Sharing the benefits of large dams in West Africa

Edited by Jamie Skinner, Madiodio Niasse and Lawrence Haas

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Contents

Acknowledgements

The authors would like to thank the Howard G. Buffett Foundation for its financial support for this work through the Global Water Initiative (GWI); the Niger Basin Authority (NBA), and the Haut Commissariat pour l'Aménagement de la Vallée du Fleuve Niger for co-hosting a regional workshop that discussed this report in draft form in April 2009. The Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) co-funded regional participation in the event, that was organised in partnership with the International Union for the Conservation of Nature (IUCN) West and Central Africa Programme.

The views expressed in this report are those of the authors and do not necessarily represent those of the organisations participating in the Global Water Initiative at a national, regional or global level, or those of the Howard G. Buffett Foundation.

About the Global Water Initiative

The Global Water Initiative (GWI), supported by the Howard G. Buffett Foundation, addresses the challenge of providing long term access to clean water and sanitation, as well as protecting and managing ecosystem services and watersheds, for the poorest and most vulnerable people dependant on those services.

Water provision under GWI takes place in the context of securing the resource base and developing new or improved approaches to water management, and forms part of a larger framework for addressing poverty, power and inequalities that particularly affect the poorest populations.

This means combining a practical focus on water and sanitation delivery with investments targeted at strengthening institutions, raising awareness and developing effective policies.

The Regional GWI consortium for West Africa includes the following partners:

- International Union for the Conservation of Nature (IUCN)
- Catholic Relief Services (CRS)
- CARE International
- SOS Sahel (UK)
- International Institute for Environment and Development (IIED).

GWI West Africa covers five countries: Senegal, Ghana, Burkina Faso, Mali, and Niger.

Executive summary

West African countries have built over 150 large dams on the region's rivers, increasing water storage capacity and regulation of water courses to support the economic development of the countries of the region. Over the next 30 years, many more will be built, not least as a response to increasingly fluctuating rainfall. However, the construction of these dams has often led to the complex and difficult displacement and relocation of populations, often affecting thousands of people: 80,000 people in the case of Ghana's Lake Volta created by the dam at Akosombo; 75,000 people with the dam at Kossou in Ivory Coast.

The first part of this report reviews the documented West African experience with resettlement. The second part analyses the issues further by reviewing the tools and approaches currently in use around the world to better share the benefits from large dams. It seeks to stimulate multi-stakeholder dialogue on ways to formulate a step-wise, collaborative strategy to introduce benefit sharing on large dams suited to West African needs. While it focuses on the equitable sharing of benefits with local communities and traditional river users, it acknowledges that benefit sharing between states is also essential for effective cooperation to manage West Africa's international river systems sustainably.

Only a handful of publicly available assessments have been made of relocation projects linked to the dams already constructed in West Africa. In some countries, where new dams are proposed, there are few existing projects, which means that national knowledge and experience is often limited. Thus, plans for future projects urgently need to be informed by experience – so efforts to record this experience and to foster regional learning processes are sorely needed.

Undoubtedly, population displacement and relocation processes have been problematic, with many issues as yet unresolved. On the positive side, short-term objectives have often been achieved - planners and decision-makers involved in dam construction have provided the displaced people with infrastructure and the means to alleviate the short-term consequences of displacement. Displaced populations have generally had access to adequate drinking water and health services, and education has been significantly improved. However, countless flaws have also been observed, many of these stemming from a lack of socio-anthropological sensitivity amongst relocation project managers. Furthermore, the level of compensation paid has rarely met the displaced populations' expectations. Delayed payment processes have had a negative impact on the process of resettlement and development of the relocation zones. Consequently, living conditions amongst the displaced and host populations have often deteriorated some 5-10 years after relocation, often when the project-specific development funding linked to the construction of the dam comes to an end. This situation poses an ethical question of fairness, especially when the displaced bear the environmental and social brunt of the dams while other groups (city-

dwellers and industrialists for example) may receive the benefits throughout the lifetime of the dam.

Today, the stakes are high in terms of development, adaptation to climate change, culture, demographics, land tenure and distribution of wealth. It is therefore increasingly vital to ensure that displaced people benefit directly from the development opportunities generated by dams in order to improve their living standards throughout the lifetime of the dam – which may be 50-80 years or more – and not just for the first 5-10 years when the projects' main supporters are still engaged.

Where a favourable political environment for the sharing of benefits exists, decision-makers have developed some useful strategies to redress injustices affecting displaced populations. Although the stated prin05(p)5(p(t)5(a)(e)5(r)(j)5(u)59)(i)5(sy(r)5)5( )-

From the dam operator perspective, benefit sharing promotes good community relations that reduce the risk of project delays. From the perspective of potential investors, realistic provisions for local benefit sharing mean that locally affected communities and the public are more likely to support a dam project. As a consequence, the investor's risk exposure is reduced and investors are more inclined to become financing partners.

Benefit sharing also helps to address past shortcomings in dam planning and management that are well documented. These include failures to honour social commitments made to project-affected communities and failures to finance environmental mitigation measures. It addresses the need to ensure that there is a stream of financing to meet such needs over the longer term (e.g. a percentage of electricity sales included in the bulk tariff).

We conclude that many mechanisms for benefit sharing exist, where there is

PDIAM	Downstream Manantali Integrated Farming Project (Mali)
PDL	Local development plan
PES	Payments for ecological or environmental services
PGIRE	Integrated water management programme (OMVS)
PPA	Power purchase agreements
RBO	River basin organization
RP	Relocation plan
SFE	State forest enterprise
USAID	United States Agency for International Development
USCDI	Upper Seli Community Development Initiative (Sierra Leone)
VDC	Village development committee (Nepal)
WCD	World Commission on Dams
WWF	World Water Forum
UN	United Nations

West African experience

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Large dams and displaced populations in West Africa

Human mastery of water resources is at the heart of sustainable development and the well-being of West African societies. This required the states of the sub-region to build many dams, which has brought about the massive displacement of populations, among other impacts.

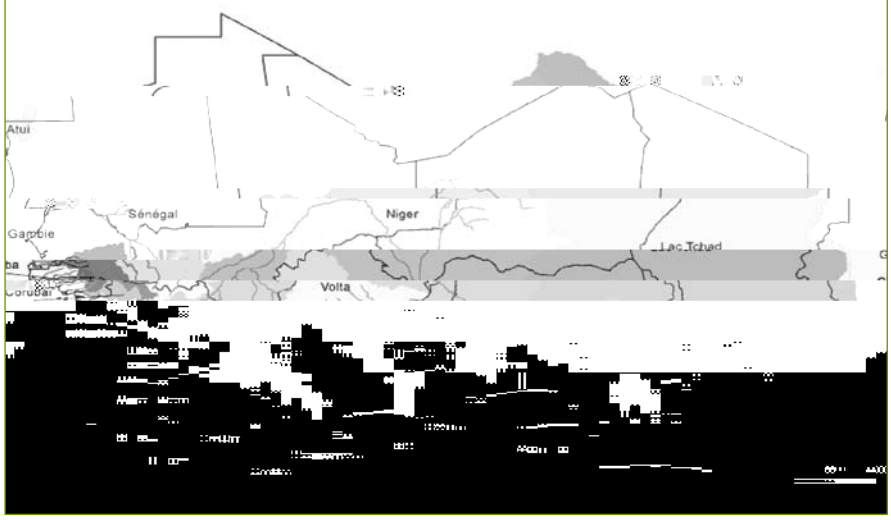
This chapter reviews the potentials for water and dams in West Africa and sums up the statistics as well as the criteria applied during displacement operations.

2.1 Water resources and large dams in West Africa

West Africa counts 28 cross-border river basins that cover 71 per cent of the region (Figure 1). The most important are the Niger (shared by 11 countries if one takes into account the non-active part of the basin), the Senegal (4 countries), the Volta (6 countries), Lake Chad (8 countries), and the Comoé (4 countries). The sub-region also has fresh water reserves, of several billion cubic metres, stored in deep water tables.

Paradoxically, this part of the world is often prone to shortages of this resource when it is needed. The unavailability of fresh water in West Africa is all the more acute as it is compounded by sharp variations in rainfall and climatic conditions. In the absence of adequate infrastructure to control those vagaries, national economies have been buffeted by flooding and droughts at the same time. To

Figure 1. Water resources of West Africa



Source: CEDEAO-CSAO/OCDE, 2006a

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The two largest dams in West Africa are the Akossombo dam on the Volta River in Ghana, with a height of 134m (fourth in Africa) and a capacity of 150 billion

Name of the dam	Country	Displaced persons	Date of displacement
Akossombo	Ghana	80,000	1963
Kossou	Cote d'Ivoire	75,000	1970
Kandji	Nigeria	44,000	1967–1968
Sélingué	Mali	15,000	1980
Nangbéto	Togo/Bénin	10,600	1987
Manantali	Mali	10,000	1986–1987
Garafiri	Guinée	2,140	1999

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Box 1.

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Revisiting the relocation process in West Africa

The displacement and relocation of people affected by dams have mobilized enormous human and financial efforts. On the basis of current evaluations, the results have been average on account of the factors reviewed in this chapter.

3.1 A truncated relocation process

The classic sequence of displacement and relocation is a four-step process (Niasse and Ficatier, 2008), namely: phase 1 deals with scheduling the relocation operations and the realization of the first infrastructures; phase 2 the transition phase when people actually move; phase 3 with economic and social development; and phase 4, which winds down the initial aid-project and fully incorporates displaced people in the regional economic fabric.

In West Africa, most displacement processes and relocation have focused on phase 1 and to a lesser extent on phase 2, considering the financial, human and time constraints (Manantali) and the change of rural development policy (Akosombo). To illustrate, the Manantali Relocation Project (MRP) was not conceived as a development project. USAID, the main donor, had decided

displacement of the population (25,000 to 30,000 people) was carried out just before reservoir flooding and in total chaos as the programme received no funds other than those from the state of Mali. The compensation was not paid in cash but was given as land grants, village reconstruction activities and, a few years later, irrigated plots of land. Such delays had a negative impact on the resettlement processes and development of the host areas.

3.3 A disappointing 'not worse off' policy

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A policy of making displaced people 'better off' through development programmes

To meet the challenges of displacement, some decision-makers have set more ambitious objectives, for example including in dam projects a strong support component on behalf of displaced people to ensure that the project is a development opportunity for them.

The Kandadji resettlement strategy

The Kandadji dam project is considered to be a major programme for Niger. The project intends to combine a dam and a hydroelectric power station of 130 Mw with a yearly energy production of 620 megawatt hours. In addition the work will permit the storage of 1.6 billion cubic metres of water and exploit 222,000 ha for a yield of 320,000 tons.

It is estimated that in total 5290 households will be displaced – some 34,710 people. Total compensation amounts to FCFA 54.1 billion, which includes a reserve fund of 8.8 billion in anticipation of rising inflation. Beyond compensation payments, the resettlement strategy involves a local development plan that aims to allow displaced people to achieve a standard of living equivalent or superior to their previous one. It includes a short-term programme (phase 1) and a medium-term programme (phase 2).

The five-year phase 1 aims to support the 3600 people of the Kandadji dam area, who will be the first to be displaced to permit the initial construction of the dam. The intention is to help these people start economically profitable activities quickly and thus contribute to the lasting economic development of their communities.

The 10-year phase 2 aims to upgrade the available resources to meet the needs of a further 31,000 people who will be displaced by the reservoir. It will support the development of the primary sector, mainly (agricultural, livestock, fishing), secondary sector (manufacturing units, handicraft, etc.) and tertiary sector (tourism, etc.) thus opening new development prospects.

Long-term support projects beyond this period will depend on the state being able to find the funding.

The resettlement strategy of the future Sambangalou dam (Gambia River Basin)

To develop the energy potential of the Gambia River, the Gambia River Basin Authority (OMVG in French) has developed a programme for the hydroelectric sites of Sambangalou (120 Mw, 400 GWh/year of low energy), and of Kaléta (105 Mw, 900 GWh/year low energy).

As the Sambangalou project will affect about 2500 people (African Development Bank, 2004), a resettlement strategy is being finalized. In addition to the resettlement planned for people affected by the project (PAP), the main complementary initiative will be the local development plan (PDL in French) (OMVG, 2006). The PDL will aim to improve the resettlement strategy and turn its disruptive impacts into development opportunities. The local development plan supports the economic transition of the people displaced, not only to restore their standard of living, but to increase it, and to bring concrete answers to local problems. Its implementation should be closely monitored. The plan will take into

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Conclusions

The decision-makers of West Africa have been involved in the construction of dams for 40 years, with the support of their partners (World Bank, African Development Bank, USAID, Islamic Development Bank, Kuwait Saudi Funds and a number of other countries including France, Germany and Canada). These provide valuable resources and development opportunities that reduce the vulnerability of the people facing recurrent poverty, notwithstanding the numerous impacts.

The value of dams for the development of the sub-region is unquestionable. But of the 150 big dams already constructed in the sub-region, there are very few resettlement assessments in the public domain – perhaps 10 altogether. It is legitimate to wonder if training programmes at the regional level have been held to help improve the chances of success for future projects. Some countries have very few dams, or even none, and therefore have little relevant experience. Yet the Niger River Authority's development plan is considering the construction of more than 26 new dams for whichnonnexperiento wsi0 he

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Part two

Improving benefit sharing around large dams

By Lawrence Haas

2

Among these include failures to honour social commitments made to project-affected communities and failures to finance environmental mitigation measures.[9] All too often these commitments have been based on assumptions that money was available from already overstretched government budgets, or temporary donor budgets. The predictable result is that many commitments are not kept. It addresses the need to ensure there is a stream of financing over the longer term.

Advancing sustainable solutions: Benefit sharing, compliance and water management reforms and efforts to deliver sustainable infrastructure strategies. For example, ta9 5(amA75(a)5(t)n)3(f)5(i)5(n)5(27 5(s)5(:)]TJETBT/T1_1 1 Tf9.5 0 0 9.5 213.9(f)5( )-3(

These arrangements are generally permanent, or maintained over the economic life of the dam project. They commence after the project becomes operational.

Other forms of benefit sharing may start during project implementation stages, which can span several years. These include investments to maximize local employment in the construction workforce and local supply of goods and services to the project, as well as investments in physical infrastructure such as local roads (eg. that increase community access to agriculture markets or access to healthcare for villages near reservoirs) and other public services that have sustainable, long-term benefits for communities.

a. Underlying principles: Three underlying principles for revenue sharing frequently cited in the literature are:

- Large dam projects generate significant 'economic rent' and public benefits that can be justifiably shared with local populations affected by the project on several ethical and development grounds.[14]

- Primary beneficiaries of dams usually live far away from the dam sites or are not exposed to the adverse impacts. Inclusive development means dam benefits should be equitably shared between affected rural populations and urban centres outside project areas, taking into account all the development impacts.[15]

- Recognizing the scale of investments in large dam developments, national investments in them should be conceived as part of local and regional development strategies, and to catalyze more inclusive growth.

The notion of benefit sharing on dams goes beyond thinking of local communities only in terms of compensation for land or property loss and short-term resettlement payments – to recognize they can claim entitlement to part ownership of the economic rent that dams generate. Equally, dam-affected populations have a legitimate stake and role to play in the sustainable management of dams.

In the West African context, there is typically no longer-term recognition of project-affected communities in government development planning (eg. beyond five-year budget cycles and development plans), even though the actual long-term development opportunities of project-affected populations are constrained or transformed by the project. When donors support programmes to re-establish livelihoods, there also comes a point when the funding lapses.

14. In resource development, economic rent is the competitively determined price of services minus the marginal cost of producing the service. In order for benefit sharing to be viable on dams there must be an economic surplus, where the cost of all factors, say of electricity production, is less than the tariff.
15. It is analogous to the principle of compensation to a state that is obliged to waive an activity in order to reconcile divergent uses that benefit other states, as contained in the Niger Basin Water Charter (2008).

Good practice is to reflect revenue sharing formula, as stipulated in government regulations, in the bulk supply tariff for the various project services that generate revenue, eg. in power purchase agreements (PPAs) or bulk water supply agreements, or fees for navigation services. It is a 'pass through' cost for dam owners. At the same time, the principle does not preclude additional agreements where the dam owner would agree to contribute directly to local communities' development needs in various forms.[17]

From a political perspective, what is important is to find an equitable balance between the impact on average tariffs (often a small, marginal increase) and generating sufficient funds to empower local development of dam-affected populations.[18] Publicl (n)5( )-23(a)5(v)5(e)5(r)5lt s 5(t)5( )o fin

Whether fresh legislation is needed, or amendments to existing regulation suffice, depends on the existing legal framework. Ministries or regulators responsible for dams, or river basin organizations (if so empowered) would lead a collaborative process to prepare the necessary regulations. If a phase approach is decided, they may also lead field trials of provisions.

Sources of funds: The range of financing mechanisms employed to channel monetary benefits of dams to local populations today include those listed in the country examples provided in Annex 2, namely:

- a portion of the project revenue stream, royalty payments or water resource utilization fees generated by dam projects, according to a formula defined in regulations, typically linked to the project capacity or annual outputs[24]
- part or full equity ownership of the project by a representative local community entity (equity sharing), for which the annual return on equity is used as a fund
- annual revenue transfers from general taxes to affected municipalities, watershed management agencies and conservation authorities in the basin of the dam, that stem from public benefits of dams (eg. flood management benefits if there is no revenue stream from the project)

- local authorities levying property taxes on land used for dam facilities and reservoirs, the measure can reduce taxes paid by local communities and/or raise funds
- direct long-term contracts between the dam owner and affected communities
- more recently, use of carbon financing to capitalize local development funds as explored in the Bumbuna HEP in Sierra Leone mentioned earlier.

Box 3. Beneficiary preferences on use of funds in Vietnam

Local communes prefer to invest in a mix of local development initiatives suited to their needs:

- measures to improve access to forests resources, changing crops and farming techniques, improving livestock and poultry rearing
- rural credit schemes operated by local mass organizations (eg. farmers' and women's unions)
- aquaculture and reservoir fisheries
- supporting the poorest families, war widows and disadvantaged with access to electricity services, where individual households were required to pay for power connections once rural power lines reached villages.

Source: Haas and Vu Tung, 2007

24. This is most common. While it leads to some multi-year variation in actual funds available for revenue sharing (due to hydrological variability) it has not proven to be a serious concern to date for various reasons and can be planned for in disbursement of revenue sharing funds.

A specific measure or mix of measures needs to be chosen. Revenue mechanisms are more complex on multi-purpose projects that have no hydropower component. Though revenue streams from bulk water tariffs, navigation fees or irrigation supply can be tapped, there is less international experience with these approaches.

Uses of funds: The types of investments supported by revenue sharing on dams must be tailored to the local development needs and community preference. Example expenditures in developing country settings include:

- village or commune-scale infrastructure including marketplaces, rural roads
- agriculture, forestry and fisheries extension services
- skills and local entrepreneur development, rural credit programmes
- improved health and sanitation services
- youth, women's or community culture programmes.

Box 3 indicates the range of preferences communities had around the A'Vuong dam in a pilot test of Vietnamese legislation. Preferences varied depending on where people lived in the project impact area (eg. upstream or downstream of the dam, or along the reservoir perimeter).

Categories for the use of funds should be identified, for example, the portion of funds that will be allocated to provide incentive for local action concerned with:

- managing river ecosystem services that are impacted by the dam project (eg.

It is equally important to avoid creating unfunded commitments, for example to allow local schools or health posts to be built, if there is no ongoing capacity to pay for teachers or health workers, and no prior-agreement for normal government budgets to do so.

Institutional and governance arrangements: There are two broader models to organize the delivery of benefits to dam-affected populations.

The first approach is to provide 'ring fenced' increases in the development budgets of the villages and municipalities where affected populations live and the surrounding development region (or a block grant allocation, with the condition it is used for beneficiary defined development initiatives and not for administration). Existing local governance structures would then prioritize the use of benefit sharing funds (and non-monetary forms of sharing) in consultation with dam-affected populations. This model does not preclude the local government, village or tribal councils from sub-contracting for targeted delivery of benefits to community-based organizations representing dam-affected groups.[25]

The second generic approach is to establish a long-term fund, or trust with a distinct identity. Typically budgets would be set for different local development programmes or grant application programmes (or a mix). The governance arrangements are necessarily integrated with existing local development and basin management organizations (where they exist). This approach is used in many countries, as noted in Annex 2.

Choosing between the two broader approaches depends on many contextual factors.[26] When a fund is preferred, best practice is to establish a multi-stakeholder steering committee (board or council) to provide oversight:

- The main role of the committee is to prepare a fund charter in a collaborative process and thereafter take strategic decisions on the operation of the fund, within the remit of government regulation – being responsible to the communities.[27]

25. This approach is adopted by Nepal, where a percentage of the royalty charged to hydropower production was transferred to budgets of the village development committees (VDC), and also to the district accounts of the development region where hydropower projects are located (See Annex 2). Similarly in Colombia, legislation prescribes revenue transfers from the power sector to regional municipalities and environmental agencies.

26. Such as whether local government capacity is weak, or under-resourced, whether there is synergy to be

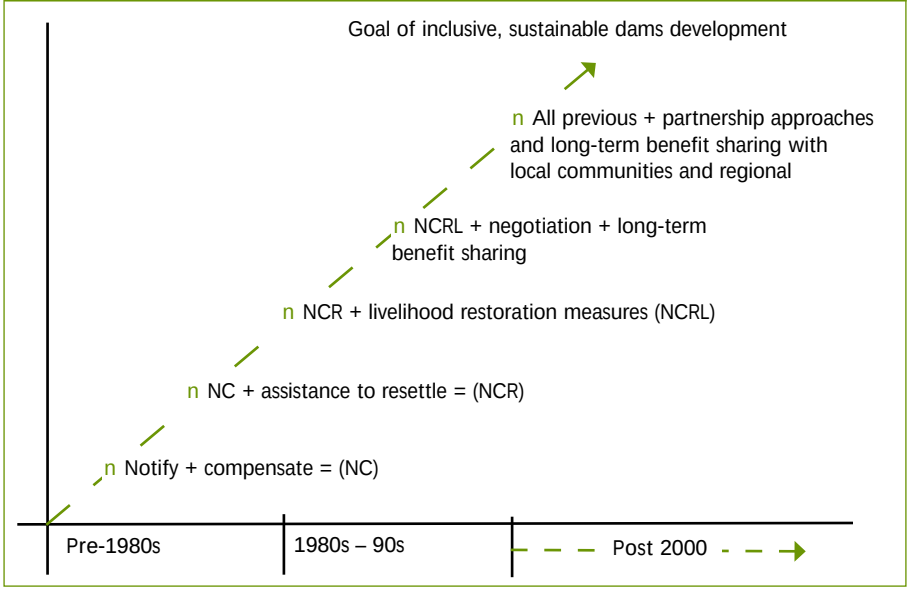
Growing international experience with benefit sharing

Benefit sharing is a logical progression in how affected communities have been viewed and treated in relation to dam projects from a historical perspective. Figure 3 is a generic illustration of the change in thinking that has occurred over time. Practices common in different countries today can be located along different points of this spectrum.

As shown in Figure 3, in the early part of the 20th century and even in the pre-1980 era in some countries local communities were only notified they must move for a dam, and then offered some compensation for land or property. Eventually it became standard practice in most regions of the world (as it is today) to offer some form of resettlement support. But there is a vast difference in levels of support offered. In some settings there is still a difference between the resettlement support offered on dams supported by international donors and resettlement carried out by countries on their own.

Practices have evolved to where sustainable or 'good practice' is to ensure that local communities become development partners that are materially supported with mechanisms for long-term local and regional benefit sharing.

Figure 3. Evolution in the view and treatment of dam-affected communities



The concept of benefit sharing on dams in West Africa has been around for several decades, for example on the Senegal River. Similarly, the 1986 treaty between South Africa and Lesotho recognized the real benefits from riparian state cooperation and explicitly defines the mechanisms by which the two countries share the cooperative gains from joint water resource development.

But it has only been since the mid-1990s that interest in directly sharing benefits with local communities affected by dams has grown.[29] It is no coincidence this parallels (i) the rise in interest in adoption of IWRM principles; (ii) recognition of partnership approaches that treat local communities as development partners; and (iii) re-definition of sustainable forms of water infrastructure in terms of achieving a contextual balance with economic, social and environmental performance.

7.1 What positions have international development institutions taken?

In the last 10 years the international community has actively explored steps to expand benefit sharing on dams. National multi-stakeholder dialogues have also been instrumental in raising awareness with governments.

For example, at the international level the WCD, in its final report *D D , : A ï ï - ï* (2000) captures emerging benefit sharing trends in two of its seven strategic priorities: SP-5 'Recognizing entitlements and sharing benefits', which incorporated sharing with local communities; and SP-7 'Sharing rivers for peace and development', which incorporated sharing between riparian states. This is illustrated in Box 5.

At the government level, Vietnam participated in a process to review the scope to contextualize the WCD recommendations in Vietnam. Benefit sharing was flagged as an important theme to advance sustainable hydropower. It was eventually taken up in 2006, when the new Electricity Regulatory Authority of Vietnam (ERA-V) collaborated with the Asian Development Bank (ADB).[30]

Similarly, a multi-stakeholder forum to contextualize the WCD in South Africa identified unresolved social issues around existing dams as the most important issue, and provided recommendations to elaborate implementation mechanisms for recognizing entitlements and sharing benefits in South Africa (United Nations Environment Programme Dams and Development Project, 2004).

The World Bank has helped to catalyze national efforts on Bank-supported dam projects in the past decade. These include the formative Bumbuna Trust

29. Based in particular on the conclusions of the United Nations International Conference on the Environment and Development (Rio de Janeiro, 1992), through the Rio Declaration on the Environment and Development and Agenda 21.
30. While the initial intent was to explore the policy opportunities in more depth, the multi-stakeholder process resulted in preparation of a draft decree being pilot tested.

in Sierra Leone and Lesotho Fund for Community Development (LFCD).[31] These initiatives are valuable, not only in offering good practice lessons but practices to avoid; and in particular to ensure that funds have genuine multi-stakeholder governance (see Annex 2).[32]

To compile and disseminate emerging good practice, the World Bank in 2002 supported a desk study, *B í S í D P j* (Egré ., 2002),

7.2 What do industry and the private sector think?

The dams industry and private sector generally welcome benefit sharing as it reduces project risk including reputational risk and facilitates good community relations. It is important to restate that according to the 'user pays' principle, benefit sharing is a relationship between consumers of dam services and dam-affected populations. It is reflected in tariffs for dam services ultimately set by governments directly, or via independent regulators.[34]

Table 3. Distribution and sustainability of ecomomic benefits

Auditing and monitoring show the distribution and sustainability of economic benefits to the affected local community and broader region	
Sustainability scoring	
5 = Highest	Auditing and monitoring programme indicate positive and sustained economic benefits shared across the affected local community and broader region.
3 = Medium	Positive and sustained economic benefits to the local community only.
1 = Low	Limited benefits to the local community.
0 = Zero	No auditing/monitoring programme, or benefits solely distributed to shareholders and direct participants.

Source: IHA, 2004

Industry associations and inter-governmental agencies like the International Energy Agency (IEA) actively promote all forms of benefit sharing on hydropower projects. They see it as a way to advance public acceptance of sustainable dam projects, rather than hinder government-defined infrastructure strategies.

The International Hydropower Association (IHA), for example, whose membership is drawn from government, industry and private sector interests in 81 countries around the world, in its 2004 Hydropower Sustainability Guidelines and Compliance Protocol calls for more attention to benefit sharing with local communities. Table 3 is an extract from the protocol. It is a scoring system to evaluate sustainability context and performance of hydropower projects.[35]

As illustrated, projects that feature arrangements to share benefits across affected local communities and broader region receive high scores; whereas projects with no explicit benefit sharing provisions receive a '0' score.

A multi-stakeholder Hydropower Sustainability Assessment Forum (HSAF) is currently updating the protocol in a IHA-facilitated process. It is expected that benefit sharing will feature prominently in the new protocol that will be available in late 2009.

34. It is reflected in tariffs for dam services ultimately set by governments directly or via independent regulators. Benefit sharing is not a product of a negotiation between dam developers and dam operators, and local communities. The only exception is where the dam operating entity is wholly government-owned. Governments can direct the utility that develops and operates dams (eg. Hydro Quebec, BC Hydro and Manitoba Hydro in Canada) to act on its behalf – which has produced the highest value revenue sharing arrangements on dam projects in the world to date.

35. Including the IHA, ICOLD, ICID and the International Energy Agency (IEA). See the IEA Hydropower Agreement. Annex III/5: Hydropower and the environment: present context and guidelines for future action, Vol. II: Main report and Vol. III Appendices. http://www.adb.org/Water/topics/dams/pdf/HyA3S5V2.pdf

8

Advancing local benefit sharing in West Africa

How West Africa's water resources are developed and managed is pivotal to the long-term development of the 16 countries and over 250 million residents of the region.[36] Benefit sharing on the region's large dams can also help with the more immediately needs in tackling poverty and building capacity to achieve targets embodied in Millennium Development Goals (MDGs).

8.1 Creating the enabling conditions

Similar to integrated water resource management (IWRM), benefit sharing requires an enabling legal and policy framework. Drawing lessons from elsewhere, it is important to first prepare an overall advocacy strategy for a multi-stakeholder process, within which consideration of the enabling legal arrangements would then be made.

Key steps concerning an assessment of enabling conditions include:

- Conducting a [illegible] of existing legislation in all sectors relevant to benefit sharing. On a national basis this would illustrate how principles and concepts of benefit sharing are currently embodied in laws, and identify where it is best to anchor regulation on benefit sharing.

- The policy review must also consider (i) statutes and regulations of river basin organizations (RBOs), given their potential role as key innovators and considering that IWRM practices are largely driven via RBOs in West Africa; and (ii) the regional agreements and international conventions relevant, including how agreements on international rivers in West Africa that now facilitate benefit sharing between riparian states can facilitate benefit sharing with dam-affected populations.

- Preparing [illegible] in the form of draft enabling regulations following discussion of the policy review. The guidelines will then serve to focus and facilitate discussions of the more substantive issues and to firm up the subsequent preparation of a pilot project to field trial selected provisions.

- In preparing guidelines, it is important to keep in mind the need to establish (i) clear roles for governments, civil society and private sector actors; (ii) identify capacity building requirements at all levels; (iii) procedures for both new and existing dam projects; (iv) cover both the monetary framework and non-monetary aspects of benefit sharing and electricity access; and (v) update the overall [illegible] to move from guidelines to legislation.

36. Map: UN Cartographic Section, Map of West Africa, February 2005. No. 4242.

Among the substantive issues that need to be addressed in developing guidelines are:

- whether the basic model for delivery of benefits is to establish a fund, or to provide incremental support or 'block grants' to affected municipality budgets
- whether the approach is project-based or to emphasize strengthening existing and nascent river basin organizations to deliver the benefits
- how mechanisms can be introduced systematically and consistently on both new and existing dam projects
- the linkage, or relationship to environment protection and water resources protection funds and their objectives
- the scope of non-monetary benefits and the priority for specific measures to improve electricity access among populations affected by dams.

A further substantive issue is whether a phased approach to introduce benefit sharing mechanism is appropriate.[37]

8.2 Avoiding missteps, clearing up misconceptions

Challenges other countries have faced introducing benefit sharing are documented in the literature. These include comprehensive works on sharing benefits with local communities (Égré, 2007), and sharing between riparian states on international rivers (Yu, 2008).

Among the missteps that can undermine successful outcomes include:

- lack of transparency and accountability resulting in corruption, which is perhaps the single greatest threat to successful introduction of benefit sharing measures and to community and public acceptance

- poor or ill advised implementation mechanisms that are not coordinated with the local planning system and IWRM implementation

- creating unrealistic expectations among affected populations from the start

- using multi-stakeholder discussion of benefit sharing as a new ground to fight ideological battles (pro- or anti-dam), rather than focusing creative energy on enhancing the sustainable performance of existing dams and those under development

- assuming that past concerns about social injustice on resettlement concerning dam projects can or should be left off the agenda.

8.3 Constructing a multi-stakeholder dialogue platform as a first priority

Based on experience elsewhere, a multi-stakeholder dialogue platform is needed to kick-start and maintain momentum to introduce benefit sharing mechanisms. A systematic and coherent approach to this task would encompass some of the following aspects:

- A clear advocacy strategy to raise awareness on how benefit sharing overcomes real and perceived shortcomings in dam planning and management, and clear up common misconceptions that confuse and slow its adoption. This strategy would be based on a policy review and stakeholder analysis and regional and international experience would inform the strategy.

- A critical mass of multi-stakeholder partners and a dialogue platform to identify the sort of leadership, coalitions and practical next steps needed to contextualize successful models for benefit sharing to the West African situation.

- A suitable dam project(s) and river basin to field trial local benefit sharing mechanisms and to refine and amplify good practice.[39] The design of the pilot would ideally:
  - provide flexibility to allow innovation, and to explore and evaluate a range of feasible mechanisms for non-monetary and monetary benefit sharing
  - link to the introduction of basin IWRM measures and incorporate field trials on introducing mechanisms on an existing dam and proposed new dam
  - accommodate financing partners and multi-stakeholder in the review (typically a pilot needs a two–three year trial and will incorporate a multi-stakeholder process to review and offer advice on the pilot at critical milestones).

- Political will to link the outcomes of field trials to a government-led process to decide and prepare follow-up legislation and regulations, drawing also from the growing body of international and regional experience (including reasons for success and failure in other settings).

- A coalition of financial partners from the international development community to help achieve the critical threshold of consensus as early as possible, after which the national and regional efforts will become self-sustaining.

In the West African context, this requires linking to existing initiatives promoting dam planning and management in the IWRM river basin management context and knowledge sharing with other West African States. For example, it would involve regional networks like Global Water Partnership (GWP/WAWP) and African Network of Basin Organizations (ANBO). Major river basin organizations in West Africa such as Senegal, Niger and Volta would also be appropriately involved.

39. It emphasises the importance of coalition approach, based on common interest to develop and trial at pilot a benefit sharing mechanisms linked to the introduction of basin IWRM.

9

Conclusions

It is likely that benefit sharing will play an important role in dams and development in West Africa in future. The question is really what is the best implementation approach? The timing depends on advocacy and successfully making the case that equitable sharing of benefits is both a philosophy and a component part of sustainable development.

In multi-stakeholder discussions it is important to keep in mind that non-monetary forms can be as valuable to rural populations as the monetary forms of benefit sharing. It is not just about sharing revenue; it is also about empowering self-reliant community development, ensuring commitments to sustainably manage dams are kept, and to unlock the potential of local entrepreneurs to advance new ideas such as payments for ecological services. The greatest value is achieved when all forms of benefit sharing function together.

On monetary aspects, it is important to keep two key questions separate: (i) the source of money for revenue sharing, which is a government economic regulation decision, and (ii) the mechanisms for the allocation and delivery of benefits to dam-affected and local populations, which is a local development decision.[40]

In any advocacy strategy, two important points to promote are first, that benefit sharing is in the interests of all stakeholders directly or indirectly engaged in dam planning and management, both consumers and those affected by dams; and second, that multi-stakeholder dialogue will help to define a viable approach that:

- has both a practical and ethical orientation
- adds value for all stakeholders
- creates synergy with existing government development policy initiatives
- builds on and reinforces the roles of existing institutions, local development and water resource management institutions.

40. On the first question, it is important to see revenue sharing as a relationship between consumers of services and local communities who give up resource access, which enables dams to be built and operate. In that way the political decision is not abstract, it is a clear question about the adjustment in water and electricity tariffs needed to equitably share the benefits and costs of dam development. The second question, one that is more challenging, is whether it is best to provide incremental funds for development budgets of villages, municipalities and districts where affected populations live, or to establish a fund with a separate identity linked to river basin organizations.

In parallel with the identification of benefit sharing mechanisms for dams within national boundaries, dialogue on how to bring benefit sharing with all project affected populations into existing arrangements for international rivers can take place.[41]

41. Recognizing processes to reach a cooperative agreement can take decades, largely because of the technical complexity of regional projects, the difficulty in establishing benefits and costs and reaching an equitable division of gains, differing policy and political environments, and unclear roles and responsibilities among project, national and regional institutions.

Annex 1. The dams of West Africa

(Source: FAO, 2009)

Ilauko	Benin	Oueme	1979	22	23 500		x				
Lac dem	Burkina Faso	Nakambe	1950	–	4 000	x	x			x	
Samou	Burkina Faso	Faga	1962	–	5 000		x			x	x
Badadougou	Burkina Faso	Comoe	1977	–	6 000		x				
Dablo	Burkina Faso	Faga	1977	–	6 000	x	x			x	
Tougouri	Burkina Faso	Faga	1950	–	6 000	x	x			x	x
Tougouri	Burkina Faso	Nakambe	1987	–	6 000		x				x
Sitenga	Burkina Faso	Gorouol	1978	–	10 000		x			x	
Yalgo	Burkina Faso	Faga	1954	–	10 000		x			x	x
Lac Bam	Burkina Faso	Nakambe	–	–	31 000		x				x
Loumbila	Burkina Faso	Nakambe	1947	–	35 000	x	x			x	x
Douna	Burkina Faso	Leraba	1987	–	50 000	x				x	
Toussiana	Burkina Faso	Comoe	1982	–	6 100		x				
Boudieri	Burkina Faso	Niger	1963	–	4 159	x				x	x
Louda	Burkina Faso	Nakambe	1958	–	3 200	x	x			x	
Boura	Burkina Faso	Mouhoun	1983	–	4 200	x				x	
Koubry II	Burkina Faso	Nakambe	1972	–	7 200	x	x			x	
(Nayarle) Lery	Burkina Faso	Mouhoun	1976	–	250 000	x				x	
Tougou	Burkina Faso	Nakambe	1962	–	4 254	x	x			x	
Thiou	1962	–	x	4 254		x	4 254	x	x	mrj/Spa>9fj/Spad0 Tdx[mT1_0 1 T/Actua2Text<009>DC 11	

Name of dam	Country	River basin	Date completed	Height	Reservoir volume	Irrigation	Water supply	Flood control	Hydropower	Navigation	Recreation	Pollution control	Pastoralism	Other
				(m)	(x1000 m^3)	Utilisation								
Bazega	Burkina Faso	Nakambe	1961	–	5 350	x	x						x	x
Kompienga	Burkina Faso	Oti	1984	–	1 400 000				x					
Sambissogo	Burkina Faso	Mouhoun	1961	–	3 400	x	x						x	
Liptougou	Burkina Faso	Faga	1962	–	7 423		x						x	x
Bagre	Burkina Faso	Nakambe	1980	–	3 500	x							x	
Tamassogo	Burkina Faso	Nakambe	1978	–	3 500	x							x	
Dakiri	Burkina Faso	Faga	1960	–	10 500		x						x	x
Tapoa	Burkina Faso	Niger	1950	–	5 510	x								x
Fada I	Burkina Faso	Niger	1951	–	4 613		x						x	
Titao	Burkina Faso	Nakambe	1951	–	3 700	x	x						x	x
Monkuy	Burkina Faso	Mouhoun	1965	–	8 763									
Karamassasso	Burkina Faso	Ngora Laka	1958	–	11 800	x								
Korsimoro	Burkina Faso	Nakambe	1984	–	4 900	x	x						x	
Tingrela	Côte d'Ivoire	Bagoe	–	17	3 000	x								
Nouple	Côte d'Ivoire	Bandama Blanc	1976	13	4 000	x								
Yabra	Côte d'Ivoire	Bandama	1974	13	4 000	x								
Nabyon	Côte d'Ivoire	Nzi	1982	17	14 000	x								
Koua	Côte d'Ivoire	Ba	1979	23	17 000	x								
Gbemou	Côte d'Ivoire	Bagoe	1979	14	18 000									
San Pedro	Côte d'Ivoire	Sassandra	1980	15	25 000	x			x					
Nafoun	Côte d'Ivoire	Bagoe	1976	15	60 000	x								
Ayme II	Côte d'Ivoire	Comoe	1964	35	69 000				x					
Taabo	Côte d'Ivoire	Bandama	1979	34	69 000				x					

Nindio	Côte d'Ivoire	Bandama Blanc	1975	13	3 100		
Buyo	Côte d'Ivoire	Sassandra	1980	37	8 300		x
Solo Mougou	Côte d'Ivoire	Bandama Blanc	1974	15	14 300	x	
Loka	Côte d'Ivoire	Nzi	–	23	22 300	x	
Lataha	Côte d'Ivoire	Bandama Blanc	1973	13	3 400	x	
Dekokaha	Côte d'Ivoire	Bandama Blanc	1973	13	3 600	x	
Natiokobadara	Côte d'Ivoire	Bandama Blanc	1974	14	3 600	x	
Gbon	Côte d'Ivoire	Bagoe	1976	12	7 700	x	

Akosombo (main)	Ghana	Volta	1965	134	147 960 000	x
Kale	Guinea	Konkoure	1963	20	14 000	x
Banieya	Guinea	Konkoure				

Name of dam	Country									
Asa	Nigeria	Niger	–	27	43 000		x			
Kagara	Nigeria	Kaduna	–	31	43 000		x			
Suleja	Nigeria	Gurara	–	28	52 000	x				
Kubli	Nigeria	Niger	1992	17	70 000	x				
Balanga	Nigeria	Gongola	1987	41	73 000	x				
Liberty	Nigeria		1973	27	77		x			
Erinle	Nigeria	Oshun	1989	27	94 000		x			
Ussuman	Nigeria	Gurara	1984	45	120 000		x			
Kafin-Chiri	Nigeria	Hadedja	1977	16	31 120	x	x		x	
Eagauda	Nigeria	Hadedja	1970	20	22 140	x	x		x	
Tenti	Nigeria		1943	14	14 150			x		
Zobe	Nigeria	Bunsuru	1983	19	177 000	x	x			
Obudu	Nigeria	Cross	–	15	4 200	x				
Lantang	Nigeria	Benue	1979	19	5 200		x			
Oshun	Nigeria	Niger	1977	11	8 200		x			
Gari	Nigeria	Hadedja	1980	22	214 000	x				
Karaye	Nigeria	Hadedja	1971	15	17 220		x			
Omi	Nigeria	Kampe	–	42	250 000	x	x			
Ikere Gorge	Nigeria	Ogun	–	48	265 000	x	x	x		
Kangimi	Nigeria	Kaduna	1977	19	59 210	x	x			
Oyan	Nigeria	Ogun	1983	30	270 000	x	x	x		
Tagwai	Nigeria	Chanchaga	1978	25	28 300		x			
Kontagora (2)	Nigeria	Niger	–	32	340 000	x				

Name of dam	Country	River basin	Date completed	Height	Reservoir volume	Utilisation								
				(m)	(x1000 m³)	Irrigation	Water supply	Flood control	Hydropower	Navigation	Recreation	Pollution control	Pastoralism	Other
Tomas	Nigeria	Hadedja	1976	14	60 300	x	x							x
Shen	Nigeria	Benue	1979	–	3 400		x							
Hadejia	Nigeria		1994	9	11 400	x								
Gubi	Nigeria	Gongola	–	27	38 400		x							
Bakolori	Nigeria	Sokoto	1978	48	450 000	x								
Bagoma	Nigeria	Kaduna	1974	17	5 455	x	x							
Otin	Nigeria		1974	14	5 455		x							
Gfant's House	Nigeria		–	26	6 500		x							
Egbe	Nigeria	Osse	1983	22	21 500		x							
Jekara	Nigeria	Hadedja	1976	14	6 519 000	x								x
Doma	Nigeria	Benue	1988	16	37 500	x	x							
Mohammadu Ayuba	Nigeria	Hadedja	1975	16	5 535 000	x	x							x
Oba	Nigeria	Oshun	1964	13	4 546		x							
Jebba	Nigeria	Niger	1984	40	3 600 000				x					
Igbojaiye	Nigeria	Ogun	1991	18	5 600	x	x							
Ejigbo	Nigeria		–	20	14 600		x							
Kiri	Nigeria	Gongola	1982	20	615 000	x								
Guzu Guzu	Nigeria	Hadedja	1979	17	24 600	x								x
Watari	Nigeria	Hadedja	1980	20	104 550	x			x					
Faw Faw	Nigeria	Ogun	1967	15	668		x							
Magaga	Nigeria	Hadedja	1980	19	19 680	x								x
Kafin Zaki	Nigeria	Jamaare	–	40	2 700 000	x								
Ouree	Nigeria		1936	21	6 700				x					

Name of dam	Country	River basin	Date completed	Height	Reservoir volume	Utilisation								
				(m)	(x1000 m^3)	Irrigation	Water supply	Flood control	Hydropower	Navigation	Recreation	Pollution control	Pastoralism	Other
Kontagora (1)	Nigeria	Niger	1989	20	17 700		x							
Iku	Nigeria	Gurara	–	28	42 700	x								
Ajiwa	Nigeria		1973	14	22 730	x	x							
Marashi	Nigeria	Hadedja	1980	11	6 770	x								x
Pedan	Nigeria		–	33	5 800		x							
Awon	Nigeria	Ogun	1962	15	9 800		x							
Tudun Wada	Nigeria	Hadedja	1977	21	20 790	x								
Jibiya	Nigeria	Bunsuru	1990	22	142 700	x	x							
Zuru	Nigeria	Gulbinka	1978	15	5 850		x							
Dadin Kowa	Nigeria	Gongola	1988	42	2 855 000	x	x		x					
Tiga	Nigeria	Hadedja	1974	48	1 874 000	x	x							
Biu	Nigeria	Gongola	–	–	11 900	x	x							
Zaria	Nigeria	Kaduna	1975	15	15 911		x							
Challawa Gorge Dam	Nigeria	Hadedja	1992	42	930 000	x	x							
Goronye	Nigeria	Rima	1983	20	942 000	x								
Asejire	Nigeria	Oshun	1969	26	32 913		x							
Diama	Senegal	Senegal	1986	18	250 000	x								
Nangbeto	Togo	Mono	1987	44	1 710 000	x			x					
Kprime	Togo		1963	16	900				x					

Africa: Lesotho and Sierra Leone

Lesotho offers the example of the Lesotho Fund for Community Development (LFCD), co-financed by revenue derived from the bi-national Lesotho Highlands Water Project (LHWP) and a World Bank grant. The larger context was the 1986 treaty between the governments of Lesotho and South Africa that formed the basic agreement between the two states to implement the LHWP. The treaty, amended in 1999, explicitly defines the mechanisms for the two countries to share the cooperative gains from joint development, instead of physically sharing water itself.

It was envisaged that the LHWP would contribute to economic growth, but it was not specifically geared to employment creation and needs of the rural poor (World Bank, 2005).[42] In 1999 the government and Bank agreed to establish the LFCD, aiming to ensure community-driven development (CDD), employment generation, and poverty reduction.[43] The LFCD was designed with preferential focus on five pre-identified poor districts in the Highlands as well as the poor peri-urban areas of Maseru, the main urban centre and capital city. The initial design of the LFCD was the culmination of a participatory process to agree on how to utilize revenues from the LHWP in line with the government's stated objective of poverty reduction.

While the concept of the LFCD represented best practice and numbers of local development initiatives have been successfully implemented by the LFCD mechanism,[44] it also illustrates the type of challenges and avoidable failures that can occur in implementation of such funds.

The World Bank ended its involvement in the LFCD in 2003. The internal World Bank Completion Report (ICR) for the LFCD rated the project outcome as

financing of nearly $US 2 million annually up to 2012. All money derived from the ERPA was to be deposited in the Bumbuna Trust account. Core financing for the trust was also to come from the Bumbuna revenue stream, provisionally up to 0.5 cents US/kwh, once the project started operating.

The Bumbuna Trust itself is to be governed by a multi-stakeholder board, using different grant-financing windows.[48]

- The benefit sharing window supporting community-managed projects (eg. for village micro-infrastructure such as local roads, schools, health posts, market areas, etc., and for grants to youth groups for social activities, training and trade skills development). This will cover all communities in the wider project area (under the USCDI) as well as the resettled communities. The basis for accessing the funds will be a grant application. Trained community coaches will provide support to prepare grant applications. Implementation will be linked to government support services, as needed, but otherwise CDD approaches will be followed, with independent CSO/NGO monitoring.

Other financing windows of the trust are intended to support:

- A new Bumbuna Watershed Management Agency (BWMA), to deliver

with benefit sharing from other countries. This stage incorporated rapid appraisals of three hydropower projects to evaluate conditions and attitudes of local residents to preferred forms of benefit sharing (on an existing dam, a dam under construction, and a proposed dam).

Phase 3. *Pi[illegible]* to prepare detailed guidelines on a selected project (the 210 Mw A'Vuong project ready to be commissioned in 2008 was selected). This phase incorporated workshops and meetings with provincial authorities, and focus group sessions with residents in different locations of the A'Vuong project impact zone to establish their reaction to the guidelines and preferences for measures, including preferences on whether support was delivered via government development programmes, community-based organizations or through supervised schemes for local entrepreneurs and enterprises on a group or individual basis.

The governance structure established for the technical assistance included a multi-agency steering committee responsible for the major decisions on the guidelines, led by ERAV. A national stakeholder forum – consisting of invited government interests, national non-government organizations, international NGOs active in Vietnam (eg. WWF, IUCN), dam development interests and donors agencies – was convened. Three workshops were held, one after each phase to gather reactions and comments.

What actually transpired was that instead of preparing general guidelines for future consideration, the steering committee and national stakeholder forum concluded that the best approach was to prepare draft legislation. While implementation of the legislation could not be guaranteed, it was a highly significant step. Multi-stakeholder collaboration was key to arrive at that decision, including (i) engagement of local dam-affected communities in surveys and to consider what could be proposed as legislation and detailed regulation; (ii) provincial level workshops, where the provinces expressed a strong desire for financial assistance in dealing with social impacts in dams, as it was taking up to 10 years to restore families to even pre-project conditions and living standards (in Vietnam the provinces are primarily responsible for rural development and establishing river basin organizations); and (iii) the strong consensus of the national stakeholder forum, including the international NGOs who were active members and offered support such as independent legal review of the draft legislation and technical expertise on CDD rural development models.

The pilot project is in two stages. Stage 1, now under way, aims to:

i) establish a benefit sharing council and temporary revenue sharing account;

ii) prepare a model fund charter and other key instruments needed to implement revenue sharing grants according to the guidelines, introducing modifications as appropriate;

iii) undertake activities consistent with the guidelines to assess and recommend measures for equitable sharing of electricity access and enhanced entitlements for natural resource access (non-monetary benefits);

iv) provide at least one-cycle of grant application and award to test the delivery and monitoring mechanisms for measures that typically will be supported by revenue sharing grants; and

v) prepare a systematic article-by-article review of the guidelines (draft legislation) in order to make amendments and provide recommendations on finalizing the legal instruments.

Stage 2 of the pilot aims to develop a more comprehensive set of local capacity building tools to facilitate rapid and smooth rollout of benefit sharing on existing and new hydropower projects in Vietnam, once legislation is formally approved.

In Laos one of the aims of the export-oriented Nam Theun 2 project is 'to generate revenues that will be used to finance spending on priority poverty reduction and environmental programs in Lao PDR through environmentally and socially sustainable exploitation of NT2's hydropower potential' (Fozzard, 2005).[55] Specific revenue and expenditure management arrangements are set out in the project agreements. These provide a framework for the transfer of power revenues when Nam Theun 2 is commissioned. The government of Lao PDR has identified five indicative programmes for the distribution of these funds on the basis of the National Growth and Poverty Eradication Strategy (NGPES), namely: basic education; basic healthcare; rural roads; local development initiatives identified through a participatory decision-making process; and environmental protection initiatives.

In India, states (provinces) receive an allocation of 10 per cent of electricity

- permanent local area funds will in future be established on hydropower projects;

- the local area fund will have a multi-stakeholder board composed of representatives of project-affected communities, chaired by a local government representative appointed by the state;

- beneficiary preference will be reflected in how the money is spent and expenditures will be monitored by each state.

As yet there is no information readily available on experience to date, or whether local area development funds have been established. Moreover, as information is relatively limited (mostly only reported in the media), it is not clear yet whether funds will be set up on both new and existing projects. For example, 'All memoranda of understandings (MoUs) proposed between the Central power generation companies and states like Himachal Pradesh, Uttarakhand and J&K

There is a tax holiday on some portion of the royalties in the first 15 years, but after that royalties are 10 per cent of generation (Gwh) plus a charge on capacity (Mw). Nevertheless, the amounts have a significant impact. In some districts the hydropower revenue sharing arrangements represent up to 65 per cent of the revenue from all sources, including government administration and development budgets (Uppadyaya, 2006 cited in Egré, 2007[57]). Participants in a multi-stakeholder workshop in Nepal in 2006 on the status of the revenue sharing programmes noted that (i) while highly beneficial, there needed to be more transparency in how funds are used; (ii) revenue sharing targeted to upstream watersheds of hydropower plants should be considered, especially for payment for ecological services; and (iii) the arrangements (then) tended to focus on the powerhouse areas and ignore downstream areas, which are also affected, and those areas should also be entitled to a share of royalty (Uppadyaya, 2006 cited in Egré, 2007).

Latin America: Brazil and Columbia

In Brazil, rather than taxing revenue on the sale of energy, the national constitution (1988) charges a fee for water used to generate electricity. This

Specific aims were to '… support efforts by the people of the Columbia Basin to create a legacy of social, economic, and environmental well-being and to achieve greater self sufficiency for present and future generations'. The CBT also functions as a basin-wide public monitoring mechanism, publishing annual reports on the state of the basin, with indicators to illustrate changes in its ecological, economic and social health.

When it was formed the Columbia Basin Trust received a $295 million endowment from the province. Of this amount $45 million was reinvested for the benefit of basin residents through a range of community development and grant-based programmes that involved short-term cash investments, business loans, real estate ownership, and venture capital projects. In addition, the Columbia Basin Trust receives $2 million per year from 1996 to 2012, essentially paid for by royalties on generation, which is reflected in the power export tariff.

The provincshwer

- the resource use tax, which is calculated on the basis of the average power generation from the plant over the last seven years – the rate was 0.172 ¢ per kWh in 2004 – of which 74 per cent goes to the municipality;

- equity sharing revenues received by counties and municipalities in the form of dividends – many municipalities have equity shares in hydropower projects;

- property taxes (most municipalities levy an annual municipal property tax based on 0.7 per cent of the market value of the power facilities);

- preferential electricity rates (for municipalities that host hydropower projects); and

- a non-recurrent amount from the electricity production company to be used in a local area business development fun).

The Norwegian legislation thus comprises a variety of measures explicitly recognizing that project-affected people – as part of the populations of municipalities in which water resources are exploited – must receive a share of the project benefits, over and above mitigation and compensation measures (WCD, 2000[63] and Egré, 2007).

63. WCD case study on the Glomma and Laagen basin.

Natural Resource Issues

IIED's Natural Resource Issues series aims to present timely, easy to read, peer-reviewed material on cross-cutting themes of significance to natural resource sectors, including biodiversity, energy, forests, food and agriculture, land and water. Each issue reviews a selected issue of contemporary importance, describes some original work exploring it, and draws conclusions that are particularly relevant for policy makers, researchers and other protagonists in the field concerned.

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Sharing the benefits of large dams in West Africa

Food security, energy concerns and the potential impacts of climate change (floods and droughts) have brought dams back to the forefront of the development agenda. Making affected people a direct beneficiary of dam projects promotes public acceptance, attenuates risk for developers and reduces the likelihood of long term conflict between those displaced and the villages that host them.

This report reviews the experience with displacement of affected people in West Africa over the last 40 years and examines mechanisms for distributing the benefits of dams more equitably and for ensuring that affected people are better off.

Natural Resource Issues No. 19

ISBN: 978-1-84369-717-6
ISSN: 1605-1017

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