



# Financing Transboundary Water Management

*Transboundary water management is of increasing concern to the international community. Over 40 % of the global population lives within transboundary basins and aquifers, making the successful management of these resources essential to long-term poverty reduction, sustainable development of the environment and, in many cases, longer-term political stability. To date, funding for transboundary water management has been limited and disperse. This policy brief<sup>1</sup> looks at the issue of financing transboundary water management. It begins with a snapshot of the current funding situation within the water sector, then makes the case for process-financing and examines innovative financing options appropriate to particular stages in transboundary management, and finally suggests appropriate roles for donors and governments.*

## Financing snapshot

Presently, annual funding in the water sector as a whole (ranging from water supply and sanitation to river basin management) in developing countries is approximately \$80bn, about a quarter of that spent in the North and just twice that spent by Japan alone. This represents a fraction of spending in other sectors, such as military and health sectors. Priority is currently given to national public spending on water sector works, rather than large private sector and/or regional-level spending on institutional development.

### Investments in water in developing countries, 1996

	\$bn pa	% of total
<b>International flows</b>		
Multilateral and donor aid	9.1	11–12
Private investments	4.1	5
<i>Sub Total</i>	13.2	
<b>Domestic flows</b>		
Government, public sector	51–55	61–72
Domestic private and community	12–15	14–20
<i>Sub Total</i>	63–70	
<b>Total</b>	<b>76–83</b>	

Source: Global Water Partnership, 2000

In 1996—the last year for which comprehensive data were available—only some 12% of financial flows to the sector came from the donor community, and a minimal 5% from international private flows. In water supply and sanitation, international private flows were more or less equivalent to donor flows, at around \$3.5 bn pa. The balance came from domestically generated sources, both public and private. Within developing countries, the great majority (70%) of investment is generated in the public sector.

<sup>1</sup> This independent Policy Brief is prepared by Alan Nicol, Frank van Steenberg and Dirk Willem te Velde, for the Development Financing 2000 initiative within the Swedish Ministry for Foreign Affairs. It draws on the commissioned research study *Transboundary Water Management as an International Public Good* (ODI/Arcadis Euroconsult, 2001). For the full document and list of authors see [www.utrikes.regeringen.se/inenglish/policy/devcoop/financing.htm](http://www.utrikes.regeringen.se/inenglish/policy/devcoop/financing.htm).

## Development aid to water management

Against the overall trend in aid flows, spending on water interventions actually increased during the 1990s. In 1997 the figure was \$3.7bn, of which the World Bank contributed \$2–3bn. Other major donors to the water sector include Asian Development Bank (\$5.6bn between 1991 and 1996), Inter-American Development Bank (\$820m in 1998), European Union, UNDP and UNICEF (\$200–250m pa). These figures are broad estimates of total spending on all water activities. Within these there has been some move towards activities such as capacity building, but overall very little is spent specifically on transboundary water resources, probably less than \$350m annually; despite frequent donor and government acknowledgement of its importance. Some movement is now underway regionally, with multilateral development banks (MDBs) recently beginning to promote regional co-operation in water policy development and transboundary management. For example Asian Development Bank (ADB) policy documents state that 'based on joint requests from riparian countries, the ADB will support joint projects for the planning, development and management of shared water resources' (ADB, 2000).

## Process financing

The lack of funding for transboundary management reflects, to some degree, the poor record of institutional development in shared river basins. The background study for this paper (ODI/Arcadis Euroconsult, 2001) highlights the need for a process-oriented view of transboundary management, emphasising the support needed for institutional development in order to achieve more effective win-win management options for all riparians. A current example of such a process-oriented approach is the Nile Basin Initiative (see box, next page).



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### The Nile Basin Initiative

Two characteristics of the Nile Basin Initiative deserve note. Firstly, that it has taken several years to develop the shared vision and commitment of all the riparians. Now that that vision has been agreed, there is a secretariat in Uganda and a body capable of managing the process, yet strongly linked to the individual countries. Also, the World Bank played a very important role and currently facilitates the institutional development (though being careful to ensure ownership by riparians states), such that donors can feel greater confidence in the sustainability and effectiveness of the Nile Basin Initiative.

The study also raises the problem of lack of co-ordination and consolidation of current financing initiatives and the differing approaches of donors, host countries and the private sector. The study advocates process-financing to facilitate the development of transboundary institutional arrangements, in four key stages (see box, below).

The initiating process, or establishment of institutional mechanisms for effective management, is the critical starting point, a precursor to which is the existence (or creation) of feasible political environments for inter-riparian engagement. Second, comes the operation of the institutions themselves, followed by the implementation of water management programmes (including data collection, surveys, and joint planning and monitoring). Finally, investment in infrastructure for shared river management is accomplished—which is likely to come at a much later date. At present this latter stage hardly features at all in the regional funding allocations of donors.

On the face of it most running costs of institutions charged with water management are relatively modest compared to the initiation costs involved. These running costs range for example between \$200,000 to \$2m a year for the joint arrangements on the Incomati, Okavango, Rhine, Danube and Mekong river basins. The running costs of joint river basin committees and secretariats should in principle be borne by the riparian countries themselves. However, to help promote *politically feasible* environments for the establishment of such arrangements, there is a strong case for donors to provide process financing to the initiating efforts, particularly multilateral and regional institutions that are able, perhaps, to play third-party mediating roles.

#### Stages in process financing transboundary water management

	Financing goal	Current means	Possible arrangement
<b>1. Initiating process</b>	Cost of establishing and tailoring transboundary institutions	Mixed and patchy	By international or regional organisations with sufficient strength and capacity
<b>2. Institutional arrangement</b>	Management costs of the transboundary institutions	By riparian countries and externally	By riparian countries solely
<b>3. Programme implementation</b>	Cost of basin management; development of uncontested data base, planning, monitoring	By bilateral donors and UN agencies	On the basis of formulated programmes, including trust fund financing by bilateral, multilateral and private donors
<b>4. Investment in shared water management works</b>	Cost of investment in water-related infrastructure	Uncoordinated national investments by public and private sector	Co-ordinated national and regional investment; Risk financing (co-financing regional development banks and private sector); New financing to include inter-riparian financing and cost recovery

The World Bank has supported basin management processes over a long period, ranging from the Indus Treaty negotiations to the Nile Basin Initiative. Beyond funding dialogue between riparians and subsequent institutional development, the Bank has added political weight and capacity to the formulation of joint objectives and programmes. The UNDP has provided similar inputs in the past to joint management processes in the Mekong. In addition to these established institutions, new initiatives emerged during the 1990s. These initiatives not only provide some of the potential architecture of a new, more integrated, global effort at financing transboundary management, but they also work to link the goals of more effective water management at a policy level and the achievement of sustainable development at a local level.

The *Global Water Partnership* (GWP), established in the late 1990s, promotes integrated water resource management at a country level and has a programme of building water partnerships, developing service-providing alliances, synthesising practical knowledge and promoting action programmes in water. The focus is not, however, explicitly on transboundary water management, though there is scope for developing this role. Another initiative is the *Petersberg Group*, sponsored by the German Government and the World Bank which, *inter alia*, formulates principles for transboundary water management. The *Transboundary River Basin Initiative* (TRIB) and the *Global Water Alliance* are two other initiatives that aim to co-ordinate donor diplomatic and technical efforts to address transboundary issues. UNDP is the executing and administrative body with an initial US disbursement of \$1.64m (net of UNDP overhead costs) providing seed money to attract other donor finance.

Finally, the *Global Environment Facility* (GEF), established after the 1992 Earth Summit, aims to provide support for international environmental public goods with a particular focus on biodiversity and climate change. GEF could form an important plank in furthering the range of international financial instruments available to process-financing. At present the concept of 'incremental costs'<sup>2</sup> is central to its approach; funds for freshwater-related international water projects amounted to \$187m. Most of the projects have been concerned with the preparation of plans, strategies for water utilisation and knowledge development e.g. the Global International Waters Assessment.

The importance of harnessing the strengths of all these initiatives, including the GEF, in order to enhance international capacity to achieve more innovative and process-oriented approaches to financing through a more fully networked and co-ordinated international framework for financing transboundary management of water resources seems self evident. The various activities in promoting transboundary water management currently lack critical mass and new financing modalities in transboundary water management are not yet developed. The following proposed financing options could become part of a more co-ordinated international action.

### Innovative financing options

The following four financing options relate broadly to stages 1–4 in the preceding table and are suggested as instruments available to secure the goal of more effective institutions for managing transboundary resources.

- *trust funds*—as an alternative to externally funded programme implementation are important through stages 1–3.
- *revolving funds*—to engage private investors in services with positive transboundary externalities are suggested in stage 4 of the process cycle.
- *public-private partnership and risk financing*—public or shared underwriting of the political risk large investment entails with substantial sunk costs by private parties; relates mainly to stage 4.

<sup>2</sup> GEF funds an additional portion of programmes or projects to complement what would have been financed in the absence of the fund.

➤ *inter-riparian financing of investments in river basins*—with countries funding activities beyond their territories is solely a stage 4 intervention.

- **Trust funds for programme implementation**

To allow continuity and ownership of shared water management programmes, trust funds or endowments could be introduced and administered by the transboundary institution. Trust funds have been used in the last 15 years to provide security and resources to environmental programmes, though they have not been used in transboundary programmes. A certain level of confidence in the shared water management programme is required to change from project funding to trust financing. Trust funds can give stability and smooth out funding fluctuations, arising where organisations are dependent on annually allocated donor or government resources.

There is a growing literature on endowments and trust funds that recognises the advantages associated with empowering stakeholders to operate funds, leverage additional resources, and provide more stable financing while offering considerable scope for capacity building. However, the difficulties can be substantial in developing the endowed institution even in a single country. Such difficulties would be compounded at a transnational level, not least because managing a financial entity requires high levels of transparency and legitimacy. Operating costs for trust funds must also be recognised—often in the region of 20–25% of the total.

Considerable external support has been provided for the implementation of the river management programmes in some international basins. In the Mekong for instance \$15–20m has been provided annually for the programme of studies, much of which, until recently, was tied bilateral aid. The Mekong River Commission charged an 8% overhead on these activities and thus had an interest in keeping activity levels high. This resulted in a disparate range of essentially supply-driven activities in the mid-1990s which could have been avoided had the river basin management programme been administered under a trust fund with clearer objectives and priorities.

- **Revolving funds to engage private investors in projects with positive transboundary externalities**

At present there is only limited engagement of the private sector in transboundary water management, partly because such investment offers few straightforward opportunities for profit. The private sector has, however, played a more significant role in other sectors with regional or global implications. There has for instance been some success in involving the private sector in Ozone Depletion and Climate Change. The GEF assists with the implementation efforts of the Montreal Protocol to phase out ozone-depleting substances, a number of which involved innovative financing. For instance, a contingent grant loan of \$5m has been used to set up a revolving fund in Thailand, to introduce 'cleaner' refrigeration utilising less energy. Other revolving funds have been established in Turkey and Mexico with the aim of providing zero per cent real interest loans for domestic investments addressing ozone depletion, biodiversity and climate change issues.

Similar revolving funds could be established at a transboundary level to promote investments with positive transboundary externalities, such as water treatment, conservation and pollution-abatement, by providing grants, technical assistance and loans to the local private sector. In the US similar trusts exist and provide concessional loans for water treatment investments, or to buy up water rights for in-stream flows. The financing of such trusts comes from pollution fines, licence costs and water charges, with additional funding from bank loans. Similarly, river basin organisations in France and Indonesia have a funding base rooted in a variety of water-related charges, which allows them to tap into other funding resources as well.

At present international taxation for international water projects is unattainable; and no such proposals exist. There is scope,

however, to work on this in the future in more mature (and possibly smaller) river basins, particularly where there are few large water users and polluters and, hence, taxation regimes are easier to manage.

- **Risk financing and public-private partnerships**

A revolving fund may not be adequate for investments that have large sunk costs. So far, such long-gestation private investments in transboundary water management have been limited. The most common area has been in hydropower, but typically this has been on a single-country basis. There is evidence that the stricter rules by multilateral financing agencies on investing in large dams on transboundary rivers has caused project developers to resort to private capital, sometimes using export credits that generally have easier approval criteria on issues such as resettlement, environmental security and other, transboundary, concerns. In recent years, however, interest in hydropower investment has fallen and even export credit agencies have begun to back away from insuring controversial dam projects.

Outside hydropower there are basically no examples of private investment in transboundary water management. There are, however, opportunities in transboundary projects that give a return on investment—in navigation, shared reservoirs, bridges and ferry services. In some cases, precisely because of their transboundary nature, cost recovery by private parties may be the most practical way to provide the service. There are, however, inevitably higher political risks associated with this type of investment.

The development of public-private partnerships at a transboundary level can help to minimise such political risks, also providing contract stability by locking private investment into transboundary agreements and having international river basin organisations become a party to the contract. An example of this is the operation of the Manantali dam (see box, below).

#### Public-private partnership in the Senegal River basin

Co-operation between the countries sharing the Senegal River (Mali, Mauritania and Senegal) resulted in the signing of the Convention of the Establishment of the OMVS (Senegal River Development Organisation) in 1972. One result of the regional co-operation was the Manantali dam, completed in the 1990s after a string of controversies surrounding its social and environmental impact. The project used donor contributions and loans (\$620m for two dams), guaranteed by export credit agencies. Though OMVS actively sought private investors to build a power generation unit, none were found. By 1997, transboundary legal and institutional arrangements had been reinforced by establishing an inter-state public company—SOGEM—for the management and exploitation of the Manantali dam. OMVS/SOGEM awarded Eskom Enterprises from South Africa the contract to operate and maintain the station at a cost of \$82m. The OMVS experience shows, above all, that significant groundwork is required before the private sector can be inducted in large transboundary water projects.

Public-private partnerships could be supplemented by political risk insurance and investment guarantees such as those provided by Multilateral Investment Guarantee Agency (MIGA – part of World Bank Group), Overseas Private Investment Corporation (meant to facilitate US private investment abroad) and the Lloyds syndicates in the private sector. These different insurers often combine to spread their exposure on a single investment. Insurance covers, for example, loss of investments because of restrictions on repatriating profits out of the country, expropriation and nationalisation, breach of contract and war and civil disturbance. Policies typically range from \$200–500m, with a duration of up to 20 years.

Currently political risk insurance is almost exclusively geared to foreign direct investment in single countries. One of the few exceptions is the Bolivia-Brazil pipeline project, insured by MIGA. Although political risk insurance is unusual for investment in transboundary rivers, there seems to be no reason why it could not

be tailored to this requirement. For instance, a transboundary institution could set-up a risk guarantee fund for transboundary projects in order to facilitate economically viable projects that face political exposure through uncertainty in transboundary contracts (e.g. selling hydro- power generated in one country to customers in another country). Riparians may also be asked to limit the political risk, either through a guarantee, or by taking part in the investment consortium, in so doing helping to avoid investors being lured into risky projects with possibly negative effects on social development and the environment.

#### • Inter-riparian financing by public means

At present public investments in transboundary waters are almost without exception on a national basis. At best national investments are co-ordinated through mechanisms such as prior notice, approval or negotiation with other riparians, as in the case of the Peace Projects in the Jordan Basin.

Inter-riparian financing requires riparian countries to fund activities beyond their national territory. No such examples were found in the earlier study (op cit.). This partly reflects the weak institutions in these river basins and the lack of economic means in some of the riparian countries. In other river basins, however, examples of inter-riparian financing exist in water quality control or navigation, e.g. the dredging work on the *Westerschelde* undertaken by the Netherlands but largely funded by the Belgian Government.

Inter-riparian investments are not easy to arrange and to manage, especially when the benefits for the host country are small in comparison to the benefits for other riparians. Prerequisites for such inter-riparian projects include an obvious benefit for the funding riparian exceeding the financial and political costs of implementation, a definition of the scope of works that is as precise as possible, financial contributions, responsibilities for cost overruns and tax provision, and a joint management structure to oversee the works and undertake cost control.

#### Donor opportunities and roles

The feasibility of the different financing options presented depends, however, largely on the strengths of institutional arrangements in place. As the institutions mature from intergovernmental committees to river basin management organisations, the scope to leverage other sources of finance and expand the range of regional investments can increase. At present, however, few transboundary, inter-riparian or regional organisations have reached this state of development.

Donors can play an important role in providing resources to build and strengthen the enabling environments in which financial co-operation over transboundary management becomes a possibility. The Nile Initiative illustrates how careful preparation and the commitment (through process ownership) of the riparians themselves encourages donor support, particularly for awareness raising and capacity building, which in turn provides an environment for other sources of funding.

With strong transboundary institutions in place, the donor community can begin to explore possible ways to engage the private sector, including demonstrating how the private sector can help in water conservation and pollution abatement. Subsequently, donors may setup revolving funds to extend this demonstration effect to other transboundary and sector-wide approaches. For larger, revenue-raising projects contract stability may be enhanced through international agreements and the setting-up of funds for risk financing. Nevertheless, sufficient time is essential to find the right regulatory and incentive framework. Elsewhere, rushed approaches have led to difficult and ineffective public-private partnerships.

#### Conclusions

The options for financing transboundary water management are varied, but require new approaches to inter-riparian and transboundary development. The risks inherent in regional economic co-operation are compounded as the focus is on a vital resource under pressure, with competing and conflicting demands placed on it by riparian countries.

Co-ordinating international efforts by major financial and institutional stakeholders including financing agencies, UN and other institutions—including the GEF and GWP—is a prerequisite for ensuring that the financing agenda is fully explored and developed. This must take on board the process issues outlined above. Without co-ordination, at a minimum, the poorer riparian countries may find the transaction costs of seeking assistance and being involved in institution-building prohibitive, putting the prospect of more effective and *comprehensive* transboundary management in jeopardy.

An increased thrust and a co-ordinated effort should activate, involve and strengthen the potentially important regional players in this field, in particular the regional economic councils including ASEAN, MERCOSUR, ECOWAS, and SADC. Standards and generic tools for data collection and dissemination, mechanisms for arbitration, and concepts of prior notice and equitable use need to be developed and operationalised. With the institutional basis strengthened, there is a firm basis for new financing modalities for implementing transboundary water management programmes and for investments in shared water works.

The removal of obstacles to entry by private investors is just one example of what transboundary institutions can achieve. Although the private sector has emerged in international water policy debates in recent years, in practice, at either domestic or international levels this has been limited to revenue-generating projects. Instruments such as funding demonstration projects, setting-up revolving funds, initiating public-private partnerships at a transboundary level and risk financing are so far either weak or absent altogether. Their financial and institutional modalities need to be further explored.

#### Three major foci for donors in coming years could be:

1. Raising the profile of international water management as well as increasing its prioritisation by the national governments of riparian countries.
2. Supporting developing countries through providing the right incentives to expand the financing options available (in particular those that engage in transboundary institution building, inter-riparian funding and suitable private sector entry); this could include supporting country budgets, either through sector-wide approaches or through earmarking, thus reducing the need for country-driven projects.
3. Providing co-ordinated support and process financing to transboundary institutions that establish long-run stability and suitable environments for transboundary water investment.

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