 targeted river basins (www.adb.org).

The World Bank has established a Trust Fund for the Nile basin, where individual donors can contribute. For example, the Dutch government contributes US$ 21 million to the Nile Basin Initiative through this Trust Fund; nine other donors also contribute to this fund.

The major aspects of donor coordination are summarised in Box 4.

***Box 4: Donor coordination***

Whenever more than donor is active in a specific basin, donor coordination becomes an issue. Donor coordination can significantly improve donor effectiveness; it allows donors to tackle bigger problems by pooling resources. This can also prevent duplication of efforts and donor competition. Donor coordination can help to identify and fill in gaps in a specific basin; it can also reduce the management burden for beneficiaries.

However, donor coordination is often problematic, because each donor wishes to coordinate and donor priorities may differ. Information exchange procedures and platforms to discuss coordination issues may be lacking and donors may not be able to make long-term commitments. Different internal accounting procedures of donors impede coordination.

Source: Mostert, 2005

### 3.4.2 Member state contributions

Most agreements assume or specify that member states will contribute to cover the costs of RBO operations on an equal basis or on the basis of surface area in the basin. Both the member states and the RBO can and sometimes do get financial support from international donors. In some river basins, ICP support is the most important source of funding, although it has been argued that donor financing is not the most sustainable financial solution for the long or even medium term. Countries with well developed national environmental policies and instruments are able to recover their expenditures from user and pollution charges. Experiences from a project in the Save and Runde have shown that a RBO can survive without much government support through charging user fees (ADF, 2005).

To build ownership in and support for the RBO, the riparian countries should consider financing a substantial part of the cost of managing transboundary institutions. A danger of aid financing is that it can create a supply-led approach to setting priorities, with donor priorities defining the agenda. Aid is critical in financing start-up costs, training and institutional capacity development. Donor support is best done through grants rather than loans, because the costs of coordination between countries are high and attributing the responsibility for loan repayments becomes difficult (Watkins, 2006: 231). The case studies in chapter four show the role and levels of member contribution to RBOs.

### 3.4.3 RBO revenues and financial resources

RBOs could also raise their own funds through the sale of electricity, water or consultancy services. An example is the *Zambezi River Basin Authority*. The ZRBA charges for the water that it delivers to the two electricity companies of Zambia and Zimbabwe. However, there is need for regulation and procedures for direct RBO income generation to avoid negative impacts on the environment (Mostert, 2005). The Danube River Basin taxes for pollutant discharge. However, the tax system is still centralized, and the local and basin authorities have no power to apply individual taxes. Direct and indirect subsidies to reduce water pollution caused by industry are mainly financed by foreign investments (privatization) and grants (WWF Water and Wetland Index. 2003)

### 3.4.4 Private sector

Private sector funding of RBOs is very limited and under exploited. GWP (2008) highlights the motives for growing involvement of the large international private sector through government passing on the

cost and work of raising funds to the private sector and also if the private sector will bring essential know-how in some technical and economic fields. Danube River Basin is financially and technically supported by the Coca Cola Company. The Coca Cola Hellenic Bottling Company financially supports Danube activities such as the international Danube Day Celebrations and Danube Box.

## 3.5 Funding mechanisms

There are several financing mechanisms, which can be considered, such as water charges, service charges, private sector investments, endowments or trust funds, permits or allowance based contributions (Danish Water Forum, 2007). However, more work is still needed to evaluate the advantages and disadvantages of each.

*Levying user charges* to support transboundary water management programs and projects has been suggested over the last decade in developed and developing countries. Levying taxes and charges have been successful for the French *Agences de Bassin* which levy charges on pollutant load discharges to surface water, the revenues from which both support the *Agences* themselves and are used to subsidise industry and municipalities in river clean-up programs. Some member countries of the Organisation for Economic Cooperation and Development (OECD) levy charges to support water resource management activities (ODI & Arcadis Euroconsult, 2001). The main advantage for levying charges is that they create the link between fund raising and resource use. However, taxes and charges are sometimes complicated to administer due to institutional difficulties and applicable to a limited number of transboundary river commissions in regions with well developed environmental policies (ODI & Arcadis Euroconsult, 2001).

*Public funding from general taxation*. This is common for state contributions for the operating costs of RBOs. The required funds are relatively small and public financing demonstrates governments' commitment to RBOs. However, unfavourable government finances and political factors may threaten the level of the financial flows.
*Private sector investment* in transboundary water resource management has been limited mainly to development of hydropower generation infrastructure (ODI & Arcadis Euroconsult, 2001). Lack of private sector investment is mainly due to lack of a medium through which it could channel its participation. In addition, the private sector needs a range of incentives such as potential profitability and return on capital as well as manageable risks such as political security. Private sector involvement in transboundary water management has been in hydro-electricity generation where transboundary concerns frequently exist. Outside of hydropower development, however, there do not appear to be any instances of private sector involvement in transboundary water resources management.

*Endowment or Trust funds* invest the capital in the fund and use the earnings from the investment to fund desired programme (ODI & Arcadis Euroconsult, 2001). Trust funds provide long term financial security for transboundary river institutions. They encourage participation of stakeholders such as NGOs, commercial sector and donors because they are managed by a board of directors. Trust funds can provide a means for encouraging commercial and private sector participation either in kind, through management skills, or as direct financial contributions (ODI & Arcadis Euroconsult, 2001: 28).

*Inter-riparian financing* involves investments made by some riparian state(s) in the territory of another member state that yield better returns as compared to any other option and the riparian states would share the benefits accrued based on an agreed percentage formula. For example, in the Rhine Basin, it was once considered cheaper for Netherlands to invest in pollution abatement in the upstream France than to purify water in Netherlands (ODI & Arcadis Euroconsult, 2001: 28). The Lesotho Highland Water Project also provides a good example of inter-riparian financing.

Central governments channel *finance* for capital spending on water to local authorities or public water companies. Where foreign aid is available, it is usually provided to central government before it is passed on to local government or public authorities. Tariff revenue from the provision of water may either be retained by the local water authority, or be returned to the general public coffers. Central governments may also provide sovereign guarantees to sub-national agencies to assist their financings. The advantages of central government funding for capital projects are that fund raising is related to national financial capacity, and can avoid local over borrowing and debt problems; the national Treasury can get better terms in financial markets than local authorities. It can also set national priorities, ensuring equity between richer and poorer parts of the country and the foreign exchange risk of foreign loans is borne by central government (CAP-net, 2008a, p. 69). On the other hand, decisions on water funding may become more politicized; central governments may give lower priority to the water sector than local governments and funding may become dependent on a fragile national fiscal situation. Local service providers may be discouraged from developing financial self-sufficiency; and external donors and other financiers are unable to develop close contacts with actual providers (CAP-net, 2008).

*External funds* can be in the form of concessionary loans, grants or commercial loans. Concessionary loans and grants can be obtained at a relatively low cost through government to government agreements and are normally designed to benefit the disadvantaged groups. These funds have been widely available to the water sector as evidenced by the Water and Sanitation projects and building of large dams. These resources need to be effectively utilised and directed to the intended beneficiaries in order to meet the objectives of the sector. Donor resources should be seen as temporary resources to facilitate kick-starting development in areas that may not otherwise be supported (Anonymous, undated). It makes sense for developing countries to maximize their uptake of Overseas Development Aid (ODA) grant money, before contemplating commercial finance for this sector. However, even grants may have significant transaction costs and inconveniences; and, attracting aid from many different sources can tax the management abilities of national authorities (CAP-Net, 2008a and b). Funding in terms of grants, is transparent and simple, it avoid repayment obligations and debt overhang. They can also be blended with other kinds of finance to produce a suitable financing package for a particular project, but grants may also carry political and commercial obligations (CAP-Net, 2008a).

Commercial loans are available from private banks. They are only available for those operations or activities that can generate resources or savings that can be used for repayment purposes (Anonymous, undated: 48)

### 3.6 Concluding remarks

In pursuit of the Millennium Development Goals and of meeting basic needs, governments in developing countries invest heavily in the water sector, particularly in water supply and sanitation (well over US$50 million out of a total of around US$80 million spent on water).

Funding from ICPs or donors is relatively small for transboundary water management. However, external funding for RBOs has risen, and donors are particularly involved in the initiation of agreements and support for RBO projects. Independent development banks are particularly active in RBO infrastructure projects. The private sector and resource users appear to contribute very little to RBOs activities.

RBOs go through several stages, including the initiation stage, the establishment-development stage and the full operation stage. The last stage may include the implementation of joint development and infrastructure projects. Funding needs tend to increase in time with the growth of the RBO, but also

depend on the scope of its tasks, its mandate and its efficiency. Salary and staffing costs account for a large part of the operating expenditures of RBOs. Other expenditure categories include:

- Other operating (recurrent) RBO costs;
- Capacity building and training;
- Studies and consultancies, including possible TDA and development of a SAP/RBMP;
- Equipment such as computers, furniture and vehicles;
- Monitoring of progress of the RBMP and Protocol implementation; and
- Possible budget for an outreach-consultation programme and/or for data base compilation.

Donors typically fund the initiation stage, the development of SAPs and RBO projects. They also support RBO operations. Most donors support at least one RBO and some RBOs are supported by several donors. The largest basins in southern Africa attract most donor support. There is need for donor coordination, and ensuring that donor support is evenly spread among RBOs. Donor competition may occur and RBOs may have to meet funding and performance requirements of several donors, putting pressure on their limited capacity. Donors are in the position to transfer experiences gained in one RBO to other RBO that they support. Interestingly, external funding for individual RBOs is increasing in time. This probably reflects the growing absorption capacity of the RBO, a growth in RBO activities and growing appreciation for tangible RBO results.

Member countries contributions mostly funds RBO operating costs. Contributions tend to be equal for each country or determined by river basin factors.

Contributions from the private sector and water users or polluters are minimal. The latter mostly depend on environmental policies of individual countries.

The current sources of funding from these categories include:

- Levying user charges (not common);
- Public funding from general taxation (common);
- Endowment or Trust funds (not very common);
- Inter-riparian financing (occurs);
- External funds (common); and
- Commercial loans (occurs for large projects).

# CHAPTER FOUR

## Case studies – Funding River Basin Organisations (RBOs)

### 4.1 Introduction

This chapter provides case studies on financing and funding of river basin organisations in Africa, Asia and Europe. The case studies highlight the RBO mandates, their activities and plans and their funding needs and mechanisms. The first case study describes the establishment of the Permanent Okavango River Basin Water Commission (OKCAOM) and its initial three year plan; the second case study deals with the Senegal River Basin in West Africa and highlights the funding of its infrastructure developments. The third case study of the Orange River illustrates a relatively new commission in an already highly developed river basin with a number of large dams and transfer scheme. The Mekong River case study in Asia shows a highly donor supported commission that plays an advisory role while decisions are taken by riparian states. The Rhine and Danube case studies in Europe provide insights in the financial operations of the river basin commissions. Both are advanced commissions that are funded by riparian states, the European Commission, and the private sector.

### 4.2 OKACOM

#### 4.2.1 Introduction

The Permanent Okavango River Basin Water Commission (OKACOM) was formed in 1994 through an agreement between Angola, Botswana and Namibia. The three states signed the agreement to collectively manage the Okavango River Basin. The Agreement commits member states to utilise, manage and conserve the Okavango river basin resources in a coordinated and sustainable manner taking into account the social and economic needs of the riparian states. OKACOM's water management approach is based on the principles of equitable allocation, sustainable utilisation, sound environmental management and benefit sharing.

According to the 1994 Agreement (www.okacom.org), OKACOM has the mandate to:

- Determine the long term safe yield of the river basin;
- Estimate reasonable demand from the consumers;
- Prepare criteria for conservation, equitable allocation and sustainable utilisation of water;
- Conduct investigations related to water infrastructure;
- Recommend pollution prevention measures;
- Develop coping measures for environmental hazards such as droughts and floods; and
- Address other matters determined by the Commission.

OKACOM has three organs: the Commission, the Okavango Basin Steering Committee (OBSC) and the Secretariat.

The Okavango catchment originates in the Angolan highlands of Bie and Huambo provinces, crosses the remote Kuando-Kubanago region and flows through Namibia's Kavango region into the Kalahari sands of north-western Botswana (Ashton and Turton, 2005). The Okavango basin is an endoreic system and its Okavango Delta is internationally recognized as a site of ecological importance; hence it was declared a RAMSAR site. The Okavango river basin covers an area of 413,550 km$^2$, excluding the Okavango Delta

in Botswana. More than 95% of Okavango River water runoff comes from Angola and the remaining small amount runs off from Namibia and Botswana. The Okavango River is 1100 km long. The population of Okavango basin in 2000 was 1,113,000 people; of these, 76% resided in Angola, 13 % in Namibia, and 11% in Botswana (www.okacom.org). The main basin characteristics are summarised in Table 3.

***Table 3: Characteristics of the Okavango river basin***

| Country | Average annual rainfall in the basin | | | Irrigation potential (ha) | Water runoff (%) | Population | Okavango catchment |
|---|---|---|---|---|---|---|---|
| | Min | Max | Mean | | | | |
| Angola | 525 | 1,320 | 865 | 200,000 | 94.5 | 845,880 (76%) | 200,192 (48%) |
| Namibia | 355 | 595 | 465 | 2,000 | 2.9 | 144,690 (13%) | 153,783 (37%) |
| Botswana | 415 | 570 | 495 | 6,060 | 2.6 | 122,430 (11%) | 59,575 (15%) |
| Okavango basin | 355 | 1,320 | 680 | 208,060 | | 1,113,000 | 413,550 |

Source: OKACOM Secretariat

OKACOM secretariat identified the need for a secretariat in 2000 and agreed in 2004 to establish it in Maun, Botswana for the first three years of its operation. The Swedish International Development Cooperation Agency (Sida) played a major role in facilitating the workshop. After further extended negotiations, OKACOM revised its organisational structure and the establishment of the secretariat was formally approved by ministers from three riparian states in 2007. The organizational structure agreement also legally recognises the Okavango Basin Steering Committee. OBSC advises OKACOM on technical issues. Sida facilitated the development of OKACOM's strategy for the three-year pilot phase of the Secretariat (OKACOM, 2007). During this first phase of the Secretariat, it will concentrate on functions related to *administration, implementation of OKACOM decisions and information sharing and communication*. The first phase of the Secretariat began with a start-up phase followed by a 3-year pilot phase (OKACOM, 2007).

*Start-up phase*
During the start-up phase, several activities were accomplished:

- Establishment of the OKACOM Secretariat office and associated infrastructure;
- Recruitment and hiring of the Executive Secretary;
- Development of financial management and accounting systems, and
- Procurement of essential goods and services for the Secretariat.

The costs of the start-up phase were US$ 256,333, which was fully paid by donors. Sida paid roughly two-thirds and USAID, through the Okavango Integrated River Basin Management Project (IRBM), one-third. The scheduled funding requirements are illustrated in Table 4. The budget for recruitment of the Executive Secretary covers the cost of advertising and air travel as well as lodging expenses for interviews. The services of the Interim Secretariat, provided by IRBM, include legal advice, technical and administrative services, management supervision and travel as well as per diem. Recurrent budget covers office rent, telephone bills, security and internet service costs.

***Table 4: Funding requirements for the start-up phase***

| Budget item | Total cost BWP | Total cost USD | Funding sources |
|---|---|---|---|
| Recruitment of the Executive Secretary | 72,720 | 12,120 | Sida /USAID |
| Office renovation | 158,000 | 26,333 | Sida |
| Vehicle, office equipment & furniture | 579,018 | 96,503 | Sida |
| IT equipment & installation | 198,400 | 33,067 | Sida |
| Financial management and accounting system | 121,000 | 20,167 | USAID |
| Professional services-interim Secretariat until 1st October 2007 | 341,520 | 56,920 | USAID |
| Recurrent costs | 67,340 | 11,223 | Sida |
| **Grand total** | **1,537,998** | **256,333** | |

Source: OKACOM (2007: 7)

*The pilot project (phase 1)*

The three year plan started when the Executive Secretary assumed duty. The funding requirements and budget is presented in Table 6. Salaries constitute half of the expenditures. Other budget items include recurrent expenditures for the office, consultancy services and OKACOM expenditures. Consultancies are meant for general research and issues and option papers. The recurrent budget covers the telephone and electricity bills, internet service and stationery with 20% of the recurrent budget allocated for replacement and expansion. OKACOM expenses will cover costs of attending meetings and it assumed at US$25,000 per member state (OKACOM, 2007). Out of this budget, member countries are each allocated US$20,000 each to undertake OKACOM related work and make follow-ups.

***Table 5: OKACOM Expenditure and financial needs (US$)***

| | 2009 | 2010 | 2011 | Total |
|---|---|---|---|---|
| Professional staff salaries | $319,903 | $480,357 | $442,157 | $1,242,416 |
| Recurrent expenditures | $151,447 | $226,578 | $213,017 | $591,042 |
| Consultancy services | $133,000 | $132,000 | $165,000 | $430,000 |
| OKACOM expenses | $75,000 | $75,000 | $75,000 | $225,000 |
| **Total expenses** | $679,350 | $913,935 | $895,173 | $2,488,458 |

Source: OKACOM, 2007, 8.

According to the OKACOM (2007) agreement, donors will finance most of the capital cost of setting up the secretariat and its recurrent costs for the first three years (82%; Table 6). Contributions of national governments were estimated to be limited to salaries for the national seconded staff, expenses for attending meetings and the office rent for OKACOM Secretariat. The Government of Botswana committed three years of office space to the OKACOM Secretariat as its in-kind of contribution towards the operations of the Secretariat. Contributions from national governments are expected to cover 18% of the costs during the first three years (OKACOM, 2007).

***Table 6: Anticipated donor and national contributions (US$) to OKACOM***

| Budget | 2009 | 2010 | 2011 | Total |
|---|---|---|---|---|
| Donor contribution | $550,987 | $750,208 | $731,447 | $2,032,642 |
| National government contributions | $128,363 | $163,727 | $163,727 | $455,818 |
| **Total** | **$679,350** | **$913,935** | **$895,173** | **$2,488,458** |

Source: OKACOM, 2007, 9.

*Financial strategy and sustainability of OKACOM*

The sustainability of OKACOM Secretariat depends on the degree to which the Secretariat will be able to provide valuable services to the member states and therefore attract the necessary operating capital from the member states. It will also depend on the operational costs of the Secretariat mainly related to the salaries and benefits that will be paid to the staff and the size of establishment. Provision of a more valuable service by Secretariat staff implies more qualified staff, hence increasing its operational costs. OKACOM will have to increasingly meet its recurrent and programmatic costs during the next ten years from sources other than Sida.

One strategy could be to encourage donors to contribute to an OKACOM basket funding arrangement, with a common financial and progress reporting framework developed to cover all the various donor funds (OKACOM, 2007). However, despite the advantages of basket fund, donors operating in the SADC region most probably will have different reporting requirements, conditions, and frameworks. In addition, different accounting procedures may lead to inflexibility and all contributors normally want to have a prominent say in the use of the basket funds (Mostert, 2005). It is worth noting that OKACOM is prepared to undertake bilateral partnerships in case a particular donor prefers that arrangement.

OKACOM intends to increase member states' contributions over time and to reduce its reliance on donors. During phase 2 (duration of 7 years after the pilot phase) member countries are assumed to increase their financial contributions to approximately US$400,000 (assuming equal payments from each member country; OKACOM, 2007). These member states' contributions would be sufficient to cover the expected annual operational expenditures of US$1.1 million.

*OKACOM projects*

All current programmatic, technical projects are funded by donors.

<u>The Environmental Protection and Sustainable Management of the Okavango River Basin (GEF-EPSMO) Project</u>

The EPSMO Project is funded by the Global Environment Facility (GEF), implemented by the United Nations Development Program (UNDP) on behalf of GEF, in support of OKACOM. The project is executed by the Food and Agriculture Organisation (FAO). The objective of the project is to prepare a Transboundary Diagnostic Analysis (TDA) of hydro-environmental threats and to formulate a Strategic Action Programme (SAP) to facilitate joint management of the water resources of the Okavango River Basin and the protection of its linked aquatic ecosystems and biological diversity (www.okacom.org).

The project, being implemented since 2004, has a budget of $5.7 million and is expected to finish in 2010.

The Every River Has Its People Project

This was a regional project funded by Sida and implemented by the Kalahari Conservation Society (KCS) in Botswana, the Namibian Nature Foundation (NNF) in Namibia and the Association for Environment Conservation and Integrated Rural Development (ACADIR) in Angola. The main objective of this project was to promote sustainable management of natural resources in the Okavango River Basin and develop and demonstrate a framework for involving stakeholders in communication and possible decision-making processes concerning the basin. The first two phases of the project ran from 2004 to February 2007. Phase 3, was to run from June 2007 to June 2012, but funding levels are still be discussed with OKACOM (www.okacom.org).

The Okavango Integrated River Basin Management Project (IRBM)

USAID/Southern Africa supported OKACOM's institutional development through the Okavango Integrated River Basin Management Project (IRBM). The project lasted four years (2004-2009) and spent US$8.3 million. The project supports OKACOM and its technical advisory body, the Okavango Basin Steering Committee (OBSC). The project is implemented in collaboration with government ministries, non-governmental organisations, communities, academic and research institutions, businesses and local governments that use and manage the resources of the Okavango River Basin. IRBM strengthened the institutional capacity of OKACOM and established its Secretariat; management of biodiversity and natural resources; and, the participatory community governance of river basin resources (www.okacom.org).

The Executive Secretary indicated three other urgent funding needs totaling around US$2 million for implementation of OKACOM decisions, assessing information needs and developing its information management system, and promoting active stakeholder participation in the governance of the Okavango River basin.

### 4.2.3 Conclusions

RBO development in the Okavango has progressed well but relatively slowly. The Okavango Basin continues to get very strong financial support from donors. OKACOM has developed in stages, and has a longer-term strategy to pay its operational costs by the end of Phase 2 in 2019.

| Year | Benchmark |
|---|---|
| 1994 | OKACOM agreement signed between Angola, Botswana and Namibia |
| 2004 | OKACOM agrees to establish secretariat |
| 2007—2008 | Establishment of the OKACOM Secretariat and start up phase |
| 2009—2011 | Phase 1: three year secretariat establishment phase |
| 2012—2018 | Phase 2: operationalizing and expanding role of secretariat |

Current annual operational costs are around US$0.8 million, which are expected to increase to US$1.1 million in 2018.

The role of donors has exceeded financial support. Donors (Sida and USAID) have facilitated and accelerated the process and provided technical support and assistance. Moreover, they offered OKACOM the opportunity to implement OKACOM related projects. The UNDP/FAO coordinated Transboundary Diagnostic Analysis is particularly important for the RBMP that has to be developed.

## 4.3 Organisation pour la Mise en Valeur du Fleuve Senegal (OMVS)

### 4.3.1 Introduction

The Senegal River Basin is shared by four riparian states (Senegal, Mali, Mauritania and Guinea). The majority of the basin area falls within Mauritania (50%) and Mali (35%). However, Guinea receives more rain per annum than other riparian states (Table 7).

***Table 7: Main characteristics of the Senegal River basin***

| | | Mali | Mauritania | Senegal | Guinea |
|---|---|---|---|---|---|
| **Surface area km²)** | National | 1,248,574 | 1,030,700 | 197,000 | 245,857 |
| | Basin | 150,800 | 219,100 | 35,200 | 31,000 |
| | % of basin | 35 | 50 | 8 | 7 |
| **Rainfall (mm/a)** | National | 850 | 290 | 800 | 2,200 |
| | Basin | 300-700 | 80-400 | 150-450 | 1,200-2,000 |
| **Temperature** | National average | 29 | 28 | 29 | 26 |
| | Basin min & max | 15-42 | 18-43 | 17-40 | 10-33 |

Sources: Organisation pour la Mise en Valeur du Fleuve Senegal (OMVS), AMCOW&ANBO (2007)

The riparian states met and signed the Bamako and Dakar Convention in 1963 and 1970, respectively. The main objective of the agreements and meetings was to pursue basin-wide or joint development programs rather than implementing individual-state agendas (Lautze *et. al*., 2005). The four riparian states formed the Organisation of the Boundary States of Senegal River in 1968. This organisation was formed to foster political and economic integration. However, Guinea withdrew from the agreement in 1972 due to differences between it and other three riparian states (Lautze et al, 2005; Nile Basin Initiative, 2007). Senegal, Mali and Mauritania formed the Organisation pour la Mise en Valeur du Fleuve Senegal (OMVS) in 1972 replacing the Organisation of the Boundary States of Senegal River[1].

The mandate of OMVS includes making policies and regulations for project implementation and to determine the water resource allocation and benefit sharing in the Senegal basin (AMCOW and ANBO, 2007). The organisation was also tasked to promote development of irrigation, power generation and navigation in the basin. The OMVS has three organs: *the Permanent Water Commission, the Advisory Committee and the Regional Planning Committee*. The cooperation of OMVS member states is based on the general principle of:

- Reasonable and fair use of the river water;
- Obligation to preserve the basin's environment;
- Obligation to negotiate in cases of water use disagreement/conflict; and
- Obligation of each riparian state to inform the others before undertaking any action or project that could affect water availability.

### 4.3.2 OMVS operation and funding

The operating costs of OMVS are around US$1.3 million (2000; source: OMVS, 2001). Each country pays an equal amount. Revenue received by the organisation (e.g. payments by ESKOM for power production) also helps cover operating expenses (OMVS, undated).

[1] Guinea has since rejoined the RBO.

### 4.3.3 Infrastructural development projects and funding

The three riparian states of the Senegal River basin have agreed, through the OMVS, to jointly undertake infrastructure development. The structures developed under the OMVS are jointly owned by the member states; the investment and recurrent costs are distributed between co-owner states proportional to the benefits that each country derives from utilisation of the structures (Nile Basin Initiative, 2007). The OMVS has developed three major infrastructure developments; the Diama Dam, the Manantali Dam and the Manantali Hydro-electric project. These developments fall under the OMVS functions related to dam construction, hydro-electric production and anti-sea water in-land intrusion (Lautze, 2005).

*Diama Dam*
The construction of Diama Dam was completed in 1986. The Diama Dam is an anti-salinity barrage dam constructed upstream near the mouth of the Senegal River and 23 kilometres from Saint Louis; stretching across the territories of Senegal and Mauritania (Degeorges & Keilly, 2006: OMVS, undated). The dam was mainly built to (OMVS, undated):

- Block seawater intrusion and thereby protect existing or future water and irrigation wells;
- Raise the level of the upstream water body, creating reserves;
- Enable irrigation and double cropping of around 42,000 hectares at an altitude of 1.5 metres above sea level (m.a.s.l) and 100,000 hectares at an altitude of 2.5 m.a.s.l.; and
- Facilitate the filling of Guiers Lake in Senegal and Lake Rkiz and the Aftout-es-Saheli depression in Mauritania.

The dam cost approximately US$300 million to construct (Bosshard, 1999).

*Manantali Dam*
The Manantali Dam, located in the Upper Valley in Mali, about 1,200 km upstream from the river mouth on the Bafing River, the main tributary of the Senegal River, was completed in 1987 (Degeorges and eilly, 2006). The total capacity of the dam is 11.5 billion $m^3$ of water and contains a useful volume of 8 billion $m^3$. The main purpose is to ease extreme flooding, generate electrical power and store water in the wet season to augment dry-season flow for the benefit of irrigation and navigation (OMVS, undated).

The dam cost US$500 million (Adams, undated; Bosshard, 1999).

*Manantali hydro-electric power project*
The power generation component (estimated to cost US$446) was not constructed in 1988 as planned. In 1997, the project was revived with a World Bank loan of US$38 million to install and operate hydro-electric turbines at Manantali dam (Box 4).

***Box 5: Manantali Hydro-electricity generation project***

Diama and Manantali together cost nearly 200,000 million CFA Francs (US$800 million) to build; the Energy Project will cost 223,000 million CFA Francs ($446 million, post-devaluation), 18,700 million of which ($37,4 million) will be paid by the governments of the three OMVS member States. Of the remaining 205,000 million ($410 million), 136,000 million ($272 million) will be provided as loans, and 67,300 million ($134, 6 million) as grants. The main donors, apart from the World Bank, are France, Germany and the European Union. The project involves installing at Manantali a hydro-electric plant of a capacity of 200 megawatts (MW), capable of supplying about 800 gigawatt-hours/year (Gwh) in a year of average water flow. In the initial version of the project, this electricity was intended for Mali, where it would help develop the mining industry; at present, Manantali's electricity is intended above all to supply Dakar, Nouakchott and Bamako. It will be conveyed by a network of over 1,400 kilometres of lines, which alone will cost 114,000 million CFA Francs ($228 million): a 326-kilometre eastward line, Manantali-Kita-Bamako, and an 821-kilometre westward line, Manantali-Kayes-Matam-Dagana-Sakal, with branches from Matam to Kaédi (87 kilometres) and from Dagana to Rosso to Nouakchott (226 kilometres), which will join the present Sakal-Tobène line supplying Dakar. According to the World Bank, the aims of the project were to: reduce the cost of electricity in the three countries; contribute to repayment of the debt incurred to build Manantali; make the electricity grids of the three countries more reliable and efficient; encourage private sector participation in making use of this project and other future projects in the Valley; set up an efficient organization for building and operating the project's infrastructure, and for mitigating the negative effects of the project and of Manantali dam on health and the environment; and to assist the traditional farming sector downstream by rational management of the Manantali reservoir (World Bank, 1997).

Source: Adapted from Adams (undated).

The delay in the development of the hydropower project caused revenue losses to member countries and as a result the EU wrote off the loans for the dam. The power plant produces less power than predicted and consequently the savings in OMVS member states expenditures for energy dropped from 22 to 17 percent (OMVS, undated; Bosshard, 1999).

In funding the construction of Manantali dam, the OMVS partnered with several donors including; several Arab governments, the Islamic and African Development Banks, Italy, the French CFD, the German KfW, the Canadian CIDA and the European Union. The World Bank and USAID declined to support the project. However, USAID provided financial and technical assistance for environmental assessments and resettlement (Bosshard, 1999).

### 4.3.4 Funding strategy

The OMVS financial cost-recovery strategy is to meet operating costs from member states' contributions. The development finance for jointly owned infrastructure and related development activities comes mostly from loans to the states or directly to OMVS. The individual states guarantee the loans and each member state is responsible for reimbursing its share (OMVS, undated). An allocation/distribution key is used to determine the ratio of costs to be incurred by each member state, in proportion to the benefits derived by each state. The equal regard to the interests of each riparian state through the application of rigorous criteria ensures an equitable sharing of the development costs and associated benefits of the agreed programme (Box 5).

***Box 6: Cost-benefit sharing in the Senegal River Basin***

The International Human Dimensions Programme on Global Environmental Change reported that Mauritania bears 22.6% of the costs of the co-owned structures and receives 33.6% of the 375,000 ha of land for irrigation in the agreed development program, and 15% of the anticipated power generated. Mali bears 35.3% of the costs, receives 52% of all energy generated and is the main beneficiary of the navigation program. Senegal, which receives 64% of irrigated land and 33% of energy generated, assumes more than 42% of the costs. This is an excellent example of the end result of negotiated trade-offs when states set out to equitably share costs and benefits. It also illustrates that these trade-offs are more easily accomplished when there is a suite or package of projects involved which increase the scope for constructive negotiations (Nile Basin Initiative, 2007: 12). The benefit sharing is likely to be revised with the re-entry of Guinea into the OMVS.

### 4.3.5 Management of jointly owned infrastructure

Two operating entities were established: the Diama Dam Management Company, Societe de Gestion et d'Exploitatio du barrage de Manantali (SOGED) and the Manantali Dam Management Company, Société de Gestion de l'Energie de Manantali (SOGEM). Each has overall responsibility for dam operation and maintenance. SOGED and SOGEM are interstate parastatal agencies with their own institutional setting (World Bank, 2006: 8). SOGEM manages hydro-electricity produced at Manantali Dam. OMVS through SOGEM entrusted the operation of the Manantali Dam to Electricity Supply Commission (ESKOM), a South African private company. ESKOM's primary task is to distribute electricity produced at Manantali between Senegal, Mali, and Mauritania. According to Mbaye (2008), ESKOM distribute the electricity through Societe National d'Electricite (SENELEC) in Senegal, EDM (Mali), and SOMELEC (Mauritania).

### 4.3.6 Other OMVS projects

*OMVS support*
FFEM (France) provided €1.5 million to OMVS between 2001 and 2005. The objectives were to:

- Improve management of water resources in Senegal basin;
- Develop integrated river basin management tools; and
- Monitor environmental impacts in the basin.

*Senegal River basin Multi-Purpose Water Development Project*
This project was financed by the World Bank at the cost of US$110 million. The project is part of World Bank support to NEPAD programs. The project assists riparian countries with collaborative management of their shared waters and supports small infrastructure to more effectively utilize water for agriculture and contain risks of recurrent inundations. The project also provides the institutional means for riparian countries to scale-up their collaborative fight against malaria.

### 4.3.7 Concluding remarks

The Senegal River Basin is well developed with several major dams, hydroelectric systems and irrigation schemes. The operating costs of the OMVS are paid by countries and own income sources. The jointly owned and developed dams and hydropower projects are financed with external loans and national contributions. The latter are proportional to the expected benefits of each country.

The Senegal River Basin provides a good example for equitable sharing of costs and benefits of transboundary water resource and the involvement of the private sector (ESKOM) in operation and

distribution of electricity from Manantali Dam. The sharing of costs and benefits of infrastructure development reduces the burden of expenses on individual countries.

## 4.4 Orange-Senqu River Commission (ORASECOM)

### 4.4.1 Introduction

The Orange-Senqu River Basin is shared by South Africa, Namibia, Lesotho and Botswana. The river basin has an area of 1,000,000 km$^2$ with more than half of the basin in South Africa and the remainder of the basin area is in Namibia, Botswana and Lesotho. South Africa and Lesotho contribute the bulk of river basin run-off (Table 8).

***Table 8: Riparian states' runoff contributions to Orange-Senqu***

| Country | Basin area | | Mean annual runoff | |
|---|---|---|---|---|
| | Km$^2$ | Percentage | Mm$^3$/a | Percentage |
| Botswana | 120,000 | 11 | 0 | 0 |
| Lesotho | 30,000 | 5 | 4700 | 41 |
| Namibia | 250,000 | 25 | 500 | 4 |
| South Africa | 600,000 | 60 | 6300 | 55 |
| **Total** | **1,000,000** | **100** | **11,500** | **100** |

ORASECOM is empowered to advise riparian governments on technical issues relating to water resource management in the Orange-Senqu River Basin. The commission operates as a funding coordinator for joint basin projects and executes the necessary feasibility studies to support decision-making.

### 4.4.2 ORASECOM funding requirements and expenditures

According to the ORASECOM secretariat, the annual budget for recurrent expenditures is ZAR 2 million while the capital expenditure budget is €12 million for the period 2007-2011 (or €3 million p.a.). Actual capital expenditures have increased from €100,000 in 2005 to €300,000 in 2007 and recurrent expenditures were ZAR180,000 in 2007.

Member countries pay ZAR500,000 each annually to cover the operational costs of the secretariat. The secretariat has a core staff of four people and five project staff members funded from projects. The costs of attending and convening of official meetings of ORASECOM is fully paid by member states. The host nation pays for the venue and local logistics of the meetings.

The establishment and institutional development of the Orange-Senqu River Basin Commission (ORASECOM) was undertaken with financial support of Deutsche Gesellschaft für Technische Zusammernarbeit (GTZ). With EU, UNDP/GEF (technical assistance from GEF), French. GTZ funded the ORASECOM secretariat establishment and also hosted the secretariat and paid staff salaries in Gaborone before it was relocated to Pretoria. GTZ also assisted the secretariat to open a bank account with FNB hence allowing member states to regularly pay their annual contributions of R500, 000 each since 2006.

### 4.4.3 ORASECOM Programme and projects

ORASECOM implements a number of projects, including the development of a SAP for €4 million. The estimated annual funding requirement for projects is €2 million. The secretariat has identified six priority areas for projects and programmes for the period 2007-2012:

- Institutional and organisation capacity building;
- Capacity building on shared watercourse management;
- Communication and awareness building;
- Transboundary projects and studies; and
- Promotion of conservation and environmental strategies and policies.

Current ORESECOM projects are listed in Table 9.

***Table 9: ORASECOM projects***

| Project Description | Duration (months) | Amount | Source of Funding |
|---|---|---|---|
| Protection of the Orange-Senqu water sources | 7 | €120,000 | French GEF |
| Assessing the potential for water development in the Molopo Nossop catchment | 6 | €200,000 | French GEF |
| Assessment of ground water resources in the Molopo Nossop catchment (common border area of Botswana, Namibia, and South Africa) of the Orange-Senqu | 5 | €150,000 | French GEF |
| Capacity needs assessment in the Orange-Senqu | 4 | €100,000 | French GEF |
| Assessing the potential for use of "marginal water" | 5 | €150,000 | French GEF |
| Mechanisms for establishing a catchment conservation fund | 4 | €80,000 | French GEF |
| Support to institutional strengthening in the Orange-Senqu (group of activities over 42 months) | 42 | €2,500,000 | EU |
| Development of an integrated water resources management plan (group of actions over three phases) | 45+ | €4,000,000 | GTZ |
| Transboundary diagnostic analysis, development of a strategic action plan and national action plans together with specific demonstration projects on environmental flows, water demand management, and catchment management (suite of projects over 36 months) | 60 | US$6,000,000 | |

Projects are fully donor funded. UNDP/GEF has obligated US$7 million to ORASECOM.

### 4.4.4 Sources of ORASECOM funding

The ORASECOM operating costs for its secretariat are fully funded by member countries. Projects and capital expenditures currently depend heavily on donor funding. GTZ, French and UNDP GEF and the EU play an important role in funding ORAECOM projects as shown in Table 10.

***Table 10: Sources of funding for ORASECOM projects***

| Source of funding | Amount of RBO budget | Project duration |
|---|---|---|
| **Member States** | ZAR 10 million | 2007-2012 |
| **Donors** | GTZ +/- €6 million | 2007-2012 |
| | French/GEF €1.5 Million | 2006-2009 |
| | EU €2.5 million | 2008-2010 |
| | UNDP/GEF US$6 million | 2009-2011 |
| **Private sector** | Sasol (being developed) | |
| **Others (specify)** | International Commission on the Protection of the Danube (being developed) | |

The secretariat has identified several short term financial needs (Table 11).

***Table 11: Short term financial needs of ORASECOM***

| | Priorities | Financial requirements |
|---|---|---|
| 1 | Water resources information gap filling | €3 million |
| 2 | Website and information system development | €200,000 |
| 3 | Development of a basin wide IWRM plan with stakeholder participation | €4 million |

### 4.4.5 Lesotho Highlands Water Project (LHWP)

The Lesotho Highlands Water Project (LHWP) existed prior to ORASECOM's establishment. LHWP is a joint body whose activities need to be coordinated with those of ORASECOM. The LHWP resulted from a bilateral agreement between Lesotho and South Africa and does not include Botswana and Namibia. The LHWP provides a good example of an inter-riparian financing scheme and an equitable benefit sharing project (Box 6).

***Box 6: Lesotho Highlands Water Project (LHWP)***

The Lesotho Highlands Water Project (LHWP) is an agreement conceived in 1986 between Lesotho, rich in water resources, and South Africa, a water scarce economic giant in Africa. It involves transferring water from the mountainous area in Lesotho to the industrial heart of South Africa for domestic and industrial uses, and hydropower generation for Lesotho and royalties by South Africa to Lesotho for the next 50 years. South Africa chose the LHWP over the localized Orange Vaal Transfer Scheme (OVTS) because it was cheaper. The LHWP uses the gravity system to transfer water hence saves South Africa the costs of having to pump against higher head from the Orange River. The system transfers about 40% (70 $m^3/s$) of water from Senque River in Lesotho to the Vaal River basin in South Africa (Lindemann, 2005). The Project has six phases. Phase 1A and 1B are complete and the costs of Phase 1A and 1B are US$ 1.09 billion and US$ 0.45 billion, respectively (Bernauer et al, 2007). South Africa paid the full cost of the two phases. In the Treaty, Lesotho and South Africa agreed to share the difference in cost, called the net benefit, of the LHWP over its alternative scheme, the OVTS on a ratio of 56% to Lesotho and 44% to South Africa. Lesotho's share of net benefits to be obtained by using the LHWP is called the "royalties" while South Africa's share is referred as "cost savings"(Bernauer et al, 2007: 28). This power scheme produces 182 MW of hydro power for Lesotho, making it power independent. Lesotho was a net importer of electricity prior to LHWP. Moreover, South Africa pays Lesotho USS$ 45-47 million per year as royalties for water delivered by Phase 1A. Another positive impact on Lesotho's economy and development is the infrastructure brought along with the LHWP, such as roads, electricity power substations, transmission lines and telecommunications (Lindemann 2005, Bernauer et al, 2007). Both governments are represented at a joint permanent commission created to implement the project. The Lesotho Highlands Development Authority (LHDA) and Trans Caledon Tunnel Authorities (South Africa) were established to implement the project in both countries. Lesotho has an advantage due to its high altitude storage possibilities in deep dams with lower evaporative losses than possible elsewhere in the basin.

### 4.4.6 Concluding remarks

ORASECOM is a relatively new commission entrusted with managing and conserving a highly developed river basin. The RBO is in its development stage and does not yet have a TDA or RBMP. The small secretariat is based in Pretoria.

There are 29 dams in the Orange-Senqu River Basin and twenty two of these are located in South Africa. ORASECOM has to coordinate and harmonise its operation and activities with the bilateral agreement of the LHWP. Although the LHWP is a bilateral agreement between Lesotho and South Africa, it provides a good example of inter-riparian financing and joint infrastructure development.

Member countries pay the operating costs of the secretariat (ZAR 2 million annually) but donors contribute most of the capital and project expenditures (€3 and €2 million respectively). Interestingly, the commission is also planning and considering how to source funding from the private sector.

## 4.5 The Mekong River Commission

### 4.5.1 Introduction

The Mekong River Commission (MRC) was established in 1995 when the riparian states of Cambodia, Lao PDR, Thailand and Vietnam signed an agreement to cooperate in the sustainable development and joint management of their shared water resources and development of the economic potential of the Mekong River Basin (Pasch, undated). Two riparian states, notably China and Myanmar, have not signed the agreement and are 'dialogue partners' (MRC, 2004). The reluctance of China and Myanmar to join the MRC poses a serious long term challenge to the basin as China is an economically powerful

upstream riparian state. Any major infrastructural development on the Mekong River in China is likely to affect MRC member states downstream.

The role of the MRC is to promote and coordinate sustainable management and development of water and related resources for the riparian states' common benefit and their peoples' welfare. To this effect, the MRC provides scientific information and policy advice and implements strategic programs and activities. The MRC role can be described as facilitation and advice while decisions are taken by the member countries.

### 4.5.2 MRC costs and revenues

Donors, like in many other river basin organisations, play a leading role in term of financing MRC activities. Table 12 shows the amount of donor contribution towards MRC from 2003 to 2007 and depicts an upward trend in contributions. There is also notable significant increase in contributions from riparian states and there has an increase of about 58% in riparian contributions between 2003 and 2007. Donors funding MRC activities include: Governments of Australia, Denmark, Sweden, Switzerland, Netherland, New Zealand, Japan, France, Finland and Belgium, European Commission, GTZ, USAID, Asian Development Bank, International bank for Reconstruction and Development, Murray Darling Basin Commission and UNDP (MRC, 2007).

The annual MRC revenues range from US$11.5 (2003) to over $20 million (2007). The contribution of the four member countries has increased to US$1.6 million and covered 845 of the operating costs of the MRC. Donor contributions have fluctuated between US$10 to 20 million annually. A very small part is used to fund the shortfall in operational expenditures of the MRC (perhaps in the form of an administrative charge) while most donor funds are used for specific projects.

***Table 12: MRC income in US$; 2003-2007***

| Contribution | 2003 | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|---|
| Donors | $10,232,904 | $12,897,394 | $13,754,662 | $10,925,732 | $20,022,336 |
| Riparian | $941,359 | $1,006,586 | $1,078,332 | $1,157,253 | $1,627,588 |
| Other sources | $282,459 | $145,659 | $50,000 | $106,935 | - |
| **Total** | $11,456,722 | $14,049,639 | $14,882,994 | $12,189,920 | $21,649,924 |

Source: MRC financial statements, 2003-2007.

The total operational costs fluctuated between US$1.7 million and US$2 million between 2003 and 2007 with the bulk these funds going to staff emoluments. The relocation project loan represents an interest free loan of US$600, 000 from the Government of Lao PDR (Table 13). The loan was used to finance the MRC Secretariat relocation to Vietiane, Lao PDR. The loan will be paid gradually upon availability of funds from the MRC operational expense budget (OEB). OEB funds represent the Administrative Reserve Funds maintained by MRC (MRC, 2006).

***Table 13: MRC expenditures (US$; 2003-2007)***

| Expenditure/Year | 2003 | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|---|
| Salaries and fees | $929,515 | $702,053 | $671,086 | $745,111 | $743,120 |
| Common staff costs | $391,311 | $392,080 | $402,500 | $412,726 | $403,453 |
| Official travel | $3,639 | $3,420 | $22,047 | $19,668 | $17,014 |

| | | | | | |
|---|---|---|---|---|---|
| Contractual services | $100,143 | $60,826 | $81,484 | $97,943 | $93,679 |
| General Operating Expenses | $183,615 | $168,343 | $180,726 | $276,557 | $170,068 |
| Supplies | $26,111 | $31,431 | $27,571 | $27,879 | $23,172 |
| Furniture and Equipment | $39,601 | $18,634 | $70,290 | $66,022 | $74,120 |
| MRC meeting expenses | $129,244 | $157,243 | $146,489 | $168,548 | $262,535 |
| Support to National Mekong Committees and Water Utilities Programme. | $219,015 | $221,484 | $221,812 | $192,879 | $82,815 |
| Repayment of relocation project loan | - | - | $60,000 | $60,000 | $60,000 |
| **Total expenditure** | **$2,022,194** | **$1,755,514** | **$1,884,005** | **$2,067,333** | **$1,929,976** |

Source: MRC financial statements, 2003-2007.

Member countries pay a similar annual charge. In 2003-6, Thailand and Vietnam contributed 28% and 26%, while the other two states paid 23% each. In addition to their annual membership contributions, member states provide various types of in-kind support to the MRC, including staff and office space, coordination, recruitment, administrative, and logistical support for the National Mekong Committees, provision of headquarters building and furniture, tax exemption on income tax and various import and export duties (MRC, 2005).

### 4.5.3 MRC projects

The MRC is developing the Mekong Basin Development Plan (MBDP) based on Integrated Water Resource Management principles. The MBDP is expected to create a framework for sustainable and balanced development with emphasis and preference on joint or basin-wide projects (www.mrcmekong.org). The first phase, 2001-2006, of the development plan has established processes and created a framework for participatory planning. It achieved much in the improvement of the knowledge base and tools for water resources development planning (www.mrcmekong.org). The Governments of Sweden, Denmark, Australia and Switzerland provide MRC with funding for the Basin Development Plan. Australia funds consultancy costs for specified international experts and the remaining expenditures are funded by Governments of Sweden, Denmark and Switzerland.

*MRC Programmes, Active Agreements/Projects and Budget Balances*

The MBDP is central to other MRC programmes, which include the Environment Management Programme; the Integrated Capacity Development Programme; a Water Utilisation Programme; and Flood Management and Mitigation Programme. Other programmes such as the Drought Management Programme, the Hydropower Programme, and the Tourism Programme do not yet feature project budgets and balances.

Table 14 provides a summary of the programmes and their active agreements/projects and funding source. In addition, it shows the finalized budget and balance for each agreement/project as well as the total budget and balance for each programme. The donor contribution to the MBDP amounted to US$6.5 million (Denmark, Switzerland, Sweden and Australia). The total programme budget is US$66.2 million hence underscoring the vital role played by donors in funding river basin commissions or organisations (MRC, 2006).

***Table 14: MRC Programmes, Active Agreements/Projects and Budget Balance***

| Progamme | Projects | Total Budget (US$1,000) |
|---|---|---|
| **Basin Development Plan** | **Total** | **6,465** |
| | Multi donor contribution to Basin Development Plan-BDP I | 6,465 |
| **Environment Management Program** | **Total** | **7,398** |
| | Danish contribution to the Environment Management programme | 2,375 |
| | Swedish Contribution to the Environment Management Programme | 3,264 |
| | Participation in UNDP Mekong Wetland Biodiversity Programme | 156 |
| | Dutch contribution to Mekong Wetland Biodiversity Programme | 1,603 |
| **Info & Knowledge Management Program** | **Total** | **694** |
| | Australian contribution to the appropriate Hydrological | 694 |
| | Network Improvement Project- AHNIP | |
| **Integrated Capacity Building Program** | **Total** | **1,316** |
| | Danish contribution to positions of junior Prof Officers | 540 |
| | MDBC-MRC strategic Liason Programme Phase 2 | 178 |
| | UNDP contribution to capacity building on Water utilisation | 100 |
| | Swedish contribution to the Junior Riparian Prof. Scheme | 218 |
| | New Zealand contribution to Gender Mainstreaming | 280 |
| **Water utilisation Programme** | **Total** | **15,854** |
| | GEF and Fin contribution to the WUP | 15,257 |
| | Fin contribution to position of modelling advisor | 597 |
| **Flood Management and Mitigation Program** | **Total** | **19,866** |
| | Dutch contribution to FMMP | 8,343 |
| | Danish contribution to FMMP coordination | 816 |
| | OFDA funding for provision of Flood Proofing Measures | 1,250 |
| | German contribution to 3rd AFF | 18 |
| | Asian Flood Network contribution to FMMP | 74 |
| | Dutch contribution to design of Flood proofing Measures | 2,700 |
| | ADB contribution to Flood Proofing Measures | 1,000 |
| | Dutch Support to mediation of flood issues | 1,697 |
| | EC-ECHO funding for capacity building in flood preparedness | 290 |
| | GTZ project for land use and flood emergency | 3,678 |
| **Drought Management** | **Total** | 0 |
| **Agriculture, Irrigation and Forestry Program** | **Total** | 2,650 |
| | Japan contribution to demonstrate the Multi- Functionality of Paddy Fields | 866 |

| | | |
|---|---|---|
| | Japan contribution for Improvement of irrigation efficiency | 343 |
| | GTZ project on Watershed Management | 541 |
| | MRC participation in the challenge Programme for Water and Food IWMI | 900 |
| **Navigation Program** | **Total** | 6,000 |
| | Belgium contribution to the Navigation Programme | 6,000 |
| **Hydropower Program** | **Total** | 0 |
| **Fisheries Programme** | **Total** | 9,275 |
| | Stock structure of Mekong Carp species (ACIAR-Australian Centre for International Agricultural Research) | 76 |
| | Swedish contribution to the Technical Advisory Body | 159 |
| | Twinning arrangement with Inland Fisheries Research and Development Institute (IFRED) | 388 |
| | Danish contribution to the Fisheries Research | 8,652 |
| **Tourism Program** | **Total** | **0** |
| **Institutional Support** | **Total** | **2,638** |
| | Swiss Institutional support to the Secretariat | 1,093 |
| | Swedish Institutional support to the secretariat | 1,200 |
| | Australian Institutional support to the secretariat | 104 |
| | Australian contribution to MRC Strategic Planning Process | 241 |
| **Total** | | **66,156** |

Source: MRC Work Programme (2006: 15)

### 4.5.7 Concluding remarks

The MRC is an example of a RBO with limited responsibilities (mostly facilitation and advice) and whose membership does not include all riparian countries. The fact that China is not a member is likely to pose a major challenge in future.

The MRC has operating expenditures of around US$ 2 million per annum, most of which is covered by member countries. Salaries and staff costs are the most important operating expenditures. Donors contribute over US$ 10 million p.a., which is mostly used for the development of the Mekong Basin development Plan and associated projects. As a result, a large number of projects are being carried out. Clearly, the MRC has been successful in rallying for donor support for its projects.

The MRC has managed to attract donors' financial support overtime to implement the Mekong Basin Development Plan. The MRC is generally funded from donors, contributions from riparian countries, from in kind support and from other countries which are non members of MRC. The member states have been increasing their annual financial contribution to the MRC annually. The perception exists that MRC management is largely composed of foreign experts, which hinders local 'ownership' of the MRC[2]. The MRC, however, still remains an advisory organisation with decisions undertaken by the member states.

[2] The Nile Basin Initiative (NBI) was mentioned as an example of strong external support blended with African ownership, i.e. management by professionals from member countries.

## 4.6 Rhine Basin

### 4.6.1 Introduction

The Rhine river basin is shared by Switzerland, German, France, Luxemburg and Netherlands. The river basin covers a total area of 162,500 km² and a basin population of 50.3 million (Table 15). German occupies the larger area with more population than other contracting parties. These countries formed an International Commission for the Protection of the Rhine (ICPR) in 1950.

***Table 15: Rhine River Basin characteristics***

| Contracting parties | Basin Area | | Basin Population | |
|---|---|---|---|---|
| | km² | % | Million | % |
| **Switzerland** | 9,400 | 6 | 3,0 | 6 |
| **German** | 102,600 | 62 | 32,5 | 65 |
| **France** | 23,600 | 15 | 3,7 | 7 |
| **Luxemburg** | 2,500 | 2 | 0,4 | 1 |
| **Netherlands** | 24,400 | 15 | 10,7 | 21 |
| Total | 162,500 | 100 | 50.3 | 100 |

Source: ICPR, 2003.

### 4.6.1 Financial rules and management

The ICPR has a secretary-general who prepares the annual draft budget and has responsibility for managing income and expenditures, sound accounting, and drafting the yearly statement of accounts, which has to be approved by member countries. The draft statement of account comprises a list of the contributions paid by the contracting parties and balanced income and expenditure statements. Expenditures may not exceed the budget (income) total. Individual expenditure line items can exceed their line budget up to 20%, but the overall budget must be balanced. The ICPR has a reserve fund of 10% of the budget at the beginning of the year, and this fund, comprising budget surpluses from previous years, allows the Commission some financial flexibility.

### 4.6.2 ICPR funding

The ICPR is financed by public resources of the signatories of the convention. The implementation of the ICPR laws and policies, as well as the financing their implementation, is however the responsibility of the individual countries.

At the individual national level, general water management, such as for flood control, is financed mainly from public resources. However, the costs for specific water use and pollution management actions are mostly recovered from the users and polluters. Switzerland, Germany, France and the Netherlands all use a combination of permits and charges to regulate abstractions and the discharge of pollutants. The water supply sector has been partly privatized and domestic water prices reflect production and supply costs. In Germany and Switzerland citizens can insure themselves against flood damage (Raadgever, 2005).

Table 16 illustrates the annual budget shared by the contracting parties. The European community strives to contribute extra dependent on its financial situation. The European Community informs the General Secretary of the amount of its contribution by the end of November of the preceding year.

***Table 16: Distribution of expenditure for the annual budget***

| | |
|---|---|
| The European community pays | 2.5% |
| The Swiss confederation pays | 12.5% |
| Other contracting parties pay the rest at the following shares | |
| -Federal Republic of Germany | 32.5% |
| -French Republic | 32.5% |
| -Grand Duchy Luxembourg | 2.5% |
| -kingdom of the Netherlands | 32.5% |

Source: Rules of procedure and financial regulations of the ICPR, 2004.

Member countries cover the costs of their representation to the commission and its meetings and the costs of the studies and actions that they conduct within their own territory.

As a result of the above, the operating costs of the ICPR remain relatively modest at €700,000 per annum. Obviously, the national governments cover relatively high costs as they bear the financial burden for most projects.

Staff salaries represent the majority of the costs, slightly over half million Euros of the ICPR budget between 2001 and 2002. It is also worth noting that the 1998 and 1999 expenditures are Deutsche Mark whereas 2001 and 2002 expenditures are in Euros. Therefore, the difference between 1999 and 2001 expenditures must consider a variation in currencies (Table 17). The commission has a budget for translation, public relations, and publications. ICPR financial regulations provide for translation into the commission's three working languages for meetings of expert groups, technical meetings and hearings of NGOs if not possible to conducts meetings in a common language.

***Table 17: ICPR planned and actual expenditures 2001 and 2002***

| Expenses | 2001 | | 2002 | |
|---|---|---|---|---|
| | Plan | Actual | Plan | Actual |
| Salaries | €508,033 | €517,729 | 516,233 | €529,748 |
| Office rent | €48,061 | €46,660 | 51,130 | €46,788 |
| Office administration | €34,256 | €30,136 | €34,257 | €37,722 |
| Stamps, telephone | €25,564 | €25,193 | €25,565 | €22,951 |
| Library | €1,022 | €21 | €1,534 | €332 |
| Interpretation French | €17,895 | €4,553 | €17,895 | €4,324 |
| Interpretation Dutch | €10,225 | €1,720 | €10,226 | €6,294 |
| Travel | €13,804 | €10,601 | €14,827 | €13,061 |
| Publication | €33,233 | €42,363 | €35,790 | €16,804 |
| Special expenses | | €52,055 | | |
| Others | €7,669 | €5,354 | €7,669 | €7,576 |
| Training | €4,090 | €5,473 | €5,113 | €4,014 |
| Computer | €4,090 | €3,301 | €4,090 | €17,355 |
| Total | €707,948 | €745,167 | €724,329 | €706,973 |

Note: Source: ICPR, 1998/1999-2001/2002

The European Community contributes 2.5% to the total budget of ICPR (Table 18). Germany, France and Netherlands contribute equally to the ICPR budget with each contributing €171,568 Euros in 2001. Own ICPR revenues (e.g. interest and sale of publications) are small at 2.5%.

***Table 18: Financial contributions to ICPR 2001-2002***

| Income | 2001 | 2002 |
|---|---|---|
| **Balance carried forward** | €106,640 | €70,376 |
| Netherlands | €171,568 | €176,530 |
| Luxemburg | €10,493 | €10,808 |
| France | €171,568 | €176,427 |
| Germany | €171,568 | €159,288 |
| Switzerland | €84,033 | €87,240 |
| EU | €91,036 | €93,668 |
| **Total contribution** | **€700,268** | **€703,962** |
| Interest | €9,486 | €8,097 |
| Publications | €420 | €11,453 |
| **Total Income** | €816,817 | €793,888 |

Source: ICPR, 1998/1999-2001/2002

### 4.6.4 Concluding remarks

The ICPR is an old and well established RBO in a developed river basin with significant pressures in terms of pollution and water abstractions. The strategy has been to keep the RBO small and to implement decisions through national governments (who also have to pay for their implementation. Financial regulations and administration are well development. Interesting features include the small contribution of the EC to the ICPR and the establishment of a Reserve Fund under strict control of member countries.
Much of the costs of activities are ultimately covered by the user and pollution charges that exist in member countries.

## 4.7 Danube River Basin

### 4.7.1 Introduction

The Danube River Basin District covers the Danube River, the Romanian Black Sea coastal catchments and the Black Sea coastal waters along the Romanian and partly the Ukrainian coast, with a population of roughly 83 million people in the Basin (www.unops.org). Nineteen countries share the Danube River Basin, which makes it the world's most international river basin (Table 19). The river basin has a total area of 800,975 km$^2$ and has a total length of 2,857 km from its source (www.icpdr.org).

Romania has the largest share of the river basin (232,193 km$^2$) while Macedonia covers the least share at an area of 109 km$^2$. There are basin countries which have not joined the commission. Some countries have just joined lately, Ukraine made contributions in 2005 and Bosnia and Herzegovina contributed in 2007 to the commission. By the end of 2007, countries including Albania, Poland, Switzerland, Italy, and Macedonia were not in the commission. Most of these basin countries which are not in the commission,

their share of the Basin area is very little, and they are all less than 600 km² except Switzerland with share of 1,809 km². ICPDR held that all countries sharing over 2,000 km² or more than seventy percent of the Danube River Basin and the European Union are contracting parties of the ICPDR (www.icpdr.org).

***Table 19: Danube Basin countries***

| Country | Share of basin (km²) | Basin Population in (Millions)* | EU Member Since | Party to Danube Convention Since |
|---|---|---|---|---|
| Albania | 126 | <0.01 | | No party |
| Austria | 80,432 | 7.7 | 1995 | 1994 |
| Bosnia Herzegovina | 36,636 | 2.9 | | 2004 |
| Bulgaria | 47,413 | 3.5 | 2007 | 1994 |
| Croatia | 34,865 | 3.1 | ? | 1994 |
| Czech Republic | 21,688 | 2.8 | 2004 | 1994 |
| Germany | 56,184 | 9.4 | 1951/56 | 1994 |
| Hungary | 93,030 | 10.1 | 2004 | 1994 |
| Italy | 565 | 0.02 | 1951/56 | No party |
| Macedonia | 109 | <0.01 | | No party |
| Moldova | 12,834 | 1.1 | | 1994 |
| Poland | 430 | 0.04 | 2004 | No party |
| Romania | 232,193 | | 2007 | 1994 |
| Serbia & Montenegro** | 88,635 | | | 2003 |
| Slovak Republic | 47,084 | 5.2 | 2004 | 1994 |
| Slovenia | 16,422 | 1.7 | 2004 | 1994 |
| Switzerland | 1,809 | 0.02 | - | No party |
| Ukraine | 30,520 | 2.7 | - | 1994 (ratified 2002) |
| **Total** | **800,975** | **81** | | |

* Source: www.icpdr.org

** Serbia and Montenegro split into 2 countries in June 2006. So far there are no exact data on the share of the individual countries is available.

Source: Barraque and Mostert, 2006.

### 4.7.2 DRPC mandate and organisational structure

At the helm of the organizational structure are the Contracting Parties or member countries, which established the ICPDR. In 1999, the ICPDR established the Permanent Secretariat, which is led by Executive Secretary. International expert groups have been set up develop strategies and guidelines for important themes for the Danube Basin.

The main duties of the Secretariat are to support the work of the ICPDR and its Expert Groups, assist project development and implementation and maintain the ICPDR Information System (DANUBIS). General management and supervisory functions and the related tasks are carried out by the executive secretary, while the professional technical and administrative staffs supervises and controls the quality of the secretariat's main functions and tasks. Expert Groups deal with a variety of issues from policy

measures to reduce water pollution to the implementation of the EU Water Framework Directive in the Danube river basin, particularly coordinating the development of the Danube River Management Plan (DRMP) by 2009 (www.icpdr.org).

Consultations and information exchange between contracting parties are necessary as they are vital for promoting cooperation. The polluter pays and the precautionary principles inform all measures aiming at the protection of the Danube River and of the waters within its catchment area.

In 2000, the ICPDR became the platform for coordination of issues of international importance for the implementation of the EU Water Framework Directive. Since this time, the Secretariat supports also the cooperation between the Danube River Basin countries towards the implementation of the EU Water Framework Directive. The contracting parties to the Danube River Protection Convention (DRPC) nominated the ICPDR as the coordination body for the development of a comprehensive management plan for the entire Danube river basin using the principles of EU Water Framework Directive in order to achieve good water status in the water bodies of the Danube region by 2015 and to ensure sufficient supply of clean water for future generations. The Danube river management plan is to be updated every six years according to EU legislation, the management plan aims to create a programme of measures to ensure that environmental objectives are met on time (www.icpdr.org).

### 4.7.3 Financial rules of ICPDR

Detailed and well established financial rules regulate the ICPDR budget and they require public auditing of the accounts. The procedures are similar as those for the Rhine Commission (ICPR). The International Commission expects each Contracting Party to meet the expenses of its delegates and experts to meetings.

ICPDR has different types of funds including the:

- General Fund which is established for accumulating any surplus of income over expenditure;
- Working capital fund established to provide reserve funds for emergency situations and shall be restricted to a maximum level of 10% of estimated gross expenditure;
- Special funds of ICPDR include voluntary contributions by one or several contracting parties, funds that the contracting party holding the presidency, deposited at the Secretariat of the ICPDR for covering expenses in relation to the activities of the presidency and also funds that are made available by donor organisations for project, agreed upon and carried out by ICPDR.

The ICPDR principles note that cooperation should be focused on transboundary benefits, cooperation at a basin-wide transboundary level, should not imply national level support of activities, or specify specific actions at the national, unless agreed to with the representative to the ICPDR from that country.

The rules indicate that countries' contributions are in principle equal unless unanimously decided otherwise by the International Commission (Financial rules of the ICPDR, 2002)

### 4.7.4 ICPDR funding

The operating expenditures of the ICPDR have increased to Euro 900,000, slightly above those for the Rhine Commission (Table 20). Over half of the budgeted expenditures are earmarked for staff salaries. Other budget items are fairly similar in size.

***Table 20*: ICPDR Expenditures (2001-7 in Euros)**

| Expenditure Category | 2001 | 2004 | 2007 |
|---|---|---|---|
| Staff | 381,949 | 442,646 | 509,190 |
| Services | 97,307 | 128,890 | 99,909 |
| Equipment | 27,507 | 958 | |
| Publications | | | 92,791 |
| Meetings & Travel | | | 107,568 |
| Others | 67,456 | 76,309 | |
| Operational Costs | 91,028 | 112,977 | 102,803 |
| **Total** | **665,247** | **761,781** | **912,262** |

Source: ICPDR Annual Reports 1999-2007

The ICPDR must have unanimously decided to differentiate member contributions. The 'large' countries contribute 10.7% while smaller, less developed countries contribute 7.6% or as little as 1% only. The EC contributes 2.5% (Table 21).

***Table 21: Member states contribution to ICPDR 2001, 2004, 2007***

| Member states | 2001 | | 2004 | | 2007 | |
|---|---|---|---|---|---|---|
| | € | % | € | % | € | % |
| Germany | 116,352 | 16.5 | 111,890 | 14.1 | 96,574 | 10.7 |
| Austria | 116,352 | 16.5 | 111,890 | 14.1 | 96,574 | 10.7 |
| Czech Republic | 85,942 | 12.2 | 90,533 | 11.4 | 96,574 | 10.7 |
| Slovakia | 65,668 | 9.3 | 76,295 | 9.6 | 96,574 | 10.7 |
| Hungary | 85,942 | 12.2 | 90,484 | 11.4 | 96,574 | 10.7 |
| Slovenia | 85,942 | 12.2 | 90,533 | 11.4 | 96,574 | 10.7 |
| Croatia | 65,668 | 9.3 | 76,295 | 9.6 | 69,211 | 7.6 |
| Serbia | | | | | 69,211 | 7.6 |
| Romania | 65,668 | 9.3 | 76,295 | 9.6 | 69,211 | 7.6 |
| EC | 19,643 | 2.8 | 20,693 | 2.6 | 22,653 | 2.5 |
| Ukraine | | | | | 9,061 | 1.0 |
| Bosnia & Herzegovina | | | | | 9,061 | 1.0 |
| Bulgaria | | | 41,386 | 5.2 | 69,211 | 7.6 |
| Moldova | 0 | 0.0 | 8,277 | 1.0 | 9,061 | 1.0 |
| **Total** | **707,177** | **100** | **794,571** | **100** | **906,124** | **100** |

Source: ICPDR Annual Reports 1999-2007.

There are Special Funds supported by various donors. These funds have allowed execution of projects by ICPDR outside the normal budget. Voluntary contributions were received from Hungary (€11,000), Slovakia (€2,000), Romania (€2,300), Germany (€4,500) and Austria (€2,200) to undertake the Analytical Quality Control project. The project's aim was to ensure quality control among laboratories (ICPDR, 2004).

Coca Cola Company supported ICPDR in a number of activities. In 2005, the Green Danube Partnership between the Coca Cola Company, Coca Cola HBC and ICPDR developed an educational tool called Danube Box, an initiative to demonstrate business responsibility for the sustainable future of the Danube. In 2006, the company supported Danube day celebrations, using the Danube Box education material, and also technical support for the development of the Business Friends of the Danube Fund. The Green Danube Partnership offers companies the opportunity to enter into long term, mutually beneficial partnerships that will help to preserve and protect the basin. An ALCOA Foundation grant, received in 2007, also demonstrates effective partnerships between communities, government and NGOs aimed at protecting natural recourses and to reducing pollution.

### 4.7.5 The Danube Regional Project (DRP)

The Danube Regional Project, launched in December 2001, has a five-year planning period and a budget of US$ 17.24 million from GEF and in-kind contributions from beneficiary countries valued at US$19.5 million.

Most of the projects implemented under the DRP focus on river basin management. The DRP encompasses six priority areas, covering among other technical areas, agriculture, industry, wetlands, institutional strengthening, and public participation (Table 22).

***Table 22: Number of DRP activities by sector***

| Sectoral Theme | No. of Contracts | Budget (in US$ million) |
|---|---|---|
| | | |
| River Basin Management | 58 | 1.42 |
| Agriculture and diffuse pollution | 9 | 1.43 |
| Industrial and municipal activities | 28 | 1.42 |
| Wetlands | 18 | 0.66 |
| Public Participation and communications | 24 | 5.06 |
| Institutional Strengthening | 40 | 2.35 |
| Project management and assistance staff | | 2.73 |
| Office rental, equipment and PM travel | | 1.00 |
| UNOPS | | 1.17 |
| **TOTAL** | **177** | **17.24** |

Source: Overview of UNDP/GEF Danube Regional Project activities, 2007.

Table 23 illustrates projects on-going in some member states of Danube River Basin and planned for 2005 and 2006. GEF plays an important project funding role with assistance from co-financing partners. Each GEF dollar was matched by US$4.6.

***Table 23: Partnership Investment Fund Projects***

| Contracting Party | Projects | GEF Grant (Million US$) | Co funding (Million US$) | Ratio GEF: Others |
|---|---|---|---|---|
| | **Under Implementation** | | | |
| Bulgaria | Wetlands Restoration and Nutrient Reduction | 7.50 | 6.00 | 1:0.8 |
| Romania | Agricultural Pollution Control | 5.15 | 5.65 | 1:1.1 |
| Moldova | Agricultural Pollution Control | 4.95 | 5.75 | 1:1.2 |
| Turkey | Watershed Management | 7.00 | 38.11 | 1:5.4 |
| **Under Preparation** | | | | |
| Bosnia | Water Quality Protection (Board approval CY2005) | 4.15 | 12.00 | 1:2.9 |
| Croatia | Zagreb Municipal Nutrient Reduction (CY2005) | 8.00 | 200.00 | 1:25 |
| Hungary | Nutrient Reduction (CY2006) | 7.50 | 17.00 | 1:2.3 |
| Moldova | Environmental Protection (CY2006) | 4.40 | 10.00 | 1:2.4 |
| Russia | Krasnodar Agricultural Pollution Control (CY2005) | 5.00 | 7.00 | 1:1.4 |
| Russia | Rostov Nutrient Discharges and Methane Emissions (CY2005) | 5.85 | 16.00 | 1:2.7 |
| Serbia | Danube River Enterprise Pollution Reduction (CY2005) | 9.00 | 12.00 | 1:1.2 |
| Ukraine | Integrated Coastal Zone Management (CY2006) | 4.00 | 8.00 | 1:2.0 |
| **Total** | | 72.50 | 337.50 | 1:4.6 |

Source: IWRM in Danube river basin, 2004, 16.

### 4.7.5 Concluding remarks

The ICPDR is an advanced river basin commission, which is in the implementation phase of the Danube Basin Management Plan. Some riparian countries are not members of the ICPDR, but unlike the MRC these cover only a small part of the basin and have less strategic importance.

Financial procedures and regulations are well established and detailed. They are similar to the rules used by the ICPR. Member countries finance the operating costs and much of the projects. The operating costs are growing but remain modest at approximately €0.9 million per annum. The bulk of recurrent costs are spent on personnel (salaries and allowances), but operating costs also include the costs of maintaining a database and information system. However, GEF contributes to the implementation of projects, particularly in less developed eastern European countries. Interestingly, the ICPDR also derives revenues from private companies for the development of tool kits and education and outreach progams. Another interesting feature is the development of a fund for voluntary contributions. While contributions of member countries are in principle the same, this currently has been changed according to a unanimous decision to account for three levels of contribution: 10.7%, 7.6% and 1%. The EC

contributes 2.5% of the operating costs. Finally, the ICPDR has established special funds, such as the working capital fund, the general fund and special funds for voluntary contributions. In addition, donor financed projects often have special funds as well.

## 4.8 Conclusion: Case Studies

The case studies show considerable more detail and lessons than the general literature (Chapter 3). The case studies cover Southern and West Africa, Asia and Europe. These RBOs from the different regions are at different stages of development. The Rhine ICPR, the oldest RBO, focuses on implementation and appears mature. The Senegal RBO, also older, is directly involved in the development of joint infrastructure projects. The other RBOs were established in the 1990s and they are at different development phases. The member countries for these newer RBOs are also at different development stages. The member countries from the Rhine ICPR are probably most homogenous and developed. The Danube ICPDR has mostly developed member states, but at different economic and capacity levels reflecting differences between eastern and western Europe. The remaining assessed RBOs comprise developing countries, with some differences reflected dependent on if they are a low and middle income country.

RBOs in developed countries depend mostly on contributions from national governments. Some of the national contributions come from polluters and water users through national charges. RBOs in developing countries depend on national governments and donors – with donors often contributing more than national governments. Donors typically cover the recurrent expenditures of the RBO secretariats and are often . Donors are involved in the establishment of RBOs and in specific RBO projects, including the development of RBMP.

The results of the case studies are summarized in Table 24. The following conclusions are reached.

1. The costs of operating most RBOs are relatively modest and should be affordable for most member countries. A remarkable similarity exists among the expenditure categories of the individual RBOs. Salary and staff costs are the generally the highest expenditures categories. Other expenditures are for mostly consultancies and studies, training and capacity building, data base development and maintenance, travel, and secretariat recurrent costs.

2. Funding requirements are much higher for the development of basin management plans and the implementation of projects, including those for infrastructure.

3. Developing country RBOs are more donor dependent and need to consider alternative sources of revenues for periods after donor funding. A few interesting, but underutilized possibilities emerged from the case studies:

    - Private sector contributions (e.g. research, education and toolkit development) and for infrastructure projects (hydro power);
    - Voluntary contributions, which can maintained in a trust fund;
    - Contributions from the regional organization (e.g. European Commission);
    - Charges for services provided by the RBO (e.g. user and pollution charges);
    - Delegation of some project implementation to member countries, including financing responsibilities;
    - In-kind revenues, which are widely practiced, need to be encouraged where realistic and possible.

4. Two models emerged for annual member country contributions. First, equal payment for each country, as promoted in southern Africa and with most other RBOs. This can be more burdensome for the poorer member countries. Second, categorizing contributions – 10.7%, 7.6% and 1% (for the poorest members) – as introduced by the ICPDR.

5. European RBOs have well established, strict financial regulations and transparent reporting (e.g. audits are made public), which requires annual budgets and audited accounts be approved by the member countries. They also have special funds to increase the financial sustainability and resilience of the RBOs – good practices that could be transferred to emerging RBOs.

6. Sustained donor funding faces challenges. While a basket- fund approach may be preferred because of low transaction costs and ease of implementation, it could often be incompatible with the procedures and reporting requirements that differ among donors. Therefore, widespread acceptance of the basket-funding model might face difficulties. One possible option would be for comprehensive preparation and adoption of RBO governance documents that meet international financial management standards. Agreement among donors to accept these standards and procedures for reporting would allow the RBO to manage according to one set of procedures and prepare annual reports in a standardized format for all the respective funding partners. OKACOM has adopted this approach, with the development of manuals for procurement, finance and administration, and policy and operations Procedures Manual. Disbursement was required to have the start up phase finances externally audited and ensure a fully functional office in Maun. The process of addressing these requirements took much longer than the initially planned six months. Finally, donor coordination may pose challenges, which can be addressed through the development of a programme implementation plan.

***Table 24: Comparison of the case studies***

| Basin Details | Okavango (OKACOM) | Orange (ORASECOM) | SENEGAL | MEKONG MRC | RHINE ICPR | DANUBE ICPDR |
|---|---|---|---|---|---|---|
| Year Established | 1994 | | 1963/1970 | 1995 | 1950 | 1999 |
| River length (km) | | | | | | 2,875 |
| Basin area (km2) | 413,550 | 1,000,000 | 436,100 | | 162,500 | 800,975 |
| Basin population | 1.1 million | | | | 50.3 | 83 |
| Basin States | 3 | 4 | 3 to 4 (Guinea left and returned) | 6; 2 are not members, incl. China | 4 | 19 (5 are not members) |
| Basin development level | low | Highly developed with many dams and transfer schemes | Reasonably developed with several dams and hydropower schemes | | Highly developed | Highly developed |
| **Institutions** | Secretariat, technical steering group and | Secretariat with 4 staff | Permanent Water Commission; Advisory Committee & regional Planning Committee | Mekong River Commission | Exec. Secretariat ICPR | Exec. Secretariat ICPFR Expert groups |
| **Mandate** | Mostly advisory | Advisory; coordination of projects and funding; Carry out decision support feasibility studies | Advisory, policy making Promoting development development of joint infrastructure projects | Advice and facilitation | | |
| **Stage** | Secretariat in 2008 Working on TDA and RBMP; heavy donor dependency for project and plan development | ▪ Secretariat in 2008.<br>▪ Working on TDA and RBMP; Heavy donor | Implementation | Close to implementation Mekong River Development Plan complete? | Implementation of Rhine River management Plan Maturity without donor support | ▪ Development and implementation; Danube River management<br>▪ Plan due in 2009<br>▪ Implementation with |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | dependency for project and plan development | | | | some donor support |
| **Annual operating expenditures** | Around US$900,000. Still mostly donor funding (80%); Country funding expected to increase to US$400,000 in 2018. | ZAR 2 million or around US$250,000 | ▪ US$1.3 million. Countries pay equal amounts.<br>▪ No donor funding | ▪ US$1.5-2.5 million<br>▪ Mostly funded by member countries | €700,000 | €900,000 |
| **Project portfolio** | | ▪ Large number of projects<br>▪ Financial requirement of US$ 3 million p.a. | Two dams at costs of US$ 800 million; Hydro power project for US$ 450 million; financed by loans & grants | Around USS$ 10-20 million | | |
| **Project implementation** | Not yet; TDA & SAP in preparation | Not yet; SAP in preparation | ESKOM operates hydro power project | Mostly studies and advice | Operation and implementation | Operation and implementation |
| **Others** | | | Needs to cooperate with LHW project & harmonise activities | | | |

# CHAPTER FIVE

## Guidelines for funding requirements and financing opportunities for RBOs in southern Africa

### 5.1 Introduction

RBOs in southern Africa illustrate nascent but maturing institutions. While some RBOs have established secretariats, none have completed a Transboundary Diagnostic Analysis (TDA), Strategic Action Programme (SAP) or River Basin Management Plan (RBMP) that guide project direction and implementation. The typical stages of RBO formation and operation include:

1. *the initiation phase*, leading to a memorandum of understanding, signed by member countries and the establishment of a RBO secretariat;
2. the *establishment or development phase*, where the RBO secretariat launches the development of a transboundary diagnostic analysis leading to a RBO management strategy and plan; and
3. *Full operation and plan implementation* and further RBO development. This may include the implementation of joint development projects.

Most RBOs in SADC are in phase 1 (e.g. ZAMCOM and LIMCOM) or 2 (OKACOM and ORASECOM). Funding requirements, the absorption capacity and financial management capabilities of RBOs are dependent on the development phase of the RBO.

### 5.2 Current situation

The findings regarding funding sources in Chapters 3 and 4 are summarised in Table 25.

Alternative financing options are currently underutilized, including private sector funding, resource use and pollution fees and voluntary funding. The basket/trust fund mechanism has merits but they are not yet commonly used.

**Table 25: Current RBO funding options**

| Funding Source | Initiation Phase | Development Phase | Implementation Phase | Infrastructure Projects |
|---|---|---|---|---|
| **Donor funding (bilateral)** | ▪ Heavily used and relied upon<br>▪ Donors spearhead and encourage transboundary water management | Initial reliance and plan to reduce over time | | Not many donors get involved |
| **Donor funding (multilateral)** | Actively used | Actively used | Actively used | Good area for multilateral donors and banks |

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| **Public national funds** | Actively used | Actively used | Countries often finance projects in their countries (e.g Europe) | Joint development projects (e.g. Senegal) |
| **User charges** | Cannot be used before RBO is establish and functions properly | Most useful for funding of RBO operations | Can be used for plan implementation | Not suitable given huge sums involved. |
| **Inter riparian Payments** | Can be used by most powerful SWC countries to kick-start RBOs | Not suitable | Particularly useful for mitigation and compensation measures | Useful to mobilize sufficient investments for large projects |
| **Commercial loans** | | | | Useful but expensive |
| **In kind contributions** | Useful and used | Useful and used but not enough | Can make some contribution | Limited contribution |
| **Private sector contributions** | | | Used on a very small scale; mostly for specific activities (e.g. education & outreach) | Partnerships in running joint development projects |
| **Current situation** | Mixed and patchy. Donors play important role | Riparian countries and external funds | Mostly donors in developing countries; Member countries in Europe | Mostly national investments |
| **Options** | Mostly donors and public funding | Donor funding (initially)<br>User charges<br>Public funds<br>Basket or trust window<br>Voluntary funding | Donors<br>User charges<br>Public funds<br>Basket<br>Voluntary funding | Donors<br>Private public sector partnerships<br>Inter riparian payment |

## 5.2 Observations and principles

### 5.2.1 Observations

Funding requirements and sources have received relatively little attention in the literature, especially in comparison to issues of resource allocation and benefit sharing. This is a major shortcoming as adequate funding and financial security are requirements of viable RBOs. Progress with RBO development in Southern Africa has been relatively slow. This is probably due to a wide range of political, governance, social, economic and institutional factors, but neglect of funding sources issues, especially regional and national funding, has probably contributed to the slow progress. Donor funding has been the main driving force of RBO development, and they provide the majority share of RBO funding, not only in SADC – a situation that is not sustainable or desirable. Member countries are aware of this and aim to cover at least the operating costs of the RBO. In the long run, donor funding

should be considered as supplemental and programmatic financial support, which do not influence essential RBO activities and services.

There has been a conspicuous neglect of certain funding sources, in particular the private sector, funding from fees to water consumers and polluters, and voluntary funding. Once RBOs start to generate tangible benefits for the region and countries, regional and national funding sources are likely to increase.

Countries make significant in-kind contributions to cover all meeting costs of national delegations, hosting of RBO secretariats, and technical advisors from national agencies. This reduces the financial requirements of RBOs and assists low income countries.

Operation expenditures of RBOs are (and can be kept) relatively modest. Southern African RBOs appear to have equal member country contributions. Other RBOs have linked contributions to the ability to pay (or the size of the economy), done through consensus approach. This proportional or tiered approach should be considered by member states of southern African RBOs.

As Southern African RBOs are guided by and expected to confirm to the SADC Protocol, SADC should consider providing additional support for operating costs of the RBOs (as the European Commission does by contributing 2.5% of each budget).

### 5.2.2 Principles

Several principles could guide the funding and financial management of river basin organizations. These include:

1. Each river basin organization needs to be adequately funded to implement its mandates and tasks, in particular related to the conservation of water resources and their fair, sustainable and equitable use;
2. River basin organizations should strive to achieve funding security for the implementation of the agreed plan of action. Core funding requirements should be met from national and regional sources and funding dependency on donors needs to be reduced, particularly for recurrent costs;
3. Funding should reflect the user and polluter pays principle;
4. River basin organizations need to have their own sources of income such as payment for services and use of shared water resources, as rooted in regional and national policies and legislation and in the concept of IWRM;
5. Sourcing and accessing private sector funding for institutional development and infrastructure projects needs to better exploited;
6. Procedures for financial transparency and accountability to the member countries, SADC, and donors need to become integral part of operations for river basin organizations;
7. National and river basin organizations need to achieve a funding balance to ensure ownership and commitment at both institutional levels.

## 5.3 Funding requirements

Criteria for determining funding requirements could include the following:

- Number of member countries (+);

- Length and size of the river basin (+);
- Homogeneity of member countries (-);
- Level of river basin development (-);
- Stage of the RBO (+);
- Mandate, strategy and size of RBO secretariat, including RBO infrastructure and development projects (+).

The (+) factors imply that an increasing number of countries, increasing size or length, and increasing scope of mandates require more financial resources. In contrast, the (–) factors show that homogeneity of countries and an RBO in the early stage of development would require fewer funds. Funding requirements increase once a TDA, SAP or RBMP plan has been prepared and needs to be implemented and monitored.

The mandate and scope of the RBO can be broad or limited along the following lines:

1. Limited to a small, mostly advisory, coordinating and monitoring secretariat with the decision-making power retained by states and few direct implementation responsibilities for the RBO. In this case, the RBO does not get involved in infrastructure and development projects. This model is adopted on the European Water framework Directive;
2. Expanded to include project implementation and infrastructure development (even though specialist institutions may be set up to implement joint infrastructure such as in the Senegal River basin).

The first model is most common.

*Agreement and initiating phase*
The main outputs results of this phase are a memorandum of understanding, an agreement or treaty leading to the establishment of the RBO.

During this phase, the main expenditures cover the costs of meetings and workshops, technical inputs, and formation of the RBO. The funding levels are dependent on the number of member countries involved, their commitment to the process and synergies between the countries, and the path of the RBO formation. Apart from the negotiation process between governments, funding is required for the following:

1. Participation of stakeholders such as NGOs, the private sector, communities and academia;
2. Baseline data gathering and research;
3. Information dissemination programs through media;
4. Registration of the RBO; and
5. Technical assistance in areas such as legal registration, hydrology, economics, ecology and organisational and financial management systems.

Each RBO will consider other activities that need to be funded.

Typically, expenditures are shared by national governments and donors and required funds could be in the range of US$0.2-US$1 million per year. SADC and donors need to work as catalysts but member countries need to be committed.

*Establishment & development phase*

The outputs achieved typically in this phase include a transboundary diagnostic analysis, a River Basin Management and Action Plan (RBMAP), RBO strategy, and vision. During this phase, a growing number of satellite or associated projects are likely to develop. These are not necessarily RBO projects and financially independent but they are usually endorsed by or supported by the RBO. The RBOs could charge association fees for their endorsement.

The typical funding requirements refer to:

- Operation of the RBO secretariat and its committees (mostly salary costs);
- Funds for the development of the TDA and development of the basin management plan and strategy;
- Participation of and communication with stakeholders (e.g. web-site, workshops etc.);
- Baseline data collection needed for resource allocation and benefit sharing; and
- Dialogue with SADC and other RBOs.

Expenditures should be shared by national governments, water users and polluters, and donors. In time, the burden needs to shift towards national and regional funding to ensure RBO security and sustainability. The level of required funds depends on the RBO mandate and secretariat size. The operational costs of the RBO could vary from US$0.5 to US$1 million per year, excluding the costs of the TDA and the development of the RBMP. Experience with OKACOM and ORASECOM indicate TDAs and RBMPs could cost approximately US$5-10 million to prepare. The TDA and RBMP expenditures are one time and suitable for donor funding. The recurrent RBO costs would be best met from national and regional sources.

*Operation stage and plan implementation*
The core results of this phase include the successful completion of the projects of the RBMAP, including components of:

- Research and development, including tool development;
- Monitoring and evaluation;
- Training and skills development;
- Dialogue with stakeholders.

These are continuous 'routine' activities that require plans and secure funding.

In addition, there may be specific projects such as dam construction, canalisation of rivers, flood protection and drought mitigation activities. These are determined by the specific RBMAP and will vary considerably among RBOs.

The budget for routine activities would probably be in the order of US$0.5-1.5 million, depending on the size of the basin and mandate of the RBO. The budget for specific projects entirely depends on the RBMAP, but it is expected to be considerably higher (several million of US$).

## 5.4 Funding sources

At present, RBOs have no secure and reliable funding, and most depend on donor funding. This is not sustainable. While donor funding is most welcome, it needs to be targeted towards specific projects. Recurrent and routine activities need in time to be funded from national and regional sources. The following actions and options need to be considered.

*Identification of own funding sources*
RBOs do not have independent financial resources at the moment and depend on government and donor contributions.

Possibilities for generating RBO independent sources of funding include:

- Charging clients (i.e. member states, universities, researchers, agencies, and other users of information) RBO services such as provision of data, research fees, project coordination or affiliation, and communications and outreach.;
- Introduction of a small RBO water levy for large commercial water users (utilities corporations, dams, hydro power projects, and irrigation systems). A modest levy of US$0.05/m$^3$ would generate an annual amount of US$0.5 million for 10 million m$^3$ of water consumption. In special cases, a water charge could be developed for water-dependent sectors (e.g. tourism, research and film making in the Okavango). A small surcharge on water use could be significant for RBO funding;
- Creation of a RBO IWRM fund (e.g. trust fund) with voluntary contributions from resource users, donors, and the private sector. This fund would primarily target foundations, NGOs, private sector and others and potentially could be linked to benefits sharing programs developed within specific basins: and
- Introduction of a SADC contribution, in order to fulfil individual RBO commitments to the implementation of the SADC Protocol on Shared Watercourses.

These funds should be used for RBO operations and routine activities, and their use should be made clear to those who pay for RBO services. Resource users may be more willing to pay if the funds are used for improved resource management.

*Mobilisation of private sector funding*
At present, private sector funding is negligible. Possibilities for private sector funding include:

- Earmarking and 'selling' of specific RBO activities (e.g. education, toolkits and water efficient technology development such as irrigation) to large companies with a social/environmental responsibility programme. This happens in Europe and can be adapted to SADC RBOs; and
- Public-private sector partnerships for specific projects, especially infrastructure development and large commercial activities.

If a RBO water levy is introduced and collected, the private sector could be already be contributing to RBO financing.

*Level and use of donor funding*
Donors currently pay a significant portion of RBO activities. The proportion of total funding attributed to donors needs to decrease over time to increase regional and national ownership and commitment and to improve financial sustainability of RBOs.

The following options are available:

- Establish SADC wide norms, ceilings, or guides (as %) for donor funding in the short, medium and long term for each development phase of a RBO. The implication is that national and regional funding needs to increase to avoid funding short falls.
- Target particular areas for donor funding such as the secretariat start-up phase, technical assistance, and specific projects.

To realise this, the RBOs need to develop a financing strategy for the short-, medium- and long-term that incorporates ceilings and most appropriate donor support areas. These suggestions significantly differ from current practice and therefore require attention.

*Level and use of national funds*
Member state governments have started to make financial contributions to RBOs, as illustrated by the experience of ORASECOM, which already collects funds from the member states, and OKACOM, which recently agreed to the proportion of funds to be contributed by each member. The contributions are modest and could be equal for each country, or based on other formulae related to basin characteristics, water allocations, or benefits generated. Together they meet some of the basic recurrent costs of RBOs. Furthermore, countries could agree to make significant in-kind contributions, such as covering technical staff labor and the costs of attending RBO meetings, which are reflected in national budgets. This is also practised in Europe, and it reduces the financial requirements of the RBO and increases the integration of SWC management in national planning and budgets.

The possibilities include:

- Formalise requirements for state contributions to RBOs through an agreed formula (e.g. equal or weighed contributions); and
- Charges for transboundary water management as part of member countries' environmental and water policies.

## 5.5 Funding mechanisms

A wide range of funding mechanisms exist that needs to be explored by RBOs. These include:

- Grants and for 'free' contributions from states and donors;
- Loans (soft or commercial) from bank, states and donors;
- Charges for services rendered;
- Other voluntary contributions

The following mechanisms could be created for each specific element of RBO operations:

- Start-up fund;
- Basin development fund or budget;
- Recurrent expenditure fund or budget; and
- Contingency or emergency fund (e.g. droughts, floods)

Funds can be created at the level of SADC and individual RBOs. They could be fuelled from different sources, as discussed above. The suggestion has also been made to establish an International Shared Water Courses Fund (ISWCF), which could be funded through bilateral and multilateral donor contributions.

The feasibility of basket funding needs to be explored at an RBO level. The advantages are obvious, but the disadvantages for donors as well as risks of poor governance and inefficient use need attention and consideration.

## 5.6 Financial strategy and management plan

RBO financing strategies should aim to achieve the development and maintenance of sufficient, reliable and sustainable funding sources for the RBO and the implementation of its activities (RBMP, TDA, infrastructure projects etc.). This requires predicting future funding requirements as well as assessing funding options. Table 26 outlines advantages and disadvantages of different funding sources. Each RBO should make its own assessment.

***Table 26: Advantages & disadvantages of different funding sources by RBO stage***

| Funding Type | Advantages | Disadvantages | General comments |
|---|---|---|---|
| **Donor funding (bilateral)** | ▪ Linked to technical assistance (TA)<br>▪ Flexible for all RBO stages<br>▪ Often grants and/or soft loans<br>▪ Generous availability (until recently) | ▪ Donor conditionality<br>▪ Different procedures & requirements by donors<br>▪ Sudden changes in donor priorities<br>▪ Inadequate coordination and inefficiency<br>▪ Lack of local ownership due to low financial commitments<br>▪ More focused on national support (MDGs) | ▪ Currently, there is a heavy reliance of RBOs on donor funding: grants, TA, soft loans.<br>▪ Until recently, funds exceeded absorption capacity of RBOs. |
| **Donor funding (multilateral)** | ▪ Large pool of expertise & TA<br>▪ Multilateral donors are better able to coordinate than bilateral donors.<br>▪ Often grants and soft loans | ▪ More focused on national support for water supply & sanitation<br>▪ Long gestation period and cumbersome procedures | Reliance of RBOs on donor funding: TA, grants & soft loans GEF proved to be useful |
| **International Shared Watercourse Facility (ISWF)** | ▪ Mobilises and targets more funds for shared water courses<br>▪ Availability of global and regional support<br>▪ Can build on GEF experiences/ model<br>▪ Funds available to the most active and growing RBOs | ▪ Risk of high administration costs<br>▪ Risk of neglecting smaller-less active RBOs | Lessons from GEF need to be incorporated |
| **Public National Funds** | Ownership feeling by SWC countries and region | May be difficult for some SWC countries, especially funding of larger projects and plan activities | Incompatible with the UPP and PPP; therefore, public funding should be blended with finances from water users and |

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| | | | polluters |
| **Trust Fund or Basket Fund. Two options:**<br><br>**1. Use interest only**<br>**2. Use all funds-revolving fund** | ▪ Longer term security for RBOs<br>▪ Greater flexibility in spending of external funds<br>▪ Blends external and local funding<br>▪ Opportunities for participation of civil society and private sector | ▪ Requires sufficient management capacity<br>▪ Need clear windows for different aspects of RBO funding<br>▪ Not acceptable to most donors<br>▪ Difficult to measure performance of individual activities-funding sources | Available for forests and wildlife/ biodiversity initiatives |
| **User charges** | ▪ Increase financial capacity of RBO with modest surcharge on water<br>▪ Feeling of payment for transboundary resource management<br>▪ Users pay/ contribute<br>▪ Polluters pay/ contribute<br>▪ Reduces financial pressure on public funds and increases ownership of transboundary resource management within societies | Not suitable for large number of small (subsistence) users | Focus on municipal water supply agencies & large commercial schemes. |
| **Inter riparian Payments** | ▪ Efficient; often least cost option<br>▪ Increase in financial resources for RBO<br>▪ Relaxes constraints of poorest SWC countries | | Examples are found in the region (Nkomati and Lesotho Highland water scheme) and elsewhere (Rhine River) |
| **Commercial loans** | Most suitable for infrastructure project and water efficiency increasing projects | Expensive | ▪ Depends on commercial banks and central government.<br>▪ Do the latter allow RBOs to take up commercial loans? |
| **In-kind Contributions** | ▪ Useful for poor SWC countries<br>▪ Addresses real constraints in the RBO<br>▪ Reduces the need for cash funding<br>▪ Useful for hosting of | ▪ Unpredictable<br>▪ National governments need to budget-avail resources | Examples: sharing national data; joint research efforts |

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| | SWC countries meetings | | |

The SADC region has fifteen shared water courses, each of which could contain a transboundary RBO.

The following assumptions have been made for the establishment and operation of an average RBO:

- Start-up phase of one year;
- Three years of development and establishment; and
- Subsequent RBMP implementation.

An estimate to cover these costs for an average RBO for a ten year period could be approximately in US$35- 50 million, leading to total costs of RBO management in southern Africa of US$500 – 750 million or US$50—75 million per annum.[3]

## 5.7 Conclusions and recommendations

The following conclusions and recommendations can be made concerning the sustainable funding of RBOs:

- Funding requirements of RBO operations are initially modest (Botswana Pula 2-3 million for both ORASECOM and OKACOM);
- National contributions usually are equally divided among the member states. National contribution usually accounts for about 10-20% of the total RBO estimated expenditures. The remainder is financed from donor sources;
- Independent generation of funds (e.g. user surcharge on water supplied for commercial operations) and no basket/trust funds have been developed yet. Surcharge would amount to 1 or 2 cts/$m^3$ and routed from water utilities or large irrigation schemes to RBO;
- RBOs should explore optimize approaches for exploiting possible NGO and private-sector voluntary contributions;
- Use of specific and detailed regional frameworks, such the EU Water Framework, can stimulate RBO institutional growth and programs. Further operationalization of the SADC Protocol could assist in strengthening the growth of RBOs;
- National governments must provide consistent and reliable contributions to RBOs. National contributions should become integral with national development planning processes so that RBOs can rely on this contributions over the long-term;
- Mature RBOs should consider inter-riparian payments (e.g sharing of benefits) and cost recovery charges for use of water;
- RBOs should target the private sector (nationally, regionally, and internationally) through better outreach and marketing campaigns;
- SADC should support a regional contribution to RBOs for implementation of relevant aspects of the Protocol; and
- Each RBO should consider the development of trust funds (or basket funds) to be used for SAP or RBMP implementation.

A framework for developing a financial strategy and exploring funding option is presented below as guidelines for RBO consideration.

[3] This estimate excludes the costs of large joint infrastructure and development projects.

<table>
<tr><th colspan="4">Table 27: RBO GUIDELINES ON FUNDING REQUIREMENTS AND FINANCES</th></tr>
<tr><td>Objectives</td><td colspan="3">To adequately define and sustainably finance operational and programmatic costs associated with institutional arrangements for transboundary river basin management through an organization created by riparian member states aimed an improved collaboration and cooperation.</td></tr>
<tr><td>Principles</td><td colspan="3">• RBO needs to be adequately funded to efficiently perform their agreed tasks<br>• RBO needs to have funding security for the implementation of the agreed plan of action. Therefore, strategic funding requirements need to be met from national and regional sources and funding dependency on donors needs to be reduced<br>• RBO funding needs to be sustainable and reflect the user and polluter pays principles;<br>• RBOs need to have their own sources of income as payment for services and shared water resources<br>• Private sector funding needs to be sourced for development and infrastructure projects.<br>• RBOs need to maintain financial transparency and accountability to the member countries and SADC (and donors in case of donor funding)<br>• Ensure a balance between national and RBO funding to ensure ownership and commitment on the part of governments and the RBO</td></tr>
<tr><th>Strategic areas</th><th>Interventions</th><th>Options</th><th>Considerations</th></tr>
<tr><td>Funding requirements and plans for RBOs</td><td>Prepare and operate financial management system with regular annual budgets & audited accounts</td><td>• Proper needs assessment & justification<br>• Possibilities for benchmarking</td><td>This requires financial management capacity within the RBO</td></tr>
<tr><td rowspan="2">Financial strategy and management plan</td><td>Prepare short, medium and long term financial plan for:</td><td>• Develop financial vision and direction<br>• Can be used for long term development planning of region and countries</td><td>Full agreement required among member states</td></tr>
<tr><td>1. Establishment and development phase</td><td>Typical funding requirements include:<br><br>• Operation of the RBO secretariat and its committees (mostly salary costs)<br>• Funds for the development of the TDA and development of the basin management plan and strategy<br>• Participation of and communication with stakeholders (e.g. web-site, workshops etc.)</td><td></td></tr>
</table>

| | | | |
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| | | • Baseline data collection needed for resource allocation and benefit sharing<br>• Dialogue with SADC and other RBOs | |
| | 2. Plan implementation phase | • Research and development<br>• Implementation of SAP projects<br>• Monitoring and evaluation<br>• Training and skills development<br>• Dialogue with stakeholders | |
| | 3. Infrastructure investment | • Dams<br>• Hydropower schemes<br>• Irrigation systems<br>• WSS<br>• Flood early warning and protection<br>• Drought mitigation | • Joint ownership of infrastructure<br>• Donor and commercial lending support<br>• Grant funds |
| Funding sourcing strategy | Identify and implement self-financing sources | • Recurrent funds from Member States<br>• Small RBO water levy for large commercial water users (utilities corporations, dams, hydro power projects and irrigation)<br>• Payment for RBO services such as data provision, affiliation of projects<br>• Creation of a RBO IWRM fund with voluntary contributions from resource users, donors. | • Member state contributions might be best used to cover recurrent costs and in-kind contributions for meeting costs, travel of RBO representatives and technical team task force meetings. Set formulas for relevant contributions<br>• A modest levy of US$ 0.05/$m^3$ would generate an annual amount of US$ 0.5 million for 10 million $m^3$ of water<br>• Service provision sometimes hard to collect and maintain. Services have to be very relevant to clients and in need<br>• IWRM fund would primarily target the consumer surplus of resource users and the existence value |

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| | Mobilize private-sector financing | • Earmarking and 'selling' of specific RBO activities (e.g. water efficient technology development such as irrigation) to large companies with a social/ environmental responsibility programme<br>• Public private sector partnerships for specific projects, especially infrastructure development and large commercial activities<br>• Creation and use of benefit sharing system | • Problematic for poor countries<br>• Additional funding available<br>• Sharing of responsibilities and benefits |
| | ICP contributions | • Establish SADC wide norms or ceilings (as %) for donor funding in the short, medium and long term for each development phase of the RBOs.<br>• Target particular areas for donor funding such as the start up phase, technical assistance and specific projects. | • Compete with outstanding MDG needs<br>• Current global economic crisis may constrain DAC funds<br>• In conflict with individual donor procedures and requirements<br>• For targets, limits and ceilings, the implication is that national and regional funding needs to increase to avoid funding short-falls |
| Funding mechanisms | Identify options and feasibility of commercial funds from banks, particularly for infrastructure investments and projects | Access to funds and TA | • High costs?<br>• Must be acceptable to donors & member countries |
| | Develop options for the establishment of funds | • RBO initiating fund at SADC level or ISWF similar to GEF (or as GEF window)<br>• RBO start-up fund<br>• RBO development fund or budget<br>• RBO recurrent expenditure fund or budget<br>• Contingency or emergency fund (e.g. droughts, floods) | Select best mixture of funds relative to financial needs – i.e. matching financial needs to most appropriate funding mechanism |
| | User payments based on the user-pays- and polluter-pays principle | Implementation of environmental policies of most member countries<br>Direct to RBOs | Requires support for member countries |

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