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How can international donors promote transboundary water management?

Erik Mostert

Study for the research and consultancy project: „Cooperation on Africa’s transboundary water resources“ (on behalf of the Ministry for Economic Cooperation and Development, BMZ).

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Foreword

Water is an essential, indeed crucially vital strategic resource for all economies. Every country's drinking-water supply, food production, energy supply, and, consequently, industrial development hinge on water availability. The resource is also the *sine qua non* for healthy human living conditions and sound ecosystems. Even today, some countries, including many African countries, must be termed "water-stress economies" because to cover their water needs they are forced to fall back on water reserves generated outside their own national territory. Since developing countries use the lion's share of their water resources for irrigated agriculture, with an increasingly important share going into power generation, and in view of the fact that these two sectors are essential for economic development, dependence on water supplies from other countries is widely seen as an important indicator for the crisis proneness of entire economies.

In the past the joint use of transboundary rivers was often seen as entailing major security-related conflict potentials. In the 1980s and 1990s blaring headlines like "Water Wars," "Water More Precious than Gold," or "Water Seen as Fuel for Military Conflicts" drew the public's attention to potential or existing use conflicts along transboundary water bodies. Rising consumption and the asymmetrical relations between countries located along the upper and lower reaches of transboundary rivers fuelled the assumption that water shortages would just about inevitably lead to violent conflict. A much-cited example was conflict among the riparian countries along the Nile and Euphrates; the relations between the riparian countries of Southern Africa were likewise seen as a potential source of conflict.

However, actual developments have not borne out these sombre forecasts. Indeed, experience shows that transboundary water resources are far more likely to serve as the motor of transboundary cooperation than of violent conflict between nations. Since the end of the apartheid regime in South Africa, it is precisely Southern Africa – a region with an exceptional number of transboundary rivers – that has a number of positive developments to show in this regard. But in other regions as well Africa's heads of state and government have set their sights on a cooperative management that has been affirmed in many declarations and bi- and multilateral agreements. Bodies of rules and regulations and river and lake basin organizations have now been created as a basis for cooperation in 16 of 63 transboundary river basin and lakes regions in Africa.

On the African continent German development cooperation (DC) is providing support for international commissions like the ORASECOM on the Orange-Senqu, the LIMCOM on the Limpopo, the *Nile Basin Initiative*, and the *Lake Chad Basin Commission*; it is also promoting regional initiatives like the *Southern African Development Community's (SADC) Water Unit* and the *African Ministerial Council on Water*, and it is involved bilaterally in efforts to harmonize national water policies.

A project of the German Federal Ministry for Economic Cooperation and Development (BMZ), "Transboundary Water Management in Africa," has commissioned five studies designed to promote international cooperation on the African continent; these studies are presented in four discussion papers prepared by the German Development Institute (GDI). The studies are devoted to issues that were assessed as particularly relevant by a group of experts:

“How can donors promote transboundary water management?”

(Erik Mostert, Delft University)

Promotion of transboundary water management organizations is regarded as an important priority by the *Southern African Development Community* (SADC), and other regional and continental associations have also placed transboundary water management on their agenda. These efforts are supported by the international community, e.g. by the G8 Africa Action Plan and the *EU Water Initiative* (EUWI), but also by the World Bank and the *Global Environment Facility* (GEF), the *United Nations Environment Programme* (UNEP), the *United Nations Development Programme* (UNDP), the *African Development Bank* (AfDB), and other influential organizations.

However, according to the study, the influence of donors should not be overestimated, although donors could play an important role in the different phases involved in establishing systems of transboundary water management. With a view to these phases – e.g. initial meetings, negotiations, conclusion, implementation, and monitoring of agreements – the study discusses the instruments that are presently in use. These include the organization of opportunities to exchange information and experiences, capacity building, funding of infrastructure projects, and financial support for national delegations and the development and design of international forums.

Hardly any studies have been published that assess the issue of donor engagement in the development of transboundary water management and point to approaches that appear especially promising. This is one reason why the only way to identify the promising fields and instruments used by individual donors is to take a specific approach, i.e. one not devised against the background of years of experience and not geared to coming up with universally applicable solutions. This in turn depends, among other things, on regional interests and the strengths of individual donors. Engagement, though, need not necessarily take shape at the international level, since solutions to use conflicts are often best found at the national or local level. Donors could play a supportive role in harmonizing national water legislation and policies. Only a limited number of river basin organizations provide for any form of public participation, although exceptions can be found among North American and European organizations. Development of approaches for, among others, the African context might prove to be a promising field of activity in its own right. It would also be important to develop innovative approaches for a sustainable funding policy for river basin organizations. The study generally advocates the principle of building on existing developments and potentials and responding to concrete needs of the riparian countries concerned.

The study emphasizes the need to evaluate the effectiveness and sustainability of donor engagement, in the interest of both the donor community and regional and national actors.

“Cooperation along transboundary rivers from an economic perspective: the concept of benefit-sharing”

(Axel Klaphake, Technical University Berlin, in collaboration with Olivia Voils)

The concept of benefit-sharing plays a prominent role in the international discourse on transboundary water cooperation. Making use of the concept could provide crucial im-

pulses for water cooperation, despite divergences in interests and the upper reach-lower reach problems typically involved here.

The study looks into 18 concrete cases, a number of them on the African continent, in which riparian countries have concluded agreements with a benefit-sharing character. Most projects with benefit-sharing features are concerned with dam construction designed to jointly generate and use water power, a development that is due in large measure to the simple and rarely contentious predictability of the benefits stemming from energy generation. On the other hand, there are as good as no benefit-sharing agreements for projects designed to improve water quality or to achieve other ecological objectives.

The study identifies a number of factors that may have conducive or obstructive impacts on benefit-sharing agreements. Such agreements, with their reciprocal benefits, become increasingly important in situations marked by growing water scarcity, since this case entails rising economic costs for non-cooperation. There are, for instance, substantial problems involved in implementing win-win projects if the countries concerned pursue conflicting interests, uncertainties over project impacts have not been clarified, and administrative and economic capacities are underdeveloped.

Since benefit-sharing can best be realized in connection with river development and acquisition of new water resources (e.g. inter-basin water transfer), DC should work for implementation of recognized standards of project monitoring and design of the kind set out in the guidelines of the *World Commission on Dams*. DC should also undertake efforts to render transparent the potential economic benefits of other forms of water cooperation. In view of the fact that successful international win-win projects hinge crucially on competent and effective project organization, funding, and control, DC can provide support for national administrations in the form of assistance for capacity building. Promotion of regional water agreements and river basin organizations also increases the likelihood that benefit-sharing agreements will in fact be concluded, since such efforts serve to create an environment that is at the same time stable and conducive to confidence-building.

“Africa’s international rivers and lakes. The present state and experiences made in transboundary water management in Africa”

(Lars Wirkus and Volker Böge, BICC, Bonn)

The authors take an in-depth look at the present state of transboundary water management and the experiences made with it in selected African transboundary river and lakes regions, including the Orange-Senqu, the Limpopo, the Zambezi, Lake Victoria, and Lake Chad. For each of these cases the study presents hydrological, economic, and general political background data and analyzes risks, conflict factors, and the potential and need for cooperation. One focus of the presentation is water-related agreements and international institutions with their mandates and procedural rules.

Apart from promotion of river basin organizations like the ORASECOM on the Orange-Senqu and the LIMCOM on the Limpopo, one other strategy that has proven successful is support for regional actors like SADC’s water sector. This strategy can also be expanded beyond centres of competence to include other regional organizations. At present transboundary lake basin management is still in a rudimentary state of development and could

be expanded; a promising window of opportunity appears to be opening up for Lake Victoria. In addition, more attention should be paid to the development potential of transboundary groundwater reserves. This could become a new field of activity for DC on the African continent.

“Cooperation along African transboundary water courses: the role of information sharing”

(Malte Grossmann, Technical University Berlin)

In view of the fact that a substantial share of the expenditures of many transboundary water management projects goes into data preparation and processing, the present study starts out by discussing the general need for a shared database on transboundary integrated water management and relevant international agreements. In the author’s opinion the concern here is not simply to generate as many data as possible; a more promising approach would be to work up data on options for action that would serve to illustrate to the parties concerned the specific advantages and drawbacks of different strategies. One aspect of central importance here is that the data base finds acceptance among the parties to negotiations; such acceptance could be supported by jointly organized river basin studies and water resource assessments.

The study investigates, in a number of African river basins, the role that individual river basin organizations have played in this process. The findings clearly indicate that the capacities needed to collect and process the data needed to address transboundary water management issues hinge in particular on the spectrum of tasks assigned to a river basin organization (operational management of transboundary infrastructure systems and/or strategic water resource planning) and the way in which such river basin bodies are organized. DC should provide support for those approaches designed to strengthen information management that are at the same time conducive to achieving the core functions of a given river basin organization.

“Preparation of a Sourcebook of Cooperation on Africa’s Transboundary Water Resources”

(Melanie Muro and Waltina Scheumann)

The Sourcebook of Cooperation on Africa’s Transboundary Water Resources is a forum conceived to discuss topical issues and new developments in the field of transboundary water resources on the African continent. The sourcebook will report on the work of established river and lake basin organizations, focusing particular attention on their structures, operating principles, and funding mechanisms. It contains fact sheets breaking down information on river and lake basin organizations and presenting it in uniform categories; it contains background information, issue-specific sections, and documentations of best practices.

A first version of the Sourcebook is set to appear in the near future.

The work on the five studies has been accompanied by experts, and the results have been the subject of repeated discussion. A results workshop was held at the GDI in Bonn on April 14, 2005; at it some 25 participants from universities and development organizations discussed conclusions and recommendations for development cooperation. These will find

their way into a recommendations paper which will serve to provide further grounding, and some new ideas, for transboundary water management, a new field of development cooperation.

We would like to take this opportunity to thank the German Federal Ministry for Economic Cooperation and Development (BMZ) for commissioning the project as well as for the confidence it has placed in the authors. We also wish to extend our cordial thanks to those who participated in the discussion rounds as well as to the experts from universities and development organizations for the valuable impulses and comments they have fed into the work in progress. We also wish to thank the authors for their timely preparations of the studies as well as for their willingness to consider the contributions made in the discussion round and to incorporate them in the studies. Further thanks are due to our copy editor, Dr. Thomas Siebold, and the GDI secretariat for the valuable support it has provided.

Waltina Scheumann, Technical University Berlin

Susanne Neubert, GDI, Bonn

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Abbreviations

AMCOW	African Ministerial Council on Water
BICC	Bonn International Center for Conversion
BMZ	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (Federal Ministry for Economic Cooperation and Development)
CRS/Aid	Creditor Reporting System Aid (online aid activity database of OECD DAC)
DAC	Development Assistance Committee (OECD)
DC	Development Cooperation
EU	European Union
EUWI	EU Water Initiative
FAO	Food and Agriculture Organization of the United Nations
GDI	German Development Institute
GDP	Gross domestic product
GEF	Global Environment Facility
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
ICPR	International Commission for the Protection of the Rhine
LIMCOM	Limpopo Watercourse Commission
NGO	Non-governmental organisation
OECD	Organization for Economic Cooperation and Development
OMVS	Organisation pour la mise en valeur du fleuve Sénégal (Organization for the Development of the Senegal River)
ORASECOM	Orange-Senqu River Commission
RBM	River basin management
RBO	River basin organisation
SADC	Southern African Development Community
Sida	Swedish International Development Agency
SOGED	Société de gestion et d'exploitation du barrage de Diama
SOGEM	Société de gestion de l'énergie de Manantali
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	UN Educational, Scientific, and Cultural Organization
ZRA	Zambezi River Authority

Summary

At the World Summit on Sustainable Development in Johannesburg in 2002, the Millennium Development Goals were confirmed. To reach these goals, effective water management is essential. Since many water resources are shared by more than one country, this requires international cooperation.

This paper discusses how international donors can promote the development of transboundary water management. It assumes, first, that cooperation will take place whenever the major stakeholders consider cooperation to be a better option than non-cooperation. The perceptions and motivations of the stakeholders are therefore crucial. Secondly, this paper assumes that the major stakeholders are not “states”, but specific groups and individuals: individual politicians, sectoral government bureaucracies, regional and local governments, farmers, electricity companies, etc. Some of these may be involved in the international negotiations themselves, others may be needed to get international agreements ratified or implemented, and still others may be affected by transboundary water management but lack the means to exert any influence.

The role of international donors in transboundary water management is limited, but can still be significant. They can:

- support the conclusion of an international treaty,
- support the resolution of the underlying issues and promote action on the ground,
- support social, economic and / or political change in the basin,
- provide continuing support after conclusion of an agreement.

The instruments that can be used include:

- exchange of expertise and capacity building (including twinning),
- provision of capital: conditional grants and loans and debt relief,
- financial support for specific activities,
- direct intervention: convening, facilitation, mediation, etc.

The best basins for donors to become involved in and the best strategy and instruments to use depend on a number of factors, including the characteristics of the donor – its motivations and its resources, the characteristics of the basins, the potential and the need for development and the potential for conflict, and the stage of transboundary water management – before the start of informal talks, during informal talks, during formal negotiations, or after the conclusion of an agreement. Donors do not always have to become involved at the international level. The root causes of international water-related problems and therefore also their solution often lies at the national or even local level.

Information about the effectiveness of donor involvement in transboundary water management is scarce. Yet, six recommendations can be formulated:

1. Nosce te ipsum (“Know thyself”)

Effective donor involvement starts with a critical assessment of the motivations and capabilities of the donor himself.

2. Donors should build on developments within the basin and promote ownership

Donors cannot introduce completely new things but have to make use of the ongoing developments and potentials in the basin. Development projects should not be donor-driven, but owned by the countries.

3. All stakeholders should be involved, not just “states”

Public participation increases the chances of effective and just agreements. Organising public participation can be quite difficult, but there are several options. If there is a complete lack of interest in public participation, donors cannot simply impose it and may want to consider focusing their attention on other basins.

4. Evaluate!

The effectiveness of donor involvement will not be improved if past experiences are not evaluated.

5. Review!

Donors should regularly review whether the basins and the way in which they are involved are still the most appropriate.

6. Publicise on the Internet and coordinate!

Evaluations and reviews should be published on the Internet to facilitate learning. In addition, details about ongoing and planned projects should be published on the Internet to facilitate better coordination of donor activities. Germany could propose this at the EU level or in the Development Assistance Committee (DAC) of OECD.

1. Introduction

Water and development

At the World Summit on Sustainable Development in Johannesburg in 2002, the Millennium Development Goals were confirmed. These goals call for:

- the eradication of extreme poverty and hunger,
- universal primary education,
- gender equality and the empowerment of women,
- the reduction in child mortality,
- improvement in maternal health,
- combat of HIV / AIDS, malaria and other diseases,
- environmental sustainability,
- the development of a global partnership.

Most Millennium Development Goals are related to water. Goals such as food security and environmental sustainability require that the water resources are protected effectively, that overexploitation is prevented and that appropriate water infrastructure is constructed and managed well. To a large extent, this is a governance issue. Skills and information need to be available, an appropriate legislative framework needs to be in place, decision-making processes should be fair, transparent and effective, and all stakeholders affected by or influencing water management should be involved.

Transboundary water management

The transboundary character of most water resources poses special problems. Worldwide more than 45 % of the land surface is located within international river basins and many groundwater aquifers are shared by more than one country (Wolf 1999). Unilateral action by one country concerning these resources is often ineffective (e.g. fish ladders in an upstream country only), inefficient (e.g. hydropower development in a flat downstream country) or simply impossible (many developments on boundary stretches). Moreover, unilateral action can significantly harm the other countries and may result in serious international tension.

Many people fear that the wars of the 21st century will be over water. There are hardly any historical example of water wars (Wolf 1998), but conflicts falling short of a war have occurred frequently. For many international basins and aquifers no international agreement exists. For many other basins and aquifers, however, agreements do exist and effective institutions have been established that deliver benefits to all stakeholders.

Africa

In Africa the problems of development and water governance are especially acute. It is the poorest continent in the world. Many regions are water-stressed and many water resources are shared by more than one country. In the past there have been threats of water wars (the Nile), but there are also many examples of international cooperation.

Against this background the German Federal Ministry for Economic Cooperation and Development has set up the project “Transboundary river basin management in Africa” (Grenzüberschreitendes Wassermanagement in Afrika, BMZ-Forschungsprogramm 2004-2005). Within this project five topics are discussed:

1. The promotion of regional river regimes
2. Africa's international rivers: state of affairs and experiences with transboundary river basin management in Africa
3. Cooperation on international rivers from an economic point of view: the concept of benefit-sharing
4. Data bank “operational procedures of river basin organisations”
5. Information sharing and management

This paper

The present paper contains the results on topic 1. It focuses on the contributions that international donors can make to the development of transboundary water management. Chapter 2 introduces the issue of transboundary water management and present the empirical evidence that is available. Chapter 3 discusses the different strategies and instruments that international donors can use to promote transboundary water management. Chapter 4 presents the conclusions of the paper in the form of six recommendations for international donors.

2. Transboundary water management

This chapter introduces the issue of transboundary water management. It discusses the main driving forces, distinguishes several stages in transboundary water management and identifies the different types of stakeholders that play a role. Moreover, it discusses how in practice agreement is reached, the organisational frameworks that have been established and the experiences gained with public participation. The chapter contains two key messages:

1. At any stage of transboundary water management, **cooperation will occur if the major stakeholders perceive cooperation as a better option than non-cooperation**. Understanding transboundary water management therefore requires an understanding of the perceptions and motivations of the different stakeholders and the factors that influence these.
2. **The major stakeholders are not “states”, but the different national government bodies and sectoral bureaucracies, regional and local governments, international governments and donors, the media, civil society, individual water users and influential individuals**. Understanding transboundary water management requires a “multi-scalar analysis” that maps the network of stakeholders and includes the regional and the local level.

2.1 Driving forces

Transboundary water management can be equated with the development and implementation of international “agreements” (treaties, gentlemen’s agreements, etc.). The main question is: what drives this process? In this context four types of benefits of transboundary water management have been mentioned (Sadoff / Grey 2002; see also Klaphake 2005):

- Transboundary water management can result in more intensive use of the river basin itself. Shipping routes may be improved, irrigation and hydropower may be developed, etc. (“Benefits from the river”).
- The river basin itself may be better protected and overexploitation may be prevented (“Benefits to the river”).
- Transboundary water management may reduce or prevent the costs associated with international conflicts (“Benefits because of the river”).
- Transboundary water management can pave the way to much greater cooperation between states, even to economic integration among states (“Benefits beyond the river”).

The first two benefits can be summarised in the phrase “sustainable development”, and the last two as preventing or resolving international conflicts and promoting cooperation.¹ Both types of benefits are closely related. Development requires cooperation and the resolution of major outstanding conflicts. Conversely, the resolution of outstanding conflicts creates opportunities for development.

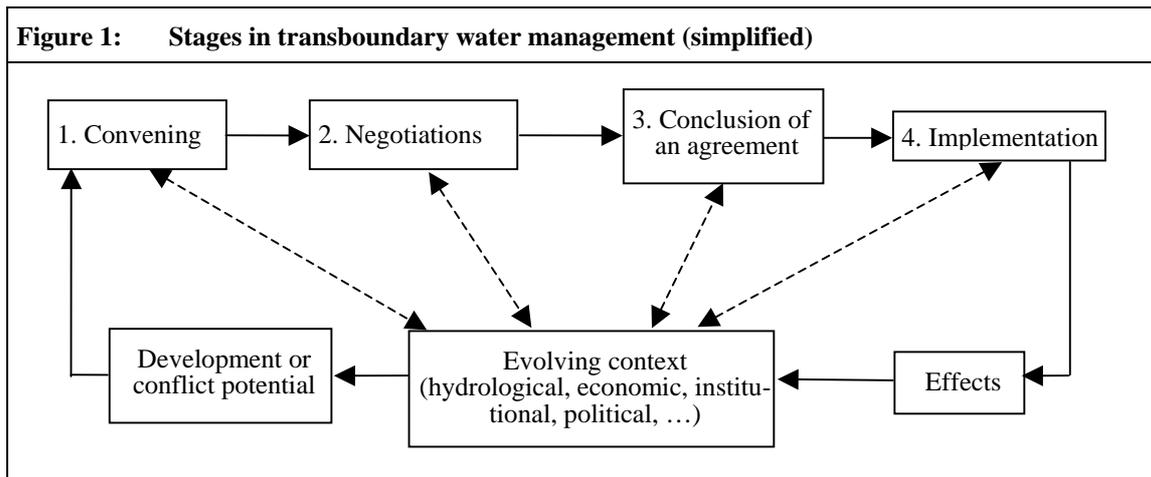
Yet, these four benefits provide but an incomplete explanation of the development of transboundary water management. In the end, what drives transboundary water management are not “objective” benefits, but the subjective perceptions and motivations of the major stakeholders. If in their eyes cooperation is a better alternative than non-cooperation, transboundary water management will progress. If not, it will stall.

2.2 Stages

Transboundary water management can be analysed as a cyclical process consisting of different stages (Figure 1). It does not take place in a void, but in a continuously evolving hydrological, socio-economic, institutional, political and cultural context. This context can create a potential for development or for conflict. For instance, a boundary river with a steep gradient provides a potential for joint hydropower development, whereas water scarcity creates a potential for conflict.

1 By “conflict” we mean any kind of unfriendly interaction, ranging from mild expression of discord to diplomatic and economic sanctions or even war – but especially the more seriously unfriendly interactions (Wolf et al. 2003). Water may be the object of a conflict, for instance when there is competition over scarce water resources, but it may also be an instrument in a conflict. This is for instance the case when an upstream state threatens to divert an international river in order to harm or pressurize a downstream state. Water can also act as a catalyst for conflict, for example when water shortage within a country creates internal political instability that in turn creates international instability (Libiszewski 1995).

“Cooperation” can be defined as the opposite of conflict, therefore as “friendly interaction”.



The first and often most difficult stage in transboundary water management is convening. It consists of bringing the major stakeholders around the table (Gray 1989). The stakeholders need to find sufficient overlap in how they perceive the major issues. There should be a minimum level of mutual interdependence. The stakeholders need to be convinced that:

- (1) the present situation does not serve their interests optimally;
- (2) negotiations could result in a fair agreement that could serve their interests better (Fisher / Ury 1981);
- (3) the agreement will actually be complied with, also by the other parties to the agreement.

Especially when relations are good, one of the stakeholders involved could take on the role of convenor. Often, however, a third-party convenor will be useful. The convenor could help the stakeholders in analysing their own interests, in identifying overlaps and interdependencies, and in overcoming barriers to negotiation, such as stereotyping the other parties, which hinders communication. Powerful convenors, whether third-party or stakeholder, can also use other means to persuade the (other) stakeholders to start negotiations. They could for instance promise or threaten to withhold, openly or more covertly, economic or political support.

The second stage in transboundary water management is the negotiations themselves (Gray 1989). If this has not yet been done at the convening stage, the agenda for the negotiations has to be decided upon and some ground rules need to be agreed upon, for instance on confidentiality of the negotiations and on possibilities to exit. Moreover, the relevant “facts” have to be established, such as the natural river discharge, present use and projected demand, and several options need to be developed and assessed (see section 2.5).

The third stage is the conclusion of an agreement. The chances for a mutually satisfactory agreement are best if the negotiations are “integrative” instead of “positional”. Positional negotiations or “bargaining” occur when the stakeholders take fixed positions and then start defending these. This is likely to result in stalemates or in suboptimal compromises. Integrative negotiations, on the other hand, occur when the stakeholders think in terms of their underlying interests and are flexible with regard to the means for satisfying these. This offers far better possibilities for reaching a mutually satisfactory agreement (cf. the notion of

Box 1: Eight mechanisms for overcoming upstream-downstream problems (Golub 1996)

1: Issue linkage

Issue linkage occurs when an upstream-downstream issue is linked to another issue where the downstream state is in control and the upstream state is the asking party (LeMarquand 1977; Marty 2001; Meijerink 1999). This issue might be a water management issue (e.g. improving maritime access to the upstream state) or it might be an issue from a totally different policy sector. The former is more common since issue linkage is only possible if the countries involved can expect that the others will keep their part of a deal. This is more likely if the stakeholders for the different issues are the same (Golub 1996).

2: Diffuse reciprocity / good relations

Diffuse reciprocity refers to countries that accept less favourable agreements in order to keep good relations and to create a “reservoir of goodwill” (LeMarquand 1977) from which they can draw in the future. Diffuse reciprocity is a kind of issue linkage of unspecified issues over time.

3: Large geographical scope

Upstream-downstream problems can also be overcome by extending the scope of agreements to include rivers where the downstream country is upstream and the upstream country downstream. This is in fact a kind of “geographical issue linkage.”

4: Side payments

Side payments or “financial compensation” are payments – directly or through increased subsidies or reduced contributions – in return for a concession (Golub 1996). Side payments will be most effective for compensating economic or financial losses. They will be less effective when deeply held values or basic human needs are involved and could be experienced as bribery (Hisschemöller et al. 1989; Zeiss 1991).

5: Slack cutting

Slack cutting occurs when sectoral government bodies use their privileged access to international fora for introducing a more ambitious national policy than would be possible through the national channels (Golub 1996; Bernauer / Moser 1996). An upstream country may for instance agree to very strict emission reductions because in effect the environmental ministry representing this country wanted to introduce strict regulation nationally.

6: Intended non-compliance

Intended non-compliance refers to the fact that countries may be willing to accept ambitious international agreements if they expect that the agreements will not be enforced.

7: Unforeseen consequences

At times upstream-downstream conflicts can be overcome simply because the upstream state did not see the consequences of the agreement. This can happen when negotiators are inexperienced or lack back-up, when last-minute changes are discussed under high pressure of reaching agreement, and when international courts give unexpectedly strict interpretations to agreements.

8: Exercise of power

While less powerful from a purely hydrological point of view, downstream countries may possess other sources of power – economic, political, military – that may compensate for this lack.

“double-loop learning”; Argyris / Schön 1996). Integrative negotiations are promoted if during the negotiations more than two options are explored (Fisher / Ury 1981).

With respect to international rivers, upstream-downstream relations pose special problems. From a purely hydrological point of view, upstream countries are less dependent on downstream countries than *vice versa* and may therefore be less interested in transboundary water management. However, a number of mechanisms can be used for reaching agreement (Box 1).

As a rule, agreements need to be ratified or approved by a higher authority: a minister, the cabinet or parliament. This might prove difficult if the negotiators have not interacted effectively with these higher authorities.

Problems may also occur after ratification or approval, when the agreement has to be implemented or complied with. Implementation or compliance is usually the responsibility of lower level governments and water users who have not been involved in international negotiations. To improve implementation, one could consider involving them, but there are limits to the number of participants in negotiations. Moreover, national governments are often against this kind of involvement. A very different option for improving implementation is to develop monitoring or reporting mechanisms. This is often coordinated by a river basin organisation (RBO) set up by the pertinent agreement.

When implemented, agreements result in certain environmental, social, economic, political and even cultural changes. These may be foreseen or not, but in any case they change the context of water management and may result in a new potential for development or conflict, in new negotiations and in new agreements.

Development or conflict potentials do not always result in negotiations, negotiations do not always result in an agreement, and agreements are not always implemented. This can create serious conflicts. On the other hand, negotiations may also start after a conflict has developed (as witnessed by for instance peace negotiations).

In practice transboundary water management develops in several rounds. It often starts with technical cooperation on monitoring or research. This is less risky for the basin states concerned but still allows the development of a common factual basis and of trust (section 2.5). Often, a broad framework agreement is negotiated next. This agreement is then followed by a number of substantive agreements on, for instance, water allocation or distribution of costs. Figure 1 describes just one round.

2.3 The “agreement”

The “agreement” that figures so prominently in the previous section can take a number of forms: a treaty, a private law contract, a gentlemen's agreement, a tacit understanding, a shared cultural practice, etc. All these agreements can be analysed in terms of the “institutions” or “rules of the game” that they establish (Ostrom 1990; Young 1995):

- a) operational rules, which determine who can use the resource (use rules, e.g. concerning water abstraction) and who should provide or maintain the resource (provision rules, e.g. concerning financing of infrastructure);
- b) decision-making rules, which determine how the operational rules are to be decided upon (e.g. consultation and public participation requirements);
- c) constitutional rules, which determine who is entitled to take decisions (e.g. concerning the tasks and responsibilities of a river basin organisation).²

2 Although Ostrom's typology of management institutions can be applied to international river basins, the same does not necessarily hold true for the other elements of her theory. Ostrom's theory focuses on the management of relatively small common pool resources, such as irrigation systems, groundwater bodies and coastal fisheries. In international river basins, however, the number of stakeholders is far bigger. Complexity is often much bigger as well and relations can be more asymmetrical. Moreover, the role that government and courts can play is very different. There is no higher authority that can enforce

The institutions that are established depend on many factors, not in the least on the main management issues in the basin. In the case of water allocation, all eventualities should be considered, such as long drought periods. International water law and especially the principles of “reasonable and equitable utilisation” and of not causing “significant harm” to the other basin states may offer some guidance on the share of each basin state (UN 1997, art. 5–7; Vinogradov et al. 2003). Apart from that, it is a matter of negotiation.

Integrated versus functional approach

A more general issue is the choice between an “integrated” or a “functional approach” to transboundary water management. An integrated approach aims at the integrated management of the whole basin and is transsectoral in character. It often involves the conclusion of a broad framework agreement that contains general principles and establishes a river basin organisation but requires further implementation agreements. In a functional approach, issues are addressed one-by-one as they emerge. Agreements often have a mono-sectoral character (for instance only hydropower or only water allocation) and often apply only to part of the basin, but they are very specific.

Several arguments have been raised in favour of a functional approach. A functional approach would be more politically feasible, specific agreements would be better implemented than broad framework agreements, and scientific-technical complexity and the number of stakeholders involved would be reduced, thus making it easier to reach agreement (Marty 2001; see also Alam 1998). On the other hand, several RBOs established by broad framework agreements have proven to promote further cooperation (e.g. the Meuse, Scheldt and Rhine Commissions and US-Mexican *International Boundary and Waters Commission*). Moreover, narrow “functional” agreements can create significant negative side effects. For instance, treaties promoting irrigation only may harm flood recession agriculture, fisheries and nature (see also the Rio Grande rectification project, discussed by Marty 2001).

It is impossible and perhaps even dangerous to choose in general between an integrated and a functional approach. Both approaches have potential advantages as well as disadvantages. In each individual case, the applicability and importance of the different advantages and disadvantages need to be assessed and only then a well-informed choice can be made.

Legally binding agreements or not?

Another issue concerning agreements is whether they should be legally binding or not. Non-legally binding agreements can by definition not be enforced using legal means and may not be taken very seriously by the contracting parties. But on the other hand, legal enforcement is often problematic. Moreover, non-legally binding agreements may still be politically binding and may still be implemented.

A case in point is the Rhine Action Plan of 1987, developed in response to the 1986 Sandoz disaster. As this plan was not legally binding, it could be developed quickly, when

agreements (except in the EU and when countries have accepted the jurisdiction of the International Court of Justice or established comparable procedures).

public attention for environmental matters was high. Moreover, countries were willing to subscribe to ambitious goals because they were not legally binding. Still, the Rhine Action Plan was politically binding and most of its goals have been reached (Dieperink 1999; Victor et al. 1998; Bernauer / Moser 1996; Dieperink 1997). However, these experiences cannot be generalised, and in other basins the advantages of legally binding agreements may be more important.

2.4 Stakeholders

Traditionally, transboundary water management is seen as an issue between sovereign states. “States” are, however, abstractions. They are legal concepts and important symbols and provide a source of identity for many people, but in practice the main parties in transboundary water management are specific groups and individuals. These include groups and individuals that possess formal authority and other important resources for developing or implementing international agreements, such as money, political influence, information and expertise. They also include groups and individuals that may be affected by water management but are unable to exert any significant influence (Trottier 2003). Together, these two groups are the “stakeholders” in transboundary water management.

National, sub-, inter- and supranational government

International agreements are usually negotiated by national government bodies, but regional and local governments can play a key role in the background. Water-related problems are often experienced first at the local, grass-root level and may also be caused at this level. Especially in federal states it may be impossible to reach, ratify and implement international agreements without involving subnational governments in their preparation. In some countries, such as Belgium, subnational governments are entitled to conclude international agreements (Meijerink 1999).

Inter- and supranational organisations can play an important role as well. Prime examples are the many intergovernmental river and lake basin organisations. In addition there are boundary commissions, commissions for regional seas, and regional organisations, such as the EU and SADC. With few exceptions, these organisations lack decision-making powers, but they can create a platform for communication and negotiation.

Sectoral government

It is usually not correct to treat government at any level as a unified, single-minded entity. At the national level governments usually consist of different sectoral ministers, bureaucracies and specialists in parliament. They may adopt very different positions on international freshwater issues. For instance, the Ministry for Water management may favour the construction of a hydropower dam on a boundary river, but the Ministry of Environment may be against (Várkonyi 1990).

Water users

Furthermore, water users can play an important role. Especially in democracies, public opinion may influence the national position on international issues. Moreover, govern-

ments are usually not powerful enough to implement nationally any policy they want. They have to rely on a basic level of cooperation by the water users. Sometimes water users in one country can sue water users or governments in other countries, without involving their own government (Dieperink 1997; Bernauer / Moser 1996; Dieperink 1999). To increase their influence, interest groups may organise themselves at the international level.

International donors, international NGOs and developing countries

In so-called developing countries international donors and international NGOs often play an important role. A useful classification of stakeholders for many developing countries is the following (on the Senegal River: Adams 2000):

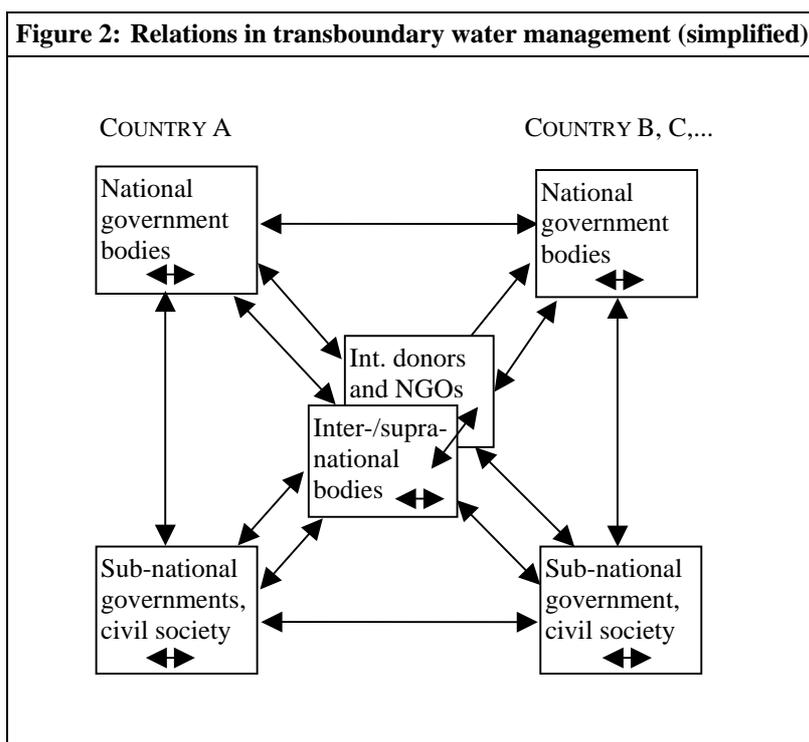
- the local population,
- national government bodies, such as irrigation services,
- international donors,
- international NGOs.

The prime concern of the local population is usually to safeguard their livelihood. National government bodies may focus on the interests of the country as a whole, the interests of the capital, the interests of the ruling elite or the specific sectoral interests that they represent, such as commercial farming or hydropower production. International RBOs are usually intergovernmental and often sectoral. Consequently, they focus on the same broad types of interests. When the interests of the local population and national government bodies differ, international donors may favour either. International NGOs usually support the local population or the local environment, which is not always the same.

The need for “multi-scalar analysis”

Concepts such as “local population”, “water user” or “local government” can be as abstract as the concept “state.” They may hide important distinctions, such as gender, ethnicity and profession (Trottier 2003). Which distinctions are important cannot be decided in advance. “Multi-scalar analysis” is needed that looks beyond the “states” and includes the regional and local levels in the analysis. Non-water issues may need to be considered as well, since water is just one aspect of the relations between groups and individuals involved. (This also applies to the relationships between the nation states.)

There is a moral side to multi-scalar analysis as well (e.g. Nicol 2003). Focusing exclusively on the interests and goals of the “states” means in practice focusing on the interests and goals of national governments. This may result in too little attention for the interests and needs of underprivileged stakeholders. For example, according to the policy of the government of Senegal, the international cooperation on the Senegal River is a success. Large dams have been built and irrigated agricultural land has increased. However, reportedly (Adams 2000) this proved to be at the expense of flood-recession farming, fisheries, the environment and the health of the local population. The dams on the Salween River in Myanmar provide another example. These could be seen as an example of effective international cooperation if one ignores the fact that Myanmar is using forced labour to construct them (Moe 2000; US Department of Labor 2000).



Public participation

Apart from multi-scalar analysis, public participation may be called for. Public participation is generally believed to improve transparency and democracy, increase the quality of decisions and promote public acceptance. More information becomes available for decision-making, expertise and creativity among the water users can be used, and the chances of effective implementation are maximised. The chances of agreements that serve only some interests are minimised (Mostert 2003c; Budge 1996; Drafting Group 2002; Mostert 2003a; Webler / Renn 1995).

It can be difficult to organise public participation in large international and often multilingual river basins. There are practical issues to be addressed, and in addition there is often ideological or political resistance against public participation. Moreover, too much transparency may limit the possibilities for negotiators to freely explore possible solutions. In some cases the participating members of the public can be asked to respect the confidentiality of the negotiations or parts thereof. The international NGOs participating in the *International Rhine Commission* have done this (see also the section 2.6).

2.5 The role of information

Transboundary water management is the result of interactions between different stakeholders. At the same time it is a function of the perceptions of the stakeholders concerning the issues at stake (Craps 2003). Transboundary water management is often very political, but there is always a role for information exchange and joint research (“joint information search”; Gray 1989).

Information exchange and joint research serves several purposes:

- It helps to identify joint development potentials and can result in a common factual basis for reaching agreement.
- Early notification of unilateral initiatives can prevent the development of conflicts.
- Information exchange and joint research is also a good first step in developing cooperation: it can help to develop trust (Dieperink 1997; Savenije / van der Zaag 1998b; Nicol 2003).
- Good information increases the likelihood of agreements that are technically and economically feasible, deliver the promised benefits and produce no significant negative side-effects.

Joint research involving several stakeholders is likely to result in fewer technical controversies than research by one of the stakeholders only. Research is never completely value-free. It involves selection (which effects to predict? which alternatives to develop and assess? what to report and how?), interpretation and uncertainty. If research is not transparent or does not reflect the concerns of all major stakeholders, it is unlikely to serve as a basis for agreement and is very likely to become contested.

The information to be exchanged and the research to be conducted concern the state of the water resource as well as factors that could affect the resource (Grossmann 2005). Moreover, information about the concerns of the different stakeholders should be exchanged. If all stakeholders recognise each other's concerns, this will help in developing an agreement that is acceptable to all concerned.

2.6 Experiences

The previous sections of this chapter are partly based on literature on collaboration and negotiations (especially Gray 1989) and partly on case studies from Africa and other parts of the world (Mostert 2003b; Burchi / Spreij 2003; Wirkus / Böge 2005). Altogether, the experiences in more than 40 basins were taken into account. The most common transboundary issues in these basins were water scarcity and water allocation, followed by water pollution, shipping, hydropower development, flooding, fisheries and boundary issues. Nature protection and development was mentioned a few times as a topic for cooperation, but was an important issue in at least nine other cases.

Reaching agreement

In the 40 plus cases agreements were reached under different circumstances. In some cases an urgent problem had to be solved, such as water allocation in the Indus basin after the partition of India and Pakistan. In other cases the basin states wanted to develop the potential of their basin (Senegal and the Orange River). In some cases changing political circumstances offered new opportunities, such as the end of the Apartheid Regime in South Africa and in Central Europe the end of the Cold War.

Reaching agreement usually took between one and 100 years (the Alpine Rhine case: Marty 2001). The shortest periods usually relate to framework agreements that require further elaboration (Amazon) or to the modification of an existing ineffective regime

(Senegal River). Such cases apart, the evidence suggests that the development of effective international cooperation takes at least ten years.

In several cases international relations were strained and parties are not willing to negotiate (for instance the Ganges–Brahmaputra, although bilateral agreements exist). In some cases agreement was reached despite strained relations. Examples include the Indus River, the Senegal River and Lake Peipsi. In other cases international water issues were solved after relations had improved or as part of an effort to improve relations (the Rio Grande).

Reaching agreement may be difficult even when the issue is joined development of the resource with benefits for all countries involved. Reasons for this include complexities of project planning (Klaphake 2005), inequalities in expertise, internal conflicts of interests, strained international relations, lack of trust that the other parties will honour their side of an agreement and limited capacity to enforce compliance.

In many cases there was a conflict of interests between the upstream and the downstream states. In a few cases this conflict could be overcome through issue linkage (the Meuse and Scheldt, to some extent the Euphrates and the Colorado River). In at least one case side payments were offered to the polluting country (the Rhine). In some cases external donor funding may have played a role (the Niger River). In at least one case military strength may have contributed to the conclusion of an agreement (the Mahakali River between Nepal and India), but implementation of this agreement proved to be very difficult. No examples of the “slag cutting” or “unforeseen consequences” (Box 1) were found.

The most common and powerful factor influencing the conclusion of agreements was the wish to develop or maintain good international relations. When relations are good, countries are willing to compromise on some points that are more important for the other countries than for themselves, trusting that this will be reciprocated. Investing in good relations usually has long-term benefits for all countries concerned that outweigh the short-term benefits of less cooperative behaviour. Factual controversies are less likely, more learning can take place, negotiations may be shorter, there is less need for strict compliance procedures, and management can be more flexible.

Organisational frameworks

The agreements that were reached obviously depended on the issues that were addressed. However, they all involved the establishment of a RBO or were negotiated in the framework of such an organisation.³

The simplest organisational framework found is the *Permanent Indus Commission*. It consists of two commissioners only, one for Pakistan and one for India. The most complex framework is that of the OMVS (Senegal River), with a *Conference of the Heads of State*, the *Council of Ministers*, the *Office of the High Commissioner* (with several departments), three advisory bodies, *National Offices* and two separate companies for managing the dams in the river (SOGED and SOGEM). A relatively common framework in Europe consists of a general assembly with high-level civil servants, working groups on specific top-

3 In this report the term “river basin organisation” refers to all types of river basin entities. Other authors reserve the term for river basin entities with more-or-less independent competencies and an own apparatus.

ics with governmental and non-governmental experts, irregular ministerial conferences, and an independent but relatively small secretariat. Examples include the Rhine, Danube, Meuse and Scheldt commissions.

The tasks and powers of the different organisations differ significantly, but three main types exist:

- Some RBOs deal with the *integrated development* of a river basin. These are to be found mostly in the so-called developing world. They often coordinate donor financing and are typically large. A prime example is the *Mekong Commission*.
- Other organisations deal with the *integrated protection* of river basins or other freshwater resources. They are to be found mostly in the developed world (“developed” referring both to the economy and to the water resources). Examples include the European commissions referred to above. They coordinate research and monitoring (but do not do this themselves) and organise intergovernmental discussions on the river concerned.
- The third type of organisation has *very specific tasks*, such as shipping, water allocation or the management of a particular hydropower dam. One example is the *Zambezi River Authority* (Zambia – Zimbabwe), whose main task is the joint management of the Kariba Dam. These organisations may be quite small. Unlike the other two types, they may have significant regulatory powers and are then true “river basin authorities”.

Financing

The costs of the RBO are usually borne by the member states on an equal basis or on the basis of surface area in the basin or another political agreement (Burchi / Spreij 2003). Tasks coordinated but not executed by the commission are usually financed by the country concerned. The costs of joint infrastructure projects are usually borne by the member states in proportion to the benefits they derive from these projects. In some basins a jointly operated fund exists to finance works (for instance the Rio de la Plata).

Both the member states and the commission itself can and sometimes do get financial support from international donors. In some river basins this is even the most important source of finances. It has been argued that donor financing is not the most sustainable financial solution for the long or even the medium term. Much more certain would be high political commitment, trust among parties, and stakeholder and civil society support (Development Policy Forum 1998).

River basin organisations could also raise their own funds through the sale of electricity, water or consultancy services and through other economic activities. This is in fact quite rare. It could lead to a conflict of interests if the RBO is also the regulator of these activities. Enforcement may then become problematic (the “poacher and gamekeeper problem”) and the regulations themselves may become biased. Similar but smaller problems can occur if a RBO combines commercial functions with policy making and planning.

No conflict of interests needs to occur if RBOs only manage infrastructure or implement policies and regulations. An example is the *Zambezi River Authority* (although its official functions include policy as well). The ZRA charges for the water that it delivers to the two electricity companies of Zambia and Zimbabwe. However, it is important that a good pol-

icy and good regulations are in place to ensure that the operations of such organisations do not cause negative side-effects for the environment or for riparians.

Public participation

The tasks of many RBOs include information exchange, and many have public relations and communication departments. Many also publish reports and maintain websites. In most cases, however, citizens and NGOs do not have a right of access to information. Information exchange is often limited to exchange between the states party to the agreement. Participation in decision-making is even more limited. Many RBOs may invite observers to their meetings, but these are usually international organisations, international donors, and other government bodies.

The exceptions to the rule are the North American bodies and the Rhine and Danube commissions. They have very informative websites, publish many reports, mostly free of charge, and often organise consultations (Assetto / Mumme 2000; Milich / Varady 1999; Mostert 2000a; Chenoweth / Bird 2000). International NGOs often participate actively in the discussions in the plenary commission and the various subsidiary organs. National NGOs are frequently involved in the national preparations for the meetings of the commission and in the national implementation of its decisions.

In Africa public participation has been organised in the framework of the *Lake Victoria Environmental Management Project*, organised at national and regional levels and financed largely by Sida. Moreover, water users associations have been established in different places, among others in the Lake Chad Basin (*Kano River Irrigation Project* and the *Hadejia River Barrage Project*) and the Senegal basin (Meinzen-Dick 1997; Wirkus / Böge 2005)

Effectiveness

Information about the effectiveness of international agreements is limited and, as far as can be seen, the experiences are mixed. Most of the organisational structures that have been agreed upon have been established, sometimes with some delay. Many substantive provisions have been implemented: river bends have been cut off, dams have been built, water allocation rules are being observed, etc. There are, however, exceptions (e.g. Adams 2000; Hey 2000). Some agreements are violated and others are simply not implemented. This is especially true for broad framework agreements.

The ultimate test of transboundary water management is whether it delivers the benefits foreseen and whether any significant negative side effects occur. Evidence is scarce and had already been discussed (Rhine, Senegal River). A key question is: benefits for whom?

3. The roles of development cooperation

As argued in the previous chapter, transboundary water management is driven by the perceptions and motivations of the major stakeholders. In addition, however, international donors can play a positive role (Savenije / van der Zaag 1998a). This chapter tries to promote reflection on their role. It discusses in which basins and in which phases of trans-

boundary water management donor involvement could be useful and which strategies can be used. Moreover, it discusses the instruments that can be used in the different strategies. Special attention is paid to the issue of donor coordination. But first, the available information sources are discussed.

3.1 Information sources

Basic information

Information on donor involvement is scarce. The most complete database on official development assistance and official aid is CRS / Aid of the OECD (www.oecd.org). CRS / Aid incorporates data from OECD's DAC (Development Assistance Committee) members and gives financial data up to the level of individual projects. It contains no information on the activities undertaken or on the national or transboundary character of the projects.

Much more detailed is the overview of the projects within Global Environment Facility's (GEF) *International Waters Focal Area* (www.iwlearn.net/projects). To date, 691.59 m US-\$ has been spent in the Focal Area (GEF 2004). The overview contains links to websites, gives e-mail addresses of contact persons, and can be searched in different ways.

The European Union has funded the preparation of an EU Donor Atlas with details per (EU) donor, sector and recipient (Development Strategies 2004). The Donor Atlas is based largely on CRS/Aid. It shows that in the water and sanitation sector Germany is the biggest EU donor, followed by the European Community, France and The Netherlands (301, 150, 141 and 120 m €/ year respectively). But like CRS, it gives little information about the types of activities that are supported.

In addition, many donors and implementing organisations have their own homepage, such as GTZ (www2.gtz.de/transwater/english/program.html), the European Union's Water Initiative (www.euwi.net), Sida (www.sida.se), USAID (www.usaid.gov) and Dutch Development Cooperation (www.minbuza.nl). With some effort, it is possible to find out in which basins these donors are active, but generally there is little or no information about individual projects.

Information specifically on the Limpopo, Orange River, Zambezi, Lake Victoria and Lake Chad can be found in Wirkus / Böge (2005).

Overseeing the different projects, it is clear that involvement in transboundary water management does not necessarily imply involvement at the international level. Many donor-sponsored activities take place at the national or even local level. This may reflect the role of national factors in transboundary water management (section 2.4), as well as the difficulties of addressing the international level directly. Sometimes no international organisations exist that could act as a counterpart or "beneficiary" (e.g. in the Nile basin: Jaspers, personal communication). Moreover, donor involvement at the international level may not be welcomed by all basin states.

Evaluations

Evaluations of donor involvement are very scarce. Often, individual projects are evaluated, but these evaluations are usually not publicly available. Systematic evaluations of programmes are even scarcer. Often evaluation is limited to the implementation aspects and the delivery of project outputs. The actual contribution to the development of transboundary water management is usually not assessed (Abrams et al. 2000).

The most informative evaluation is GEF's November 2004 evaluation of its *International Waters Focal Area* (GEF 2004). According to this study, the Focal Area has resulted in new legal regimes for a number of international resources. Most of the work, however, is not so spectacular and consists of "assisting countries to jointly undertake a series of processes with progressive commitments to action and instilling a philosophy of adaptive management. Further, it seeks to simplify complex situations into manageable components for action" (GEF 2004, 2). The study furthermore draws conclusions specifically on the *Focal Area*, which, however, may also be relevant for other programmes, such as the need for clear programme documentation and for sufficient funding for site visits by supervisory staff.

Moreover, important information can be gained from the report of a special session "Facilitating transboundary water management" at the 3rd World Water Forum in March 2003 (GTZ 2003, Box 2). This information is quite normative and consists of a mix of concepts, issues to be addressed and principles to be applied. The "how-question" is not really addressed. For instance, one of the conclusions of the special session was "acceptance of international protocol and other policy frameworks by all riparian countries." But how can international donors promote this?

This paper specifically addresses the how-question and discusses issues such as: where and when to intervene? And which strategies and instruments to use? On top of the information sources mentioned above, it uses the following information:

- the theory of transboundary water management presented in the previous chapter,
- insights and experiences gained in preventing violent conflict (DAC 1997; 2001; Bigdon / Korf 2001; Paffenholz 2001),
- three interviews were held with experts involved in development cooperation (see list of interviewed persons),
- anecdotal evidence (as indicated below).

3.2 Where to intervene?

In section 2.1 the main driving forces of transboundary water management were discussed: sustainable development potential, conflict potential and the perceptions and motivations of the main stakeholders. These driving forces also constitute major reasons for

Box 2: Conclusions of the session “Facilitating transboundary water management” at the 3rd World Water Forum (Kyoto, 20 March 2003: GTZ 2003)	
<p>Vision and ownership</p> <ul style="list-style-type: none"> – Ownership to ensure sustainability to the process – Ownership is reinforced by positive results and clear benefits from cooperation – Consensus model for decision making – Demand driven actions – riparian countries in the driver seat – Joined vision as basis for cooperation – Co-ownership with cooperating partners and stakeholders – There are divers levels of visions <p>Institutional set up</p> <ul style="list-style-type: none"> – Legal framework: Water Act – national water resources management plans – Harmonisation of policies – make legislation compatible between riparian states – Accept and build on existing regional and international agreements – Political process as an umbrella – Technical process as the proof of success on the ground – Role clarification <p>Capacity Building</p> <ul style="list-style-type: none"> – Build equal capacity within the countries – Support for appropriate capacity building, skill and knowledge transfer – Focus capacity building to areas where it is most needed – Basin study as a “starter” - information of good quality exchanged between riparian states – Basins study developed in a gradual and progressive manner – Involvement of commission in the basin study 	<p>Cultural understanding</p> <ul style="list-style-type: none"> – Cooperating partners respect and understand the various cultural differences – Understanding for cultural differences in respect of requirements by the cooperating partners <p>Finance</p> <ul style="list-style-type: none"> – Coordination of funds – Coordination of financial support by donors – bi- and multilateral – Direct benefits on the ground from financial inputs – Basket funding as instrument <p>Time</p> <ul style="list-style-type: none"> – Realistic time-frame for cooperation – Long term commitment <p>Framework</p> <ul style="list-style-type: none"> – Acceptance of international protocol and other policy frameworks by all riparian countries – Building a legal framework – A comprehensive frameworks must include all stakeholders – Framework providing for sustainability in engagements <p>Partnerships</p> <ul style="list-style-type: none"> – Partnerships at all levels – Active integration of people on the ground into the process of river basin development – Active partnerships with all relevant stakeholders <p>Flexibility</p> <ul style="list-style-type: none"> – Flexibility in integrating partners on different levels – Flexibility to allow a bottom up approach – Flexibility in planning <p>Political will to enter the process and get involved</p>

donor involvement. The bigger the development or conflict potential, the sooner involvement is justified. This potential partly depends on objective factors, such as the presence of good sites for dams or water stress. In the end, however, it depends on the perceptions of these objective factors by the main stakeholders and their motivations.

Additional reasons for donor involvement are the need for development, even when the potential is limited, and the capacity of the main stakeholders to forge and implement agreements. If this capacity is large, there is little need for donor involvement. Involvement is justified if this capacity is small and the pertinent donor can help to increase this capacity.

In a recent article, Wolf et al. (2003) have tried to identify basins with a high conflict potential. Using different data bases, they identified 1831 cooperative or conflictive international interactions related to water. They then tried to correlate these interactions with a number of other factors, such as per capita water availability, per capita GDP, climate and type of government (democratic or autocratic). None of these factors were correlated with conflicts. However, they did find some relation between the rate of change in river basins and conflicts. Conflicts were more common and more serious in basins that had recently been “internationalised” due to the brake up of old countries, and in basins where unilateral development took place (construction of dams) in the absence of a river basin organization or technical working group. Using rate of change as a criterion, they identified several basins at risk, including in Africa the Senegal, Lake Chad, Zambezi, Limpopo, Incomati, Orange, Okavango and Kuene basins.

3.3 When and how to intervene?

Donors could intervene in all stages of transboundary water management, but different strategies may be called for. Four different strategies can be distinguished (Bigdon / Korf 2001):

1. *Cooperation or “track I diplomacy”*

The cooperation strategy aims to support the conclusion of an international treaty or another formal agreement between the basin states. Typical instruments are mediation and facilitation.

2. *Collaboration or “track II diplomacy”*

The main concern in the collaboration strategy is not the conclusion of an international agreement *per se*, since many formal agreements are not implemented or do not deliver the expected benefits. Instead, the main concern is to resolve the underlying issues and achieve action on the ground. The collaboration strategy looks beyond the positions taken by the basin states to the underlying interests. It aims to support the basin states in developing a solution that satisfies the different interests involved and stands a good chance of actually being implemented. Instruments include the organisation of informal international dialogues, applied research and studies, and diverse forms of capacity building at the national level.

3. *Transformation or “track III diplomacy”*

Whereas the collaboration strategy tries to develop a solution within the existing social, political and economic structure, the transformation strategy targets this very structure, since it is often here where the root causes of international problems lie. For example, water scarcity may be a problem because the economy of the basin countries depends on very water-intensive crops. Donor involvement could then consist of promoting the introduction of less water-intensive crops. All attention in a transformation strategy goes to the national, regional and local level. Instruments include diverse forms of capacity building, financial assistance for e.g. technology and for developing reform strategies.

Table 1: When to intervene and which strategy to use?		
Donor characteristics Basin states characteristics	Donors <u>without</u> significant political and financial resources	Donors <u>with</u> significant political and financial resources
Unwillingness of one or more basin states to enter into discussions	– Transformation strategy	– Transformation strategy – Cooperation strategy (convening for informal discussions)
Willingness to enter into informal discussions	– Transformation strategy – Collaboration strategy	– Transformation strategy – Collaboration strategy – Cooperation strategy (convening for formal negotiations)
Willingness to enter into formal negotiations	– Transformation strategy – Collaboration strategy – Cooperation strategy	– Transformation strategy – Collaboration strategy – Cooperation strategy (including “power mediation”)
After conclusion of an agreement	– Transformation strategy – Collaboration strategy – Continuing support	– Transformation strategy – Collaboration strategy – Continuing support

4. *Continuing support*

Even after basin states have agreed to cooperate, donor support may be necessary. This may include financing the operation of a river basin organization and support for development projects that have been agreed upon.

The different strategies are not mutually exclusive and may succeed each other. When international relations are polarised and basin states are unwilling to enter into discussions, the only option for most donors is to support transformation in one or more of the basin states. Some donors – those with significant political or financial resources – may also try to convene the parties and start informal discussions. Donors may also try to support informal technical cooperation, but if relations are much polarised, even cooperation at the technical level is problematic.

Once basin states are willing to have informal discussions, track II diplomacy becomes an option. Training courses may be held, informal meetings can be organised, etc. Influential donors may use their influence to promote the start of formal negotiations (track I diplomacy). Yet, track III diplomacy may continue as well.

Once formal negotiations have started, all donors may intervene directly in the negotiations as mediator or facilitator if requested by the basin states. Influential donors may use their influence to stimulate the conclusion of an agreement. Throughout the formal negotiations track II and track III diplomacy may continue.

After the conclusion of an agreement, donors may provide continuing support in the form of financial support for a RBO or loans for development projects. Moreover, track II and III diplomacy may continue (see Table 1).

Within each strategy different instruments can be used. Box 3 gives an overview. They are discussed in more detail in the following sections.

Box 3: Overview of instruments for development cooperation	
<p><i>Exchange of expertise and capacity building</i></p> <ul style="list-style-type: none"> – (Feasibility) studies and research – Data exchange – Long-term / short-term experts – Education and training – Twinning <p><i>Direct intervention</i></p> <ul style="list-style-type: none"> – Conciliation – Consultation – Pure mediation – Power mediation 	<ul style="list-style-type: none"> – Arbitration – Peacekeeping <p><i>Capital</i></p> <ul style="list-style-type: none"> – Grants or loans for infrastructure projects – Debt relief (debt rescheduling, debt refinancing, debt reduction and / or debt service reduction) <p><i>Financial support for...</i></p> <ul style="list-style-type: none"> – developing cooperative institutions – operations of a RBO – data sharing and information management

3.4 Exchange of expertise and capacity building

In all phases of transboundary water management expertise plays a role. Different types of expertise may be provided or exchanged, concerning the substantive issues at stake – hydrological, technical, economic, agronomical expertise, etc. – and concerning governance issues – conflict resolution, collaboration, legal and institutional design, etc. The expertise may be presented in an authoritative way – as a way of informing the stakeholders what to do –, or in a facilitative way – as a way of enhancing learning by the stakeholders (Huxham 1996).

Instruments to improve expertise and management capacity include:

- (feasibility) studies and research,
- data exchange (Grossmann 2005),
- long-term / short-term experts,
- education and training,
- twinning (Box 4).

To be effective, exchange of expertise and capacity building ought to be part of a bigger strategy for water management, to prevent that “the consultants came in, did their job and left, leaving little other than reports behind” (Lamoree / Nilsson 2001 on the *Zambezi Action Plan*, quoted in Wirkus / Böge 2005). Another pitfall to prevent is to train *individuals* when the major challenge is *organisational* development.

Box 4: Twinning of river basin organisations

A form of capacity building that recently got a lot of attention is twinning. Twinning in a strict sense implies entering into and maintaining a structural relation between two organisations. These could be two international RBOs, but also two national water management agencies or two water ministries. Twinning in a broader sense includes networking activities involving more than two parties and occasional visits and other exchanges of experiences.

Twinning of RBOs received a lot of attention in the preparations for the 2nd World Water Forum in The Hague in 2000. At the Forum, eight organisations signed a Declaration of Intent, including four international organisations (*Lake Chad Basin Commission, the Zambezi Valley Development Authority, the International Commission for the Protection of the Danube River and the International Commission for the Protection of the Rhine*). Until now there is only one example of twinning in a strict sense involving two international RBOs: the *International Commission for the Protection of the Rhine* and the *Rio de la Plata Commission*. In addition, the OMVS (Senegal River) has a twinning agreement with the *Agence de l'Eau Seine Normandie*.

The first contact between the *International Commission for the Protection of the Rhine* (ICPR) and the *Rio de la Plata Commission* was made by the latter commission in 2001. On 17 March 2003, at the 3rd World Water Forum in Kyoto, a declaration of intent was signed. A draft Twinning agreement and work programme were ready in summer 2003, but could not yet be signed. The activities up to then had been financed through the Dutch programme "Partners for Water", but this programme was to end by 2004. The secretariat of the ICPR needed its resources to execute its tasks under the new European Water Framework Directive. Moreover, one member state feared that twinning would amount to nothing more than a "tea party".

In July 2003 these issues were solved. Switzerland had become interested in financing twinning activities and Germany expressed its willingness to finance concrete activities. The twinning agreement itself was signed in June 2004. The activities foreseen focus on flood and drought management, monitoring of water quality, harmonisation of transboundary water quality standards, institutional capacity building and public participation. On these issues documents will be exchanged, a number of workshops will be organised and a few secondments will be organised. A detailed work programme for the next 5 to 10 years is planned to be finalised in February 2005 in Buenos Aires.

Apart from this, in January 2004 the TWIN-basin project started, an associated programme of the *Global Water Partnership*, sponsored by the European Commission (6th Framework Programme) and coordinated by the *International Water Office* in Paris. Rather than a traditional twinning project, it is a network of, eventually, 150 RBOs, universities and other partners. Hundred and twenty scholarships of between 0.5 and 2 months will be disbursed to facilitate the mobility of executives between basins. The project will pay specific attention to transboundary basins. Partners include at this moment two international RBOs: the *Inter-state Coordination Water Commission* (Aral Sea) and the OMVS (Senegal River).

3.5 Direct intervention

Track I entails and Track II diplomacy may entail direct intervention by international donors in transboundary water management. Donors may provide a communicative link between antagonistic parties, help in clarifying issues and developing solutions, facilitate the negotiation of agreements, use leverage or coercion; arbitrate at the request of parties in the conflict, or even send "peacekeeping forces" (Box 5).

Whether direct intervention has any chance of success and which form to choose depends on a number of factors:

- whether there is a development potential, a conflict potential or an actual conflict;
- whether the principal stakeholders have agreed to start (informal) talks or not;
- who initiated the intervention: all stakeholders, a few or only one stakeholder, or the intervening party?
- whether the intervening party only has informal influence or also financial resources and political influence.

Box 5: A taxonomy of third-party intervention (Fisher 2001, 11)

1. *Conciliation*, in which a trusted third-party provides an informal communicative link between the antagonists for the purposes of identifying the issues, lowering tension and encouraging direct interaction, usually in the form of negotiation.
2. *Consultation*, in which the third-party works to facilitate creative problem-solving through communication and analysis, making use of human relations skills and social-scientific understanding of conflict aetiology and dynamics.
3. *Pure Mediation*, in which the third-party works to facilitate a negotiated settlement on substantive issues through the use of reasoning, persuasion, effective control of information, and the suggestion of alternatives.
4. *Power Mediation*, which encompasses pure mediation but also moves beyond it to include the use of leverage or coercion on the part of the mediator in the form of promised rewards or threatened punishments, and may also involve the third-party as monitor and guarantor of the agreement.
5. *Arbitration*, wherein the third-party renders a binding judgment arrived at through consideration of the individual merits of the opposing positions and then imposes a settlement which is deemed to be fair and just.
6. *Peacekeeping*, in which the third-party provides military personnel in order to monitor a ceasefire or an agreement between antagonists, and may also engage in humanitarian activities designed to restore normalcy in concert with civilian personnel, who may also assist in the management of political decision-making processes such as elections.

Arbitration and peace-keeping are only an option under very specific circumstances, when serious conflicts have already developed. With respect to the other forms of direct intervention, the intervener may offer several services to the parties:

- *Helping the parties to analyse their positions and assess their interests*
The aim could be to prevent polarisation of positions in the negotiations (“positional bargaining”) and promote the exploration of possible integrative solutions on the basis of the interests that underlie the different positions (“integrative bargaining”; Fisher / Ury 1981).
- *Organising and chairing meetings and arranging other practical matters in an expert and impartial way*
The facilitator (conciliator, etc.) may offer physical space where the parties can meet in private and freely explore possible integrative solutions (Alam 1998). Moreover, in the case of large cultural differences he or she may act as a “cultural interpreter” and thus prevent communication problems (Cohen 1993).
- *Presenting ideas and proposal on behalf of one of the disputants to the other disputants*
Indirect communication may be called for when for reasons of national politics international talks are not possible, when the key players have bad interpersonal relations and when making concessions directly to the other parties would be seen as “loosing face” (Alam 1998; Cohen 1993).
- *Legitimizing procedures and outcomes*
Sometimes a facilitator may be better positioned to explain an agreement to domestic audiences than one of the parties to the agreement, especially when the agreement differs from positions taken previously in public.
- *Suggest, propose or develop solutions*
This only applies to mediation. Responsibility remains with the disputants themselves.

Box 6: World Bank involvement in the Indus conflict between India and Pakistan

In April 1948, after the partition of India and Pakistan, an international dispute arose as India, the upstream state, stopped water supply to Pakistani irrigation canals. This occurred in a general atmosphere of hostility, revolving around the disputed area of Kashmir. Yet, water was important too. India wanted to develop more irrigation areas and Pakistan wanted to do the same and in addition safeguard its present water uses.

The World Bank became involved in the conflict in 1949 when India applied for loans for irrigation development. Later, Pakistan applied for loans as well. The World Bank could not grant these loans because the use of disputed water was at stake. In 1951, the World Bank was officially asked by India and Pakistan to offer its “good offices.”

The ensuing negotiations resulted in the *Indus River Basin Treaty* of 1960. Under this treaty, the water of the three Eastern Rivers (tributaries) was allocated to India and the water of the three Western Rivers to Pakistan. Since Pakistan used water from the Eastern Rivers for irrigation, extensive water transfer works were necessary on Pakistani territory from the Western to the Eastern Rivers. While perhaps not economically optimal, these works did allow Pakistan to develop additional irrigation and generate 3 000 MW of hydropower. The works were to be financed from two loans to Pakistan, from a financial contribution by India and from the *Indus Basin Development Fund*, to which Germany and other international donors made substantial contributions. Moreover, the Permanent Indus Commission was established, which was modelled after the *International Joint Commission* (United States – Canada).

It might be difficult to replicate the experiences in the Indus basin. The World Bank had special leverage because of its financing power. Moreover, the World Bank was still a relatively young institution and was interested to develop its reputation. In later years, the World Bank was prepared to offer its good offices in the Jordan Valley and the Ganges Basin, but it was not asked to. At the moment the World Bank, together with other donors, is trying to develop cooperation in the Nile basin, the main carrot being huge development projects when the basin states can agree on a shared vision (Jaspers, personal communication; World Bank 2004; Nicol 2003; Alaerts 2000).

The best-known example of mediation (or “power mediation”; Fisher 2001) is the involvement of the World Bank in the Indus conflict between Pakistan and India (Alam 1998; Baxter 1967, see Box 6). Smaller donors, however, do not have the same leverage. If they are to succeed as facilitator, or even to be asked as facilitator, they have to rely completely on a reputation of impartiality and expertise.

3.6 Capital

The Indus example shows that “power mediation” is often accompanied by the transfer of capital or promises of transfer. Transfer of capital may take several forms:

- grants or loans for infrastructure projects,
- debt rescheduling,
- debt refinancing,
- debt reduction and / or debt service reduction.

The three latter forms are also called debt relief.

By making grants, loans and debt relief conditional, the donors can to some extent influence the policy and management of the recipients. The World Bank, for instance, requires for projects on international waterways that all riparian states are notified and have voiced no objection. If there are objections, the World Bank staff assesses whether the project will cause “appreciable harm” to the interests of the other riparians. In appropriate cases,

the World Bank may appoint one or more independent experts to examine the project (World Bank 2001a; 2004, 78; 2001b)

Grants and loans for infrastructure projects can promote international cooperation, but infrastructure projects can also cause international conflicts. Prior notification as required by international law (Vinogradov et al. 2003) and the World Bank may help to prevent conflicts. In addition, environmental and social impact assessment can be useful. The World Bank has a special policy on this (World Bank 1999a; b), but other donors often require these kinds of impact assessments as well, or conduct them themselves (e.g. International Dialogue Forum 1998).

3.7 Financial support

In addition to capital, international donors may also provide financial support for specific activities. These activities can include:

- developing cooperative institutions,
- operations of a river basin organization,
- data sharing and information management (Grossmann 2005),
- Water Cooperation Facility (Box 7).

The costs of developing cooperative institutions and the operational costs of a RBO are significant. Many international as well as national meetings are necessary, involving high travel and subsistence costs. Moreover, staff, office space and office equipment may be needed for the secretariat. Reports may have to be published, translation may have to be funded, an Internet site may have to be set up and maintained, and so on. (The financing of RBOs in general has been discussed in section 2.6.)

International donors have financed parts of the development and operational costs of many RBOs. This includes (Wirkus / Böge 2005):

- the development of the *Limpopo Watercourse Commission* (GTZ),
- *Lake Victoria Fisheries Organisation* (World Bank / GEF through the *Lake Victoria Fisheries Research Project* and FAO),
- *Lake Victoria Fisheries Research Project* (International Development Association and GEF, later Norway and Sweden),
- the development of the *Protocol for the Sustainable Development of Lake Victoria* (Sida).

Financial support for the development and operation of a RBO can benefit the persons involved in the form of employment, international travel and per diems that exceed the subsistence costs and complement meagre regular salaries. This can provide extra stimuli for transboundary cooperation. Yet, if they are the only reason for cooperation, the financial support will not be very effective.

Box 7: The Water Cooperation Facility

A relatively recent development in the field of transboundary water management is the development of a *Water Cooperation Facility*. The idea for an international facility was first launched at the Second World Water Forum in The Hague in 2000 by the president of the *World Water Council*. The role of the *Facility* would be to assist nations with current and potential transboundary water issues, to help bridge gaps between the concerned parties, and to develop and promote common interest for win-win solutions.

Early 2003 the idea was taken up again, and at the Third World Water Forum in Kyoto in March 2003, the Director General of UNESCO announced the creation of the *Water Cooperation Facility*. Following, ideas were developed on how it should be organised and funded, and most importantly, what it should do. A survey was held among RBOs, NGOs, national and international government bodies and academics on all continents about the desired services of such a *Facility* (Robertson 2004). The top seven of desired services (out of 24 in total) was as follows:

1. Designing, implementing and adapting institutional and legal frameworks
2. Capacity building
3. Basin-wide access to knowledge and tools
4. Convening parties
5. Performing joint research projects (modelling, data collection)
6. Creating joint development ventures
7. Research for the anticipation / prevention / resolution of water conflicts

Arbitration was the least popular service and mediation / facilitating the fourth least popular service. Traditional Track I diplomacy therefore does not seem to be in very high demand. This conclusion was confirmed at the *Water Cooperation Facility Meeting* in Delft on 25 and 26 November 2004.

The initiative has until now brought together a number of renowned experts. Presently, further steps are taken to develop the *Facility*, coordinated by UNESCO. The future will tell how it will develop and whether sufficient funds can be attracted.

3.8 Donor coordination

Whenever more than one donor is active in a specific basin, donor coordination becomes an issue. Donor coordination can significantly improve donor effectiveness:

- It results in an overview of ongoing initiatives.
- It allows donors to tackle bigger problems by pooling resources.
- It can prevent duplication of efforts and competition between donor projects.
- It can help to identify and fill in gaps.
- It can reduce the management burden for beneficiaries.

Despite these functions, donor coordination is often problematic (e.g. the *Zambezi Action Plan / Zambezi Commission Lake Victoria Environmental Management Project*; Wirkus / Böge 2005). Possible causes include the following:

- Everybody likes to coordinate and play a leading role, but nobody likes to be coordinated.
- Considerations other than donor effectiveness may prevail, such as international reputation or promoting export.
- Policies and priorities of the different donors may differ.

- Internal accounting procedures of donors may result in inflexibility.
- Donors may not be able to make long-term commitments.
- Information exchange procedures and platforms to discuss coordination issues may be lacking.
- Donors have limited human resources and may have other priorities than coordination.

These causes may not be relevant in all basins and for all donors. Sometimes, donors do coordinate their activities. A recent development in this respect is to give a larger role to the beneficiaries and base donor involvement on the needs expressed by them (e.g. European Commission 2005; European Council / European Commission 2000). One example is the EU Water Initiative. As part of this initiative, an African – EU strategic partnership on water affairs and sanitation has been established, involving on the African side the *African Ministerial Council on Water* (AMCOW). The strategy for the 2004-2005 work programme was agreed upon by AMCOW and EU-representatives on 13 December 2003 in Addis Abeba.

Involving the beneficiaries in project development can not only help to coordinate donor activities, but it can also improve ownership by the beneficiaries. Yet, it is no panacea. Beneficiaries do not necessarily cooperate better among themselves than donors do (see for example GEF 2004, footnote 28). If more than one beneficiary is involved, one option is to conclude an agreement between the different donors and the different beneficiaries. An example is the Partnership Agreement concerning Lake Victoria, concluded between the *East African Community* (Kenya, Tanzania and Uganda) and the donors Sweden, France, Norway and the World Bank (Wirkus / Böge 2005)

An essential first step towards better donor coordination is to improve information supply on the individual donor initiatives. Internet nowadays offers ample possibilities for this, but these are not yet fully used (see section 3.1; Muro / Scheumann 2005).

4. Recommendations for development cooperation

This chapter contains the conclusions of the paper in the form of recommendations for development cooperation. Recommendations are always given from a specific perspective. The perspective used in this paper can be summarised in two points:

- Normatively: The main purpose of donor involvement in transboundary water management is to promote the development of effective, just and sustainable management institutions for transboundary basins and aquifers.
- Descriptively: The development of effective institutions is driven primarily by the perceptions and motivations of the major stakeholders in the basin (see chapter 2).

The recommendations given in this chapter do not tell international donors what to do. Instead, the recommendations suggest issues that need to be addressed and propose specific actions that can be taken. They are meant to promote reflection by the donors, who should decide for themselves, since they are responsible and also possess information that outsiders lack.

1. Nosce te ipsum

Nosce te ipsum, “know thyself”, is the first step towards effective donor involvement. Donors may have motivations other than the promotion of effective transboundary water management. These should be recognised explicitly. Only then is it possible to see whether and how they can be accommodated without jeopardising the promotion of effective transboundary water management, or whether they should be given a lower priority.

Donors should also recognise their own possibilities and limitations, such as their financial resources, political influence, expertise and experiences. These factors influence in which basins and in which stages of transboundary water management they can make a contribution, and which strategies and instruments they can use (section 3.3).

“Know thyself” is important for all stages of transboundary water management, for all donors and for all forms of donor involvement. However, it deserves special attention when evaluating past donor involvement (recommendation 4) and deciding on new programmes (recommendation 5).

2. Donors should build on developments within the basin and promote ownership

Secondly, donors should always realise that they cannot organise transboundary water management from the outside. They can influence transboundary water management in several ways, but if their activities are to be effective, they should build on what is already available in the basin. To be effective, projects supported by donors should not be donor-driven, but should be owned by the countries themselves.

3. All stakeholders should be involved, not just “states”

“States” are legal constructs with a symbolic value. In practice, specific groups and individuals are involved in transboundary water management: individual politicians, sectoral government bureaucracies, regional and local governments, farmers, electricity companies, etc. Some may be involved in international negotiations, others may be needed to get international agreements ratified or implemented and still others may be affected by transboundary water management but lack the means to exert any influence. To improve the chances of effective and just agreements, all these stakeholders should be involved.

This being said, it is no easy task to involve all stakeholders in transboundary water management. International basins are huge, the costs of organising stakeholder participation are high, not all stakeholders are in a position to make optimal use of the opportunities that are offered, and social and political circumstances may not favour stakeholder involvement. But before any development project is approved, proper stakeholder analysis is needed to prevent that the project is “captured” by one national group (GEF 2004, 31). Moreover, in the framework of environmental and social impact assessment procedures the main categories of stakeholders should be consulted. Furthermore, large national and international NGOs could become involved more actively. Finally, stakeholder involvement can be facilitated by decentralising decision-making as much as possible (see section 2.6 and e.g. Assetto / Mumme 2000; Creighton 2000; Drafting Group 2002; IAP2 2004; Meinzen-Dick 1997; Mostert 2003a).

International donors can require different forms of public participation and involve different stakeholders in their own activities, provided there is sufficient willingness among the authorities in the basin. If this willingness is completely lacking, public participation cannot simply be imposed and donors may want to consider other basins to become involved in.

4. *Evaluate!*

Improving the effectiveness of donor involvement requires that past experiences are collected and evaluated. Evaluation should not be limited to the implementation of projects and the production of project outputs. In addition, the project outcomes in terms of promoting transboundary water management should be assessed. This is methodologically very difficult but too important for not trying. A first step would be to collect and analyse the individual project evaluations. This can be complemented with questionnaires, interviews with the donor staff and beneficiaries and site visits. The costs would be significant but can be offset by increasing cost-effectiveness of donor involvement.

5. *Review!*

Ideally, donors should only be involved in those basins where the development needs and conflict potential are biggest and where the pertinent donor has the best possibilities to contribute to the development of effective institutions. In practice, donors are already involved in a number of basins and often have made long or medium-term commitments. It is, however, important to review regularly whether their activities are still the most appropriate. Different basins may benefit more from donor involvement or different strategies and instruments may need to be used.

6. *Publicise on the Internet and coordinate!*

Evaluations and reviews and details about ongoing and planned development projects should be published on the Internet. This will facilitate learning from other donors and coordination of donor activities. Moreover, detailed information on individual projects, ongoing and planned, should be published too. This would facilitate better donor coordination. A useful format for project information can be found on the IWLearn site (www.iwlearn.net/projects).

This IWLearn site now contains primarily information about GEF-projects. If agreed with IWLearn and GEF, other projects could be added. Alternatively, a new and bigger site could be developed in cooperation with IWLearn and GEF. Germany could propose in the framework of the *EU Water Initiative* or the Development Assistance Committee (DAC) of OECD that all donors publish their project details on this site.

An Internet site may not be enough for improving donor coordination. It should also receive ample attention in the regular evaluations and reviews and be discussed amply among donors. However, an Internet site is an important first step. Individual donors would have no reason anymore for not contacting other donors.

Bibliography

- Abrams, L. / L. Peck / K. Sandström* (2000): Swedish Initiative for Support of Sustainable Management of Water Resources in Southern Africa; Sida Evaluation 00/40, Stockholm: Sida
- Adams, A.* (2000): Social Impacts of an African Dam: Equity and Distributional Issues in the Senegal River Valley. Working Paper World Commission on Dams, Thematic Reviews, Social Issues. <http://www.damsreport.org/docs/kbase/contrib/soc193.pdf>; access 24.05.05
- Alaerts, G. J.* (2000): The role of external support agencies (international donors) in developing cooperative arrangements, in: E. Mostert (ed.) (2000): River Basin Management; Proceedings of the International Workshop on River Basin Management (The Hague, 27–29 October 1999). IHP-V, Technical Documents in Hydrology, No. 31, Paris: UNESCO, 141–159
- Alam, U. Z.* (1998): Water Rationality: Mediating the Indus Waters Treaty. PhD thesis, Durham: Department of Geography, University of Durham
- Anon.* (2001): Berghof Handbook for Conflict Transformation, Berlin: Berghof Research Centre for Conflict Transformation
- Argyris, C. / D. Schön* (1996): Organizational Learning II. Theory, Method and Practice, Reading, Massachusetts: Addison-Wesley
- Assetto, V. J. / S. P. Mumme* (2000): Decentralization, public participation and transboundary water management in Hungary and Mexico, in: J. Gayer (ed.): Participatory Processes in Water management; Proceedings of the Satellite Conference to the World Conference on Science (Budapest, Hungary 28–30 June 1999). Technical Documents in Hydrology, No. 30, Paris: UNESCO, 41–60
- Baxter, R. R.* (1967): The Indus Basin, in: A. H. Garretson / R. D. Hayton / C. J. Olmstead (eds.): The Law of international drainage basins. Dobbs Ferry, N. Y.: Institute of International Law, New York University School of Law, Oceana Publications, 443–485
- Bernauer, T. / P. Moser* (1996): Reducing Pollution of the Rhine River: The Influence of International Cooperation, WP-96-7, Laxenburg: IIASA
- Bigdon, C. / B. Korf* (2001): The Role of Development Aid in Conflict Transformation: Facilitating Empowerment Processes and Community Building, in: Berghof Handbook for Conflict Transformation, Berlin: Berghof Research Centre for Conflict Transformation
- Budge, I.* (1996): The new challenge of direct democracy, Cambridge, MA: Polity Press
- Burchi, S. / M. Spreij* (2003): Institutions for International Freshwater management, Paris: UNESCO
- Chenoweth, J. / J. Bird* (2000): Public participation in multi-jurisdictional river basins: the Murray-Darling and Mekong. Series Public participation in multi-jurisdictional river basins: the Murray-Darling and Mekong, Melbourne, 12–16 March 2000
- Cohen, R.* (1993): An Advocate's View, in: G. Faure / J. Z. Rubin (eds.): Culture and negotiation: the resolution of water disputes, Newbury Park, Calif.: SAGE Publications, 22–37
- Craps, M. (ed.)* (2003): Social learning in river basin management; HarmoniCOP WP2 reference document. Leuven: COPS. <http://www.harmonicop.info>; access 24.05.05
- Creighton, J. L.* (2000): Tools and techniques for effective public participation in water resources decision making, in: J. Gayer (ed.): Participatory Processes in Water management; Proceedings of the Satellite Conference to the World Conference on Science (Budapest, Hungary 28–30 June 1999). Technical Documents in Hydrology, No. 30, Paris: UNESCO, 147–166
- DAC* (1997): Conflict, Peace and Development Co-operation on the Threshold of the 21st Century, in: DAC (2001): Helping Prevent Violent Conflict; The DAC Guidelines, Paris: OECD
- DAC* (2001): Helping Prevent Violent Conflict: Orientations for External Partners, in: DAC: Helping Prevent Violent Conflict; The DAC Guidelines, Paris: OECD
- Development Policy Forum* (1998): Berlin Recommendations. Experiences of International River and Lake Commissions: Lessons Learned, Challenges and Issues for the Future, Berlin, 27 to 30 September 1998
- Development Strategies* (2004): EU Donor Atlas; Mapping Official Development Assistance. http://europa.eu.int/comm/development/body/tmp_docs/Donor_Atlas.pdf#zoom=100, access 24.05.05

- Dieperink, C.* (1997): Tussen zout en zalm lessen uit de ontwikkeling van het regime inzake de Rijnvervuiling, Amsterdam: Thesis Publishers
- (1999): From Open Sewer to Salmon Run: Lessons From the Rhine Water Quality Regime, in: *Water Policy*, 471–485
- Drafting Group* (2002): Guidance on Public Participation in relation to the Water Framework Directive; Active involvement, consultation, and public access to information. Prepared in the Framework of the Common Implementation Strategy of the European Commission and the EU Member States. <http://forum.europa.eu.int/Public/irc/env/wfd/library>; access 24.05.05
- European Commission* (2005): Consultation on the future of EU development policy; Issue paper
- European Council / European Commission* (2000): The European Community's Development Policy – Statement by the Council and the Commission. COM (2000)212
- Faure, G. / J. Z. Rubin (eds.)* (1993): Culture and negotiation: the resolution of water disputes. Newbury Park, Calif.: SAGE Publications
- Fisher, R. / W. Ury* (1981): Getting to yes: negotiating agreement without giving in. Boston: Houghton Mifflin
- Fisher, R. J.* (2001): Methods of Third-Party Intervention, in: *Berghof Handbook for Conflict Transformation*. Berlin: Berghof Research Centre for Conflict Transformation
- Garretson, A. H. / R. D. Hayton / C. J. Olmstead* (1967): The Law of international drainage basins, Dobbs Ferry, N. Y.: Institute of International Law, New York University School of Law, Oceana Publications
- Gayer, J. (ed.)* (2000): Participatory Processes in Water management; Proceedings of the Satellite Conference to the World Conference on Science (Budapest, Hungary 28–30 June 1999), Technical Documents in Hydrology, No. 30, Paris: UNESCO
- GEF* (2004): Program Study on International Waters. Global Environment Facility
- Golub, J. S.* (1996): Why Did They Sign?; Explaining EC Environmental Policy Bargaining. EUI Working Paper RSC No. 96/52, San Domenico, Italy: European University Institute
- Gray, B.* (1989): Collaborating: finding common ground for multiparty problems, Jossey-Bass management series, San Francisco: Jossey-Bass
- Grossmann, M.* (2005): Promoting information sharing for transboundary river basin management in Africa, Discussion Paper, Bonn: Deutsches Institut für Entwicklungspolitik
- GTZ* (2003): Session report session facilitating transboundary water management. 3rd World Water Forum, Kyoto, 20 March 2003. <http://ap.world.water-forum3.com/themeWwf/en/sessionDetail.do?id=183>; access 24.05.05
- Hassan, F. A. et al.* (2003): History and Future of Shared Water Resources. Paris: UNESCO-IHP
- Hey, E.* (2000): International Water Law Placed in a Contemporary Context: The Gabčíkovo-Nagymaros Case, in: *Physics and Chemistry of the Earth*, 303–308
- Hisschemöller, M. / J. Cees / M. Midden* (1989): Technological risk, policy theories and public perception in connection with the siting of hazardous facilities, in: C. Vlek / G. C. Cvetkovich (eds.): *Social Decision Methodology for Technological Project*, Dordrecht / Boston: Kluwer, 173–194
- Huxham, C.* (1996): Group Decision Support for Collaboration, in: C. Huxham (ed.): *Creating collaborative advantage*, London: Sage, 141–151
- IAP2* (2004): IAP2 Public Participation Toolbox. Series IAP2 Public Participation Toolbox. <http://www.iap2.org/practitionertools/toolbox.pdf>; access 24.05.05
- International Dialogue Forum* (1998): Petersberg Declaration. 1st Petersberg Round Table. Cooperation for Transboundary Water management, Petersberg, 3–5 March 1998
- Keohane, R. O. / E. Ostrom (eds.)* (1995): Local commons and global interdependence: heterogeneity and cooperation in two domains, London; Thousand Oaks, Calif.: Sage Publications
- Klaphake, A.* (2005): Kooperation an internationalen Flüssen aus ökonomischer Perspektive: Das Konzept des Benefit Sharing, Discussion Paper, Bonn: Deutsches Institut für Entwicklungspolitik
- Lamoree, B. / A. Nilsson* (2001): A Process Approach to the Establishment of International River Basin Management in Southern Africa. Paper presented at NELSAP Workshop, Stockholm 11–12 December 2001

- LeMarquand, D. G.* (1977): International rivers: the politics of cooperation. Vancouver, B. C.: Westwater Research Centre, University of British Columbia
- Libiszewski, S.* (1995): Water Disputes in the Jordan Basin Region and their Role in the Resolution of the Arab-Israeli Conflict. ENCOP Occasional Paper No. 13. Zürich: ETH
- Marty, F.* (2001): Managing international rivers: problems, politics and institutions, Bern; New York: Peter Lang
- Meijerink, S. V.* (1999): Conflict and cooperation on the Scheldt river basin a case study of decision making on international Scheldt issues between 1967 and 1997, Dordrecht: Kluwer
- Meinzen-Dick, R.* (1997): Farmer participation in irrigation; 20 years of experience and lessons for the future, in: Irrigation and Drainage Systems, 103–118
- Milich, L. / R. G. Varady* (1999): Openness, Sustainability and Public Participation; New Designs for Transboundary River-Basin Institutions, in: Journal of Environment and Development, 258–306
- Moe, C.* (2000): From Scorched Earth to Flooded Earth: The Generals' Dam on Burma's Salween River. Norwegian Burma Council / Salween Watch coalition. <http://www.dams.org/kbase/submissions/show-sub.php?rec=SOC057>; access 25.05.05
- Mostert, E.* (2000a): The management of International River Basins: How can the public participate?, in: J. Gayer (ed.): Participatory Processes in Water management; Proceedings of the Satellite Conference to the World Conference on Science (Budapest, Hungary 28–30 June 1999), Technical Documents in Hydrology, No. 30, Paris: UNESCO, 61–76
- (2000b): River Basin Management; Proceedings of the International Workshop on River Basin Management (The Hague, 27–29 October 1999). IHP-V, Technical Documents in Hydrology No. 31, Paris: UNESCO
- (2003a): The Challenge of Public Participation, in: Water Policy, 179–197
- (2003b): Conflict and co-operation in international freshwater management; A global review, in: Journal of River Basin Management, 1–12
- (ed.) (2003c): Public Participation and the European Water Framework Directive; A framework for analysis. Inception report of the HarmoniCOP project. <http://www.harmonicop.info>; access 24.05.05
- Muro, M. / W. Scheumann* (2005): Vorbereitung eines Yearly Sourcebook on African River Basin Organizations, Discussion Paper, Bonn: Deutsches Institut für Entwicklungspolitik
- Nicol, A.* (2003): The Nile: Moving Beyond Cooperation, Paris: UNESCO-IHP
- Ostrom, E.* (1990): Governing the commons: the evolution of institutions for collective action. The Political economy of institutions and decisions, Cambridge; New York: Cambridge University Press
- Paffenholz, T.* (2001): Designing Transformation and Intervention Processes, in: Berghof Handbook for Conflict Transformation, Berlin: Berghof Research Centre for Conflict Transformation
- Renn, O. / T. Webler (ed.)* (1995): Fairness and competence in citizen participation: evaluating models for environmental discourse, Dordrecht; Boston: Kluwer Academic
- Robertson, K.* (2004): Design Considerations for an International Facility to Promote Cooperation Between States Sharing a Common Water Resource; A feasibility Study on the International Water Cooperation Facility Initiative, MSc Thesis UNESCO-IHE Institute for Water Education, Delft
- Sadoff, C. W. / D. Grey* (2002): Beyond the river: the benefits of cooperation on international rivers, in: Water Policy, 389–403
- Savenije, H. / P. van der Zaag* (1998): The Management of Shared River Basins; Background Paper for the Maseru Conference, in: H. Savenije / P. van der Zaag (eds.): The Management of Shared River Basins; Experiences form SADC and EU. Focus on Development 8, Den Haag: Ministerie van Buitenlandse Zaken, 23–69
- Trottier, J.* (2003): The Need for Multiscalar Analysis in the Management of Shared Water Resources, in: F.A. Hassan et al. (ed.): History and Future of Shared Water Resources, Paris: UNESCO-IHP
- UN* (1997): United Nations Convention on the Non-navigational Uses of International Watercourses, United Nations Document A/51/869, April 11, 1997
- US Department of Labor* (2000): 2000 Update on Forced Labor and Forced Relocations. <http://www.dol.gov/ILAB/media/reports/ofr/burma2000/forced.htm>; access 24.05.05

- Várkonyi, A.* (1990): A Monster Born of Politics, in: *NHQ; The New Hungarian Quarterly*, 68–80
- Victor, D. G. / K. Raustiala / E. B. Skolnikoff* (1998): The implementation and effectiveness of international environmental commitments: theory and practice. Laxenburg, Austria / Cambridge, MA: International Institute for Applied Systems Analysis/ MIT Press
- Vinogradov, S. / P. Wouters / P. Jones* (2003): Transforming Potential Conflict into Cooperation: The Role of International Water Law. IHP-VI | Technical Documents in Hydrology | PCCP series | no 2. Paris: UNESCO. <http://www.unesco.org/water/wwap/pccp/index.shtml>, access 24.05.05
- Vlek, C. / G. C. Cvetkovich (ed.)* (1989): *Social Decision Methodology for Technological Projects*. Dordrecht / Boston: Kluwer
- Webler, T. / O. Renn* (1995): A Brief Primer on Participation: Philosophy and Practice, in: O. Renn / T. Webler (eds.): *Fairness and competence in citizen participation: evaluating models for environmental discourse*. Dordrecht; Boston: Kluwer Academic, 17–33
- Wirkus, L. / V. Böge* (2005): *Afrikas internationale Flüsse und Seen: Stand und Erfahrungen im grenzüberschreitenden Wassermanagement in Afrika an ausgewählten Beispielen*, Discussion Paper, Bonn: Deutsches Institut für Entwicklungspolitik
- Wolf, A. T.* (1998): Conflict and Cooperation Along International Waterways, in: *Water Policy*, 251–265
- (1999): International River Basins of the World, in: *International Journal of Water Resources Development*, 387–427
- Wolf, A. T. / S. B. Yoffe / M. Giordano* (2003): International waters: identifying basins at risk, in: *Water Policy*, 29–60
- World Bank* (1999a): *Environmental Assessment; Bank Procedures BP 4.01*
- (1999b): *Environmental Assessment; Operational Policy OP 4.01*
- (2001a): *Projects on International Waterways; Bank procedures BP 7.50*
- (2001b): *Projects on International Waterways; Operational policies OP 7.50*
- (2004): *Water Resources Sector Strategy; Strategic Directions for World Bank Engagement*. Washington: IBRD / The World Bank
- Young, O. R.* (1995): The problem of scale in human/environment relationships, in: R. O. Keohane / E. Ostrom (eds.): *Local commons and global interdependence: heterogeneity and cooperation in two domains*, London; Thousand Oaks, Calif.: Sage Publications, 27–46
- Zeiss, C.* (1991): Community decision-making and impact management priorities for siting waste facilities, in: *Environmental Impact Assessment Review*, 231–255

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Ir. Peter Roeters, RIZA, co-ordinator Rhine-Plata Twinning project.

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