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# **Introducing local benefit sharing around large dams in West Africa**

**Drawing on regional and  
International experience**

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- 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 5 countries : Senegal, Ghana, Burkina Faso, Mali, and Niger.

## **Abstract**

West African countries presently operate over 100 large dams and many plan to build more. In the context of sustainable development, this paper explores how benefit sharing helps to address the frequent disconnect between national and local development, often at the centre of controversy over decisions about large dams.

Benefit sharing is attracting increasing attention worldwide as a uniquely powerful, practical and adaptable management tool. It serves to underpin the sort of partnerships needed to genuinely involve people in development decisions that affect them, and put Integrated Water Resource Management principles for sustainable management of large dams into practice.

The paper is offered 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 dam benefits with local communities and traditional river users, benefit sharing between States is also essential for mutually beneficial cooperation to sustainably manage West Africa's international river systems.

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## Introduction

Benefit sharing has recently come to the forefront of international thinking about ways to sustainably develop and manage large dams and more equitably distribute the benefits and costs within society. This is partly because the principles of equitable sharing benefits are embodied in several broader, complementary trends in water governance reform and sustainable development taking place worldwide.

These include ongoing efforts in different settings to:

- Find concrete ways to adopt integrated water resources management (IWRM) principles that treat water as an economic, social and environmental good. All stakeholders, rather than water organizations alone, must work in partnerships to achieve the integration of these elements and dimensions;<sup>1</sup>
- Ensure poverty alleviation is an explicit focus in infrastructure provision, especially large dams that often have a disproportionate adverse impact on local communities and traditional river users;
- Capture cross-sectoral synergies in land management, local income generation and sustainable management of dams as physical assets. For example, extending operating lives of reservoirs by planting trees in headwater areas or shifting to agriculture and livestock grazing practices that combat desertification, soil erosion and sediment processes in river catchments – providing multiple benefits;<sup>1</sup>
- Fund local actions to protect and manage aquatic ecosystem functions and services in rivers, flood plains and wetland areas that people rely upon for livelihoods; and
- Provide innovative measures and incentive mechanisms that build local capacity to adapt land-water resource systems to climate change.<sup>2</sup>

The equitably sharing benefits is a way of thinking, as well as a practical approach to catalyse and fund local actions that join many strands of water governance reform and sustainable thinking under the IWRM framework. The mechanisms reinforce social equity in infrastructure strategies and promote sustainability, rather than narrowly optimising dams as physical assets that deliver water and energy services, or navigation benefits.

Beyond the dams sector, benefit sharing is today actively pursued in other natural resource extraction and transformation sectors. There are numerous models from the mining, petroleum and forestry sectors that range from nationally administered revenue funds that target improvements in public services to affected communities, to revenue sharing contracts between companies (or state production enterprises) and local communities.<sup>ii</sup> Benefit sharing is now widely accepted as a way to spread resource utilization benefits across the economy, catalyse broader-based growth and support social equity policies.

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<sup>1</sup> Extending the operating lives of dam reservoirs extends multiple-benefits and revenue generation.

<sup>2</sup> In connection with the role benefit sharing plays in increasing capacity to implement community-managed catchment management measures that help adapt to climate change, as well as adaptively manage dams to maximize development returns over the longer-term, as hydrological conditions vary.

The practice is also found in emerging resource management fields. For example, the Convention on Biological Diversity (CBD) and intergovernmental bodies under the UN are actively developing national guidelines to cover international bio-trade in genetic resource utilization. The philosophy is to share income from sources, like international patents, among governments and local communities where medicinal plants are found. <sup>iii</sup>

More closely connected to dams, payments for ecological or environment services (PES) is a new tool to provide incentive to change land management practices important for river basin management. <sup>iv</sup> Financial resources for PES can come from several sources, including revenue sharing from dams (e.g. especially relevant where PES empowers local actions that extend operating lives of reservoirs and sustain long-term revenue flows from dam services, as previously noted). It makes economic and financial sense when the assurance of small payments to local community organizations, or individual land users from the project revenue stream tips the balance in favour of a mutually beneficial land use.

### The West African context

There are many options to anchor benefit-sharing mechanisms within West Africa's emerging policy framework for water management and integrated river basin management at regional, national and local levels.

Already there are implicit and explicit elements of multi-country benefit sharing in agreements on the region's major international rivers in Box 1.

For example, the 1972 convention that established the Organisation pour la Mise en Valeur du fleuve Senegal (OMVS) embodies benefit sharing between Senegal, Mauritania and Mali. <sup>v</sup> The recent Senegal Water Charter (2004) aimed "... to better realize the potential to share development benefits with the broader population in the Senegal River Basin ..." <sup>vi</sup> has also given some tangible results. After the implications of the Charter have become clearer, OMVS has begun not only to consider reservoir releases for irrigated agriculture, but also flood releases for recessional agriculture and other uses to maintain critical ecological functions (i.e. via downstream releases from the Manantali Reservoir in western Mali). <sup>vii</sup>

The Paris Declaration (2004) on principles of management and good governance for a sustainable and shared development of the Niger River Basin (NRB) and the subsequent Action Plan for Sustainable development of the Niger Basin (2007) also re-affirm sharing benefits among the nine NRB Member States. <sup>viii</sup>

It is clear that cooperative development of international river systems offers unique advantages over unilateral development, in West Africa, as elsewhere. Most observers in fact argue that benefit sharing is a necessary condition for multi-country cooperation on

#### Box 1: Major River Systems in West Africa

##### Major International Rivers

*Niger River* – Guinea, Mali, Niger, Benin and Nigeria

*Senegal River* - Senegal, Mauritania, Mali

*Volta River* - Ghana, Burkina Faso

*Gambia River* - Gambia, Senegal

*Cavally River* - Liberia, Côte d'Ivoire

##### Major Single Country Rivers

*Bandama River* - Côte d'Ivoire

*Oueme River* - Benin

*Saint Paul River* - Liberia

*Sanaga River* - Cameroon

*Sankarani River* - Mali

*Benue River* - Nigeria

international rivers (e.g. Sadoff and Grey (2002), Yu (2008)).<sup>ix</sup> As the World Commission on Dams (2000) recommended, by focusing on the division of benefits that derive from water use,<sup>3</sup> not the physical allocation of water, mutual gains can be identified that are both substantive and transformative in nature.<sup>x</sup> What matters most, is to set up a framework for allocating costs and quantifying benefits that gives riparian countries latitude to reach mutual agreement on sharing benefits, such that each State is left in a superior position (in economic, social, and/or environmental terms) compared to unilateral development pathways.<sup>xi</sup>

As the situation in the Senegal River exemplifies, equitable sharing of benefits between national and local levels cannot be left outside the development equation; moreover it needs the same broader principles of empowerment, mutual gain and choice.

This paper thus argues a strategy to advance the sharing benefits with dam-affected people and basin populations of national rivers in West Africa is needed – linked to related efforts in integrated river basin management. It is timely to do so now. As experience and confidence with specific mechanisms evolve, they can be readily incorporated into agreements on international river systems.

Box 2 derived from statistic from the International Committee on Large Dams (ICOLD) shows that 94 large dams were in operation in eleven of the sixteen countries in West Africa in 2000. Other more recent databases using different definitions of large dams show that as many a 150 large dams were in operation or under development by the end of 2008.<sup>xii</sup>

**Box 2: Number of Large Dams on West African States in 2000**

|               |    |
|---------------|----|
| Benin         | 2  |
| Burkina Faso  | 8  |
| Cape Verde    | -  |
| Côte d'Ivoire | 22 |
| Gambia        | -  |
| Ghana         | 5  |
| Guinea        | 2  |
| Guinea-Bissau | -  |
| Liberia       | 1  |
| Mali,         | 2  |
| Niger         | -  |
| Nigeria       | 45 |
| Senegal       | 2  |
| Sierra Leone  | 3  |
| Togo          | 2  |
| -----         |    |
| Total         | 94 |

Source: ICOLD database in 2000

As part of the effort to advance local benefit sharing ideally a Pilot Project will be developed to evaluate steps to introduce mechanisms on both existing and new dams. In most cases, the local communities adversely impacted by large dams in West Africa are agro-pastoralists that rely on a combination of flood recession agriculture, small animal husbandry, and fishing to support their livelihoods. The Pilot must give these dam-affected communities and any resettled groups the opportunity to express their preferences for monetary and non-monetary forms of benefit sharing to be tested and their mode of delivery.

As suggested in this paper, a multi-stakeholder partnership of government, industry and civil society interests is perhaps the best way to maximize the value added by the Pilot Project through a shared learning approach that provides for wider dissemination of results.

<sup>3</sup> Benefits to share between States may include hydropower generation, irrigated agriculture, flood regulation, navigation, and increased trade. These are all important determinants of growth and poverty alleviation. Non-monetary benefits (e.g., peace and security, regional integration) may be as valued as the monetary benefits.

# 1. TOWARDS INCLUSIVE AND SUSTAINABLE SOLUTIONS

Benefit sharing can have a large and transformational impact on how societies collectively approach decisions concerning dams and development.

## 1.1 Why bother with benefit sharing?

Several crosscutting themes illustrate why benefit sharing has received growing attention in connection with dams.

**Positive from all stakeholder perspectives:** Perhaps most significantly, closer examination always shows that the introduction of benefit sharing mechanisms is positive from all stakeholder perspectives. It allows project-affected people and traditional river users as well as basin residents involved in catchment management to become partners in projects. Otherwise, it provides them with a stronger voice in decisions that affect them, and an opportunity to be first among project beneficiaries, not last.

From the government perspective, benefit sharing is a practical policy tool to achieve greater social inclusiveness and balance social, economic and environmental factors in planning, design, implementation and operation of dam projects.<sup>xiii</sup>

From the dam operator perspective, benefit sharing increases capacity to work effectively with local communities. Good community relations are important for many reasons, ranging from the reduced risk of project delays, to improved prospects for local cooperation in catchment management and implementing environment mitigation measures as prescribed by law, and reputational risk. From the perspective of potential investors, the presence of an explicit policy framework with realistic provisions for local benefit sharing is an indicator that locally affected communities and the public are likely to support a dam project – all things considered. As a consequence, the investor's risk exposure is reduced and investors are more inclined to become financing partners.

Ultimately from a consumer perspective (domestic, service sector or industry) it means that decisions can be reached to optimally develop water resources and provide what are potentially more secure, reliable and less expensive water and energy services.

**Addressing past shortcomings:** Benefit sharing helps to address many past shortcomings in dam planning and management that are well documented.<sup>xiv</sup> Among these include failures to honour social commitments made to project-affected communities and failures to finance environmental mitigation measures.<sup>xv</sup> 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 complements other water management reforms and efforts to deliver sustainable infrastructure strategies. For example, tangible content is given to subsidiary principle of IWRM when benefit sharing mechanisms empower



local action to eradicate extreme hunger, react to unexpected environmental circumstances in the operation of dams, and facilitate local development partnerships. More generally, arrangements for equitable sharing perceived as fair and developed in a collaborative way, can turn potential conflict into consensus in dam planning and management. In doing so, this offers scope for basin communities and all stakeholders to turn from conflict to focus on creating synergy to maximize local development opportunities within national investments in infrastructure provision.

While the generic advantages are clear, the triggers that motivate governments to introduce local benefit sharing mechanisms are context specific.

As noted in Annex 1, it was a combination of local political pressure and national power market reforms that tipped the balance to advanced benefit sharing in Viet Nam.<sup>4</sup> Sierra Leone’s agreement to incorporate benefit-sharing arrangements in 50 MW Bumbuna hydropower project was motivated by multiple considerations. Apart from the strategic aim of helping to address root causes of the 11-year civil war by ensuring local communities realized benefits from resource development, there were a range of project-specific reasons, as noted in Table 1.

| <b>Table 1: Multiple aims for incorporating benefit sharing arrangements<br/>In the 50 MW Bumbuna HEP in Sierra Leone</b> |                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| To meet immediate needs and expectations of the poorest communities in the project area                                   | In addition to restoring national power supply as a post-war reconstruction priority, isolated, poor rural communities in the catchment expected to benefit from the project (when in fact there was no budget for rural electrification in the near term).       |
| To avoid inter-community conflict over who receives benefits from the project and who does not                            | Ensuring indirectly affected communities had access to benefits, when only the adjacent resettlement and resettlement host communities were entitled to received support from the project compensation and resettlement budgets, by current laws.                 |
| To support the new decentralized development policy of government                                                         | Creating a community-based fund that complemented limited government resources to deliver decentralized development. The operation of the Fund was linked to the traditional tribal and new district development systems and to develop capacity.                 |
| To finance the long-term environment management and social components of the dam project                                  | Using the Bumbuna Trust as a multi-window financing mechanism not only for benefit sharing but also as a secure source of funds for long-term catchment management and environment management measures, which government budgets could not fund.                  |
| Establish a precedent for local sharing in national water resource development                                            | Sierra Leone’s first major hydropower project could also serve as a model for future components of the project development scheme (Bumbuna is Phase 1 in a multi-phase development). And build public confidence in inclusive approaches to resource development. |

<sup>4</sup> Local political pressure amplified to provincial pressure stemmed from the fact it was taking up to 10 years to restore dam-resettled communities to even pre-project living standards.

## 1.2 General principles and perspectives in benefit sharing

The general principles of benefit sharing apply equally to sharing between riparian states and sharing between national and local levels.<sup>xvi</sup> Three broader approaches to share national benefits of dam developments with local communities and river basin populations are:

1. *Equitable sharing of project services*: where local populations as target beneficiaries receive equitable access to the water and energy services produced by dam projects to support their development and welfare opportunities.<sup>5</sup>
2. *Non-monetary forms of benefit sharing*: where target beneficiaries receive entitlements enabling them access to other natural resources, or support to pursue other forms of livelihood and welfare improvement, which offset permanent loss or reduction of land or water resource access caused by the dam,<sup>6</sup> and
3. *Revenue sharing*: where target beneficiaries share part of the monetary benefits the project generates, typically expressed as a portion of revenue from bulk electricity sales or bulk water sales on an annual basis.

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 work force and local supply of goods and services to the project, as well as investments in physical infrastructure such as local roads (e.g. 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 ethical principles:** Three underlying principles for revenue sharing frequently cited in the literature are:

- First, 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;<sup>7</sup>
- Secondly, 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

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<sup>5</sup> For electricity services, a range of measures can be considered such as (i) mandatory electrification of resettlement communities (ii) priority in rural electrification programmes for connection or improved levels of service (iii) financial assistance for individual household service connections, and possibly energy efficient appliances, e.g. lighting, and (iv) preferential electricity tariffs for a stipulated period of time.

<sup>6</sup> Non-monetary benefits can be as valuable to local communities as the monetary benefits, especially measures that empower and build local capacity for management of natural resources and access to ecosystem services. But they may also have an indirect cost. The cost may be minor, such as deferment of potential local tax revenue, when local fishermen are granted preferential licenses for reservoir fisheries; or have a more measurable impact on overall project economics, such as when water is released from reservoirs to maintain recession agriculture downstream (though the net development and sustainability gain still remains positive).

<sup>7</sup> 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, of say electricity production, is less than the tariff.

be equitably shared between affected rural populations and urban centres outside project areas, taking into account all the development impacts; and <sup>8</sup>

- Thirdly, recognizing the scale of investments in large dam developments, national investments in dams should be conceived as part of local and regional development strategies, and to catalyse 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 economic rent 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 (e.g. beyond 5-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.

**b. Beneficiary preference principle:** Beneficiaries should be empowered with choice on how revenue sharing funds are used as well as measures for non-monetary sharing. Generally, this means the use of community-driven development approaches (CDD) to organize the delivery of benefits. Local preference may be for rural credit facilities run by community-based organizations. Or local communities may prefer increments in budgets of existing government programmes, like agriculture or fisheries extension services. Best practice is to enable beneficiaries to construct and then choose from a “menu” of development options consistent with official rural development plans and priorities.

**c. Institutional efficiency principle:** It is important to minimize the creation of new institutional structures for benefit sharing, especially where an existing institution is well suited for the role. The philosophy is generally to do more with less. <sup>xvii</sup> While there are different institutional options to coordinate benefit sharing, best practice arrangements involve partnerships between local communities and community-based organizations, dam owners or operators, local government structures and river basin organizations.

**d. User pay principle:** Regardless of the actual mechanism for revenue sharing, whether it's a water utilization fee, tax or budgetary transfer, ultimately the cost must be reflected in the tariffs for project services. Revenue sharing helps internalise the costs of social and environment components of dam projects (performance in terms of these dimensions of sustainability) in end-user electricity or water tariffs.

This key principle addresses some common misconceptions that can confuse or slow the adoption of benefit sharing. For example, revenue sharing is sometimes confused with profit sharing. There is also a misconception that revenue sharing is a capital budget item for dam projects, like resettlement and compensation for land or property recovered by the State, and therefore one that raises the cost of dam projects significantly and so discourages investment.

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<sup>8</sup> 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).

Benefit sharing is fundamentally a social contract between the main consumers of electricity and water services in towns, cities, commerce and industry with the local communities, who give up land or resource access for the project, facilitated by government regulation. Benefit sharing should not be seen as a negotiation between the local community and dam owners. In fact, most governments would be reluctant to impose a system of arbitrary negotiation of “profit sharing” that reduced the nation’s ability to attract dam project financing, or lead to inconsistent arrangements between projects in the country, and spawn new controversy.

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, e.g. 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.<sup>xviii</sup>

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.<sup>xix</sup> Public acceptance is based on perceptions that the balance struck is fair and reasonable.

Two additional perspectives that embody good practice are:

**e. Transparency and accountability perspective:** Worldwide experience shows the presence of corruption or abuse of power erodes public confidence in benefit sharing. Therefore, it is important to ensure that all transactions, especially around revenue sharing are fully transparent (who is eligible, what expenditures are eligible, how benefit sharing funds are apportioned among affected groups), to involve beneficiaries and CSOs in monitoring the use of funds, and to ensure the accountabilities of all actors are clearly defined. Transparency International offers a variety of good practice tools and techniques.<sup>xx</sup>

**e. Poverty alleviation perspective:** In West Africa, the communities most adversely affected by the operation of dams live at, or near subsistence levels. Often these communities have marginal access to government services. Similarly, in many developing countries dam-affected people are among the poorest and most vulnerable groups in society, and often ethnic or tribal minorities who enjoy special status in the constitution and development policy framework. Therefore, good practice is to link revenue sharing arrangements to a targeted reduction in poverty levels among the dam-affected population.

### 1.3 Different approaches to operationalize benefit sharing

The literature shows there is no single approach to operationalize benefit sharing with dam affected communities and residents of river basins (Égré, 2007). Much depends on the country legal framework and whether a functional river basin organization exists. The approach can be influenced by the ownership structure of the dam.<sup>xxi</sup> There may also be a development board like the Lesotho Highland Development Authority. Several features are nevertheless common to all models for benefit sharing.

**Enabling regulations:** There needs to be clear policy with enabling legislation or regulation for benefit sharing. What is generally needed in this respect includes:

- A comprehensive approach that advances all three forms of benefit sharing in a consistent way, adapted as required to existing and new dam projects (e.g. introducing measures only on new dams generates controversy);
- Coordination of decisions on benefit sharing with existing rural development planning systems so investments complement and reinforce, rather than undermine existing local development structures and capacities;<sup>xxii</sup>
- Clear linkages and scope to assign priority to dam-affected communities within existing rural electrification programs;<sup>xxiii</sup>
- Clear procedures to bring long-term benefit sharing considerations into discussion of resettlement and livelihood restoration provisions on new dams, and processes to design or update environment mitigation/ management programs for dams, and
- Clear procedures to ensure benefit-sharing thinking is reflected in all stages of dam planning, design, implementation, operation and rehabilitation to help ensure that “least-cost” approaches for benefit sharing are pursued.<sup>xxiv</sup>

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 1, 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;<sup>9</sup>
- 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 (e.g. 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; and

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<sup>9</sup> 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.

- More recently, use of carbon financing to capitalize local development Funds, as explored in the Bumbuna HEP in Sierra Leone mentioned earlier.

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 market places, rural roads;
- Agriculture, forestry and fisheries extension services;
- Skills and local entrepreneur development, rural credit programmes;
- Improved health and sanitation services; and
- 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 (e.g. 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 (e.g. fisheries and recession agriculture);
- Facilitating payments for ecological services like tree planting, or maintaining vegetation coverage in the immediate catchment (e.g. linked to PES);
- Supporting biodiversity protection and management values with identified measures; or
- Meeting specific health improvement, welfare or poverty reduction targets.

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.

**Box 3: Beneficiary preferences on use of funds in Viet Nam**

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 (e.g. farmer’s 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: Rapid Appraisal of A’Vuong Community (2007)

**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 prioritise 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.<sup>10</sup>

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 1.

Choosing between the two broader approaches depends on many contextual factors.<sup>xxv</sup> 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.<sup>xxvi</sup>
- The Charter provides the framework of principles and procedures for benefit sharing (e.g., who is eligible to participate, activities supported, criteria for allocating funds, and so forth).

In this respect, the Charter is similar in purpose to the Water Charters for the Niger Basin (2008) and Senegal (2004), which encapsulate principles and procedures for benefit sharing between riparian states.

- The Charter would also establish the mandate for the entity responsible for day-to-day administration and associated coordination activities.

**Box 4: Example Topics in a Benefit Sharing Fund Charter**

- Fund mandate and vision
- General principles
- Types of benefit sharing
- The benefit sharing council and fund management board
- Eligible parties: communes and groups
- Use of funds and criteria for awarding grants
- Arrangements for other benefit sharing measures
- Transparency and accountability
- Reporting and communication
- Acceptance and update of the charter

Source: A’Vuong Benefit Sharing Pilot Project, Viet Nam

<sup>10</sup> 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 1). Similarly in Colombia, legislation prescribes revenue transfers from the power sector to regional municipalities and environmental agencies.

Box 4 illustrates the main sections of the Charter for the Pilot Project in Vietnam, initially prepared by the multi-stakeholder Benefit Sharing Council.<sup>11</sup>

**Fund administration arrangements:** A suitable organization must handle day-to-day management and administration of the Fund, reporting to the multi-stakeholder governance body. These functions broadly include:

- Managing the process to select programmes and initiatives to fund each year (or extend multi-year support) using transparent processes and criteria set out in the Charter;
- Administration of grants and contract awards, audits of money flows and monitoring and reporting on the effective use of funds, meeting targets, etc.;
- Communication and interaction with participating communities, newsletters, community radio, convening meetings all aspects of the Fund operation and benefit sharing issues according to the Charter; and
- Coordination as required between different levels of government, development agencies and CSOs / NGOs in the delivery of benefits.

Ideally the Fund administration function would be handled within an existing development organization. For example, while operating at arms length it may be affiliated with a functional river basin organization.

Over time, benefit sharing must have both a project and a river basin perspective because some adverse effects of dams are local and project-specific, whereas others arise from the combined effect of all dam projects in the basin.

## **2. 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 1 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 1, in the early part of the 20th century and even in the pre-1980 era local 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.

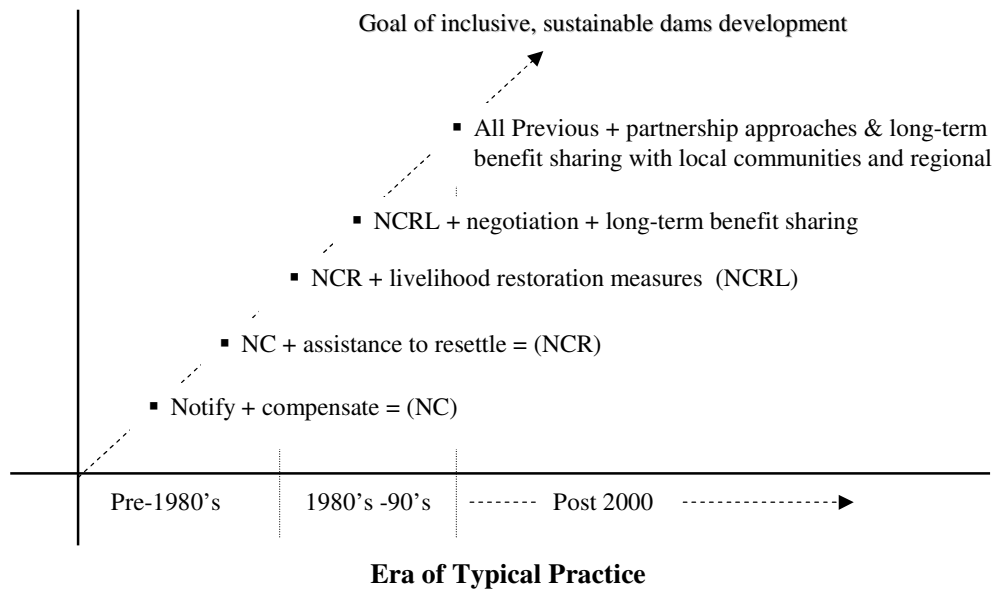
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<sup>11</sup> The Columbia Basin Trust in Western Canada (see Annex 1) has a 12-page Charter that focuses on the mandate, vision, mission, core values and public involvement and accountability.



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 1: 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. As mentioned, the creation of the OMVS in 1972 is an early example adoption of the principles and practice of benefit sharing between states on international rivers. Similarly, the 1986 Treaty Between South Africa and Lesotho recognized the real benefits from riparian state cooperation, and explicitly defines the mechanisms for 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.<sup>xxvii</sup> 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 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.

#### **2.4.1 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 (2000) in its final Report Dams and Development: A New Framework for Decision-Making captures emerging benefit sharing trends in two of its seven strategic priorities: SP-5 “Recognizing entitlements and sharing benefits”, that incorporated sharing with local communities; and, SP-7 “Sharing rivers for peace and development”, that incorporated sharing between riparian states. This is illustrated in Box 5.

At the government level, the Government of Viet Nam participated in a process to review the scope to contextualize the WCD recommendations in Viet Nam.<sup>xxviii</sup> 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 (ERAV) collaborated with the Asian Development Bank (ADB).<sup>12</sup>

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.<sup>xxix</sup>

The World Bank has helped to catalyse national efforts on Bank-supported dam projects in the past decade. These include the formative Bumbuna Trust in Sierra Leone and Lesotho Fund for Community Development (LFCD).<sup>13</sup> These initiatives are valuable not only in offering good practice lessons, but practices to avoid, in particular ensuring Funds have genuine multi-stakeholder governance (see Annex 1).<sup>xxx</sup>

To compile and disseminate emerging good practice, the World Bank supported a desk study, 'Benefit Sharing from Dam Projects', in 2002 that drew on 11 case studies from Canada, China, Latin America, Norway and Southern Africa.<sup>xxxii</sup> Most are hydropower projects. The principal author updated this study in 2007.<sup>xxxii</sup> More recently, as part of scaling-up its investments in hydropower the World Bank has embarked on a new program of case studies and preparation of a toolkit for operational staff and client governments.<sup>xxxiii</sup>

There are other examples of international organizations working on benefit sharing. The International Association for Impact Assessment (IAIA) looked at concepts and models for benefit sharing with local communities at its 2008 annual conference.<sup>xxxiv</sup> Various papers explore benefit sharing amongst different types of communities, community involvement techniques and lessons to ... "help proponents understand that community involvement and providing benefits needs the use of 'good practice' techniques and these take time".

## 2.4.2 What does 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

### **Box 5: Benefit sharing as an evolution in thinking about dams**

(SP-5) Adversely affected people are recognised as first among the beneficiaries of the project. Mutually agreed and legally protected benefit sharing mechanisms are negotiated to ensure implementation.

(SP-7) Riparian States go beyond looking at water as a finite commodity to be divided and embrace an approach that equitably allocates not the water, but the benefits that can be derived from it. Where appropriate, negotiations include benefits outside the river basin and other sectors of mutual interest.

Source: World Commission on Dams, (2000)

<sup>12</sup> 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.

<sup>13</sup> The LFCD was to be capitalized with up to \$US 40 million revenue from the Lesotho Highland Water Project and a \$US 4.9 million grant from IDA agreed in 1999.

restate that according to the user pay 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. <sup>xxxv</sup>

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. <sup>xxxvi</sup>

The International Hydropower Association (IHA), for example, in its Hydropower Sustainability Guidelines and Compliance Protocol (2004) calls for more attention to benefit sharing with local communities. Figure 1 is an extract from the IHA Sustainability Assessment Protocol (2004) approved by IHA Membership that is drawn from government, industry and private sector interests in 81 countries around the world. It is a scoring system to evaluate sustainability context and performance of hydropower projects.

**Figure 1: International Hydropower Association (IHA) Sustainability Protocol (2004) reflecting benefit sharing**

|                                                                                                                                           |                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>C2 Aspect: Distribution and sustainability of economic benefits.</b>                                                                   |                                                                                                                                                  |
| Auditing and monitoring show the distribution and sustainability of economic benefits to the affected local community and broader region. |                                                                                                                                                  |
| <b>Sustainability Scoring</b>                                                                                                             |                                                                                                                                                  |
| 5 = Highest                                                                                                                               | Auditing and monitoring program 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 program, or benefits solely distributed to shareholders and direct participants.                                          |

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 an IHA-facilitate process. <sup>xxxvii</sup> It is expected the new Protocol will be available in late 2009. Benefit sharing, as noted in Figure 1, will feature prominently in the new Protocol.

### 3. 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. <sup>xxxviii</sup> 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 MDGs.

WEST AFRICA



#### 3.1 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 (Section 3.3).

Key steps concerning an assessment of enabling conditions include:

- Conducting a policy review 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 provisional guidelines 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 concretise 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 advocacy and communication strategy to move from guidelines to legislation.

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 on both new and existing dam projects systematically and consistently;
- 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.<sup>xxxix</sup>

### **3.2 Avoiding missteps, clearing up misconceptions**

Challenges other countries have faced introducing benefit sharing are documented in 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; and,

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

On the final point, Box 6 illustrates how revenue sharing was seen as a constructive mechanism to address past social injustice in dam resettlement in three countries, including China where close to half the world's large dams have been built.

**Box 6: Addressing “Remaining Social Problems” with revenue sharing**

As noted in the Annex 1 examples:

In 2007 **China** introduced a national programme for retroactive payment (600 RMB / year - about \$US 100, for 20 years) to all dam-resettled persons since creation of the modern Chinese State in 1949.

In 2004, **South Africa's** multi-stakeholder review to contextualize the WCD agreed that addressing past social injustices on the 539 large dams in South Africa using benefit-sharing mechanisms was a priority issue.

In 2005 **Sierra Leone**, prescribed that payment of pre-war compensation claims from 1987 for persons displaced by transmission lines, were the first and priority use revenue sharing funds when the Bumbuna project became operational.

In terms of avoiding confusions, or clearing up misconceptions that can delay or distort approaches, it is important to ensure stakeholders understand:

- The distinction between compensation and resettlement<sup>14</sup>, and longer-term benefit sharing mechanisms. Benefit sharing addresses a wider range of affected people and serves as a regional development catalyst. Benefit sharing is implemented even if there are no resettled people;
- Revenue sharing is not part of the project capital budget, it is derived from the revenue stream the project generates.
- Similarly, revenue sharing is not negotiated between local communities and dam owners. It is a relationship between consumers of dam services and dam-affected populations that is

stipulated by government regulations.

- Revenue sharing is not something only for rich developed countries, or too complex for developing countries. It is a source of financing to support local development initiatives with the advantages of being long-term and secure.

Most important, revenue sharing is not politically unfeasible. Experience shows if it is clearly explained how a small increment tariff pays for equitable sharing with dam-affected rural communities – the public is generally willing to share.

### 3.3 Constructing a multi-stakeholder dialogue platform as a first priority

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<sup>14</sup> Compensation for land or property recovered by the State is generally governed by separate laws

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:

- i) 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;
  - Regional and international experience would inform the strategy;
- ii) 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;
- iii) A suitable dam project(s) and river basin to field trial local benefit sharing mechanisms and to refine and amplify good practice.<sup>15</sup> 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 2-3 year trial and will incorporate a multi-stakeholder process to review and offer advice on the pilot at critical milestones).
- iv) 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); and
- v) 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 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 the Senegal, Niger and Volta would also be appropriately involved.

## **4. CONCLUSIONS**

It is likely 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

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<sup>15</sup> 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.



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 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 like 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.<sup>x1</sup>

In the advocacy strategy, two important points to get across to policy-makers, are firstly, that benefit sharing is in the interests of all stakeholders directly or indirectly engaged in dam planning and management, consumers and those affected by dams. Secondly, 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, and
- Builds on and reinforces the roles of existing institutions, local development and water resource management institutions.

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.<sup>xii</sup>

## ANNEXES

### Annex 1: Mini-case studies and country examples

#### Africa: Lesotho and Sierra Leone

**Lesotho**, offers the example of 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 1886 Treaty between the Governments of Lesotho and South Africa that formed the basic agreement between the two States to implement the Lesotho Highlands Water Project (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 conceived 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).<sup>16</sup> In 1999 the Government and World Bank agreed to establish the Lesotho Fund for Community Development (LFCD) aimed at ensuring community-driven development (CDD), employment generation, and poverty reduction.<sup>17</sup> 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 GOL's stated objective of poverty reduction.

While the notion of the LFCD represented best practice and number of local development initiatives had been successfully implemented by the LFCD mechanism<sup>18</sup> 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 highly unsatisfactory; in part due to the fact the governance arrangements were not appropriate.<sup>xliii</sup> For example, a nine-member Board governed LFCD, with four Ministers - as opposed to the participatory process and design teams' recommendations of Principal Secretaries, community and NGO representatives. Other reasons cited for the highly unsatisfactory performance rating included the failure to fully test the CDD approaches (that represented the core approach to deliver benefits as recommended and expected by the consultative process), lack of beneficiary involvement in producing the operating manuals (OMs) for the Fund, and failure to monitor impacts on poverty levels.

Another factor was that in 2001, as the LFCD became operational, the existing District Development Councils and Village Development Councils were abolished. This decision left a vacuum where these

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<sup>16</sup> Initially royalties from the LHWP began to flow in 1996 and a significant portion of these revenues was initially placed into the Lesotho Highlands Revenue Fund (LHRF). The intention was some of the expenditure could have a poverty focus, however because of a number of weaknesses Fund operation was suspended in 1997. All of the LHRF assets and liabilities were transferred to LFCD, including 18 on-going sub-projects, which the LFCD was expected to complete.

<sup>17</sup> The Government of Lesotho's (GOL) use of a portion of the revenues from LHWP for poverty reduction was a pre-condition for the Bank going to the Board with Phase 1B in June 1998 (World Bank ICR Report).

<sup>18</sup> It is reported that the funds had gone into building 1,100 km of rural roads, 210 earth-fill dams, 60 footbridges and forestry conservation works by 2002.

key players had been expected to play a major role in providing technical, supervisory and monitoring support to sub-projects and the CDD approach.

A retrospective comment on the LFCD (Yu, 2008) was the general challenges faced were due to numerous factors ... “ including weak and politicised implementation, low capacity of communities to manage large construction projects, lack of local government structures, (selection of) projects that are not demand driven, lack of technical support, and lack of a monitoring strategy.”

The LFCD lessons illustrate the importance of establishing and implementing sound institutional procedures to manage such Funds. It demonstrates the importance of investing in 2-way communication with the beneficiaries. Additionally, it shows how a poorly executed benefit sharing project can discourage further initiatives of its kind - even if proper arrangements are made drawing lessons from the previous failure. And as some observers noted, it emphasized the importance of transparent mechanisms, “Specific rules on ensuring transparency in the management of the Fund, and public information on its activities and programs should have been put in place. An independent oversight committee with the participation of civil society representatives could have helped ensure that the funds would have been allocated to benefit the population of Lesotho and in particular the affected communities in the Highlands.”(Thamae and Pottinger, 2006).<sup>xliii</sup>

In **Sierra Leone** the Bumbuna Trust is to be established for the 50 MW Bumbuna hydropower project, originally expected to be commissioned in 2007, now due to be commissioned in 2009-10. The Bumbuna Trust was conceived as a multi-purpose Trust to finance long-term benefit-sharing arrangements for local communities as well as programmes related to the sustainable social and environmental management of the project. This would relieve government budgets of the responsibility (government had little money), and at the same time develop synergy between local development and sustainable management of the project in a basin context.<sup>xliv</sup>

The 50 MW Bumbuna project is the first stage of a potential five-stage 275 MW hydroelectric development on the Seli River that flows to the Atlantic north of Freetown. Construction of the project was 85% completed when it was abandoned in 1997 due to the escalating rebel-war. After the restoration of peace in 2002, the international community pledged to support completion of the project as a post-war reconstruction priority to restore power supply to the Freetown area, where many of the war refugees from rural areas have located and where much of the commerce is based. Benefit sharing arrangements with local communities were incorporated in the design of the Bumbuna completion project.<sup>19</sup> This recognized that a major contributing factor to the 11-year war was the lack of local sharing of resource development revenue, especially from mining development. A large section of the rural population marginalized from the political process was deprived of social services and economic development opportunities.

In this manner also, the immediate needs of some of the poorest communities in the country who lived in absolute poverty could be met (Sierra Leone was then ranked as the poorest country in the world). Moreover, the real risk of rekindling previous inter-communal conflict around the question of who was to receive benefits, and who was not - would be avoided. This issue was particularly important, given that all local communities in the post-war situation fully expected to receive some benefit from the Bumbuna project as it was a major national investment (i.e. in particular via access to electricity services they had been long promised), when in fact the government had no financial resources for rural electrification in the near term.

Two stages were planned to establish the local community benefit sharing mechanism. The first stage was the pilot Upper Seli Community Development Initiative (USCDI) developed in

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<sup>19</sup> And an associated grant under the Bumbuna environmental and social management project

consultation with the local communities.<sup>xlv</sup> A World Bank grant was to provide 2-3 years funding for this during the project completion stage of Bumbuna (just under \$US 2.0 million) to pilot deliver a menu of community selected micro projects and youth capacity building initiatives at the district, ward and community levels. This was targeted for local communities who lived in the immediate catchment and upstream and downstream, who were not part of the compensation and resettlement programmes, but adjacent to the communities who were.<sup>20</sup> The USCDI would serve to test delivery of CDD mechanisms for the longer-term Bumbuna Trust, assist with CDD capacity building in local governance, and test governance arrangements for the Bumbuna Trust.

The Bumbuna Trust itself would come into operation when the project was commissioned, financed by two main sources. The first was the Government selling certified emission reduction credits deriving from thermal GHG emissions from diesel power stations offset by power from the hydropower project. An Emission Reduction Purchase Agreement (ERPA) was signed between the Government's of Sierra Leone and the Netherlands in 2005, to provide financing of close to \$US 2.0 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 commenced operation,

The Bumbuna Trust itself is to be governed by a multi-stakeholder Board. It would operate different grant-financing windows.<sup>xlvi</sup>

- The benefit-sharing window supporting community-managed projects (e.g. 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). Thus will cover all communities in the wider project area (under the USCDI) as well as the resettled communities. The basis for accessing the funds would be a grant application. Capacity in the form of trained community coaches would be provided support to prepare grant applications. Implementation would be linked to government support services, as needed, but otherwise CDD approaches would be followed with independent CSO/NGO monitoring.

Other financing windows of the Trust would support:

- A new Bumbuna Watershed Management Agency (BWMA) to deliver land and soil management, agro forestry, and agriculture transformation programs in the catchment, which have combined aims to modernize agriculture practices, raise farm incomes, and provide erosion and sediment management to minimize reservoir sedimentation; as well as fisheries programs for communities in the reservoir and downstream of the dam;
- A conservation offset, the Bumbuna Conservation Authority (BCA) to support a community-managed protected wildlife area in the catchment for biodiversity conservation (Financed initially by a GEF project);
- Another grant window will fund rural electrification in the towns immediately around the project including the district Headquarters (that had its power supply destroyed in the war).
- Over time, additional grant windows would be considered, such as for small-scale renewable options for off-grid areas and revolving rural micro-credit schemes. And other financing partners would be sought.

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<sup>20</sup> The USCDI would run in parallel with the compensation, resettlement and livelihood restoration programs for the adjacent, directly affected communities

Unfortunately a number of difficulties were encountered in the overall Bumbuna project implementation that moved the original completion date from 2007 to 2009-2010. This in turn affected the benefit sharing arrangements and led to reformulation of some of the project implementation aspects and financing. Additionally, there was a failure to secure approval of the ERPA from the CDM after three applications, due to what was cited as “uncertainty over the level of reservoir emissions”. As a consequence a refinancing plan for the Bumbuna Trust is needed. In addition government has changed and there may be some uncertainty about the revenue sharing arrangements. The USCDI itself is proceeding under a rescheduled and restructured World Bank grant and arrangements to establish the Trust have been made.

Lessons drawn for the West African context include importance of reflecting agreements appropriately in legislation, beyond commitments in donor-supported initiatives. In this case while legislation was prepared and approved by Parliament (i) to endorse the Kyoto Protocol to enable participation in the CDM for the ERPA, and (ii) to create the public private special project company structure for the Bumbuna project. However, no legislative provisions were made for the revenue sharing aspect, despite the overwhelming support of the government of day for the arrangement. Otherwise, the approach is a good model in terms of an integrated approach to sustainable management of hydropower projects and benefit sharing with poor rural communities as well as dealing with post-war realities.

### **Asia: China, Vietnam, Laos and India, Nepal**

Benefit sharing has featured for several years in **China** where close to half the world's largest dams have been built. From the 1980's a portion of the hydropower revenue from the Danjiangkou dam that created the largest man-made lake in Asia when it was built in 1966, was placed in a “remaining problems” fund.<sup>xlvii</sup> This Fund financed livelihood restoration for people living around the reservoir perimeter and measures to rectify social problems associated with previous project phases.

Since the 1980's benefit sharing has been introduced on a project-specific basis.<sup>xlviii</sup> More recently Chinese legislation on post resettlement and rehabilitation for hydropower projects has been strengthened. In 2007, the government announced major programmes that serve to introduce uniformity in revenue transfers from the power sector to regional and local authorities to (i) boost regional development around dam projects, (ii) provide infrastructure financing for reservoir areas, including areas where dam affected people are resettled, and (iii) provide an additional long-term and also retroactive compensation to dam resettled populations.

Two elements of the current policy are:

#### ***A national resettlement fund:***

- A nation-wide program to fund future and retroactive payments to people resettled from dams dating back to establishment of the People's Republic of China in 1949;<sup>21</sup>
- The fund pays 600 RMB to each resettled person each year for 20 years, equivalent to about \$100 US per year. A family of five would receive \$US 500 per year;
- Funds are derived from an .08 cents/kwh standard charge on the bulk electricity tariff from all hydropower projects in the country, regardless of the number of settled persons;
- Payments are automatically applied on dams under construction, and will be applied to future projects. For existing projects, this requires investigating who was resettled.

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<sup>21</sup> Before 1949, China had no more than 40 small hydroelectric dams and only a few large-scale reservoirs.

As a model, this would be extremely difficult to implement in countries that have not maintain a system of records on resettled populations, particularly on older dams.

***Reservoir area infrastructure improvement fund:***

- A national program that establishes a new permanent Reservoir Area Development and Maintenance Funds that replaces previous funds of more limited in scope.<sup>22</sup> The Fund is supported by a 0.08 cent / kwh charge on the bulk electricity tariff from hydropower generation paid to the Provincial finance authority;
- The Province then allocates the funds to Prefecture and local government authorities to “develop production and improve living conditions of residents after relocation and to realize stable and sustainable development of the residents living and working conditions.”<sup>xlix</sup> In addition, dam owners will implement measures set out in a poverty alleviation plan in resettled areas. The investments are allocated to infrastructure, such as schools, housing, recreational facilities that are decided by Village Councils of people residing in reservoir areas.

The 22 Provinces in China, however, still have the option not to participate in this particular programme. The main limitation of the arrangement is it does not cover affected communities upstream of the dam beyond the reservoir area, or downstream of the dam. Chinese officials do indicate that additional money is available to allocate to these areas from increased municipal tax revenue, based on ongoing assessments of project effects and impacts.<sup>1</sup>

In **Viet Nam** the government is currently pilot testing draft legislation for benefit sharing on both existing and new hydropower projects. The context is that following the Electricity Law (2004) the government embarked on a multi-year program to establish competitive electricity markets, starting with establishment of competitive electricity generation markets in 2010. Eventually competitive retail markets will be introduced by 2022. The Law also calls for improved social and environmental performance of hydropower projects. In this respect a national Forum in the post-WCD period had recommended benefit sharing as a key step to enhance the promotion of sustainable hydropower in Vietnam. And Vietnamese environmental legislation in 2005 legally define sustainability as “development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs, on the basis of a close and harmonized combination of economic growth, assurance of social advancement and environmental protection”.

In 2006 a multi-stakeholder process supported by a Technical Assistance Project funded by the Asian Development Bank was initiated with the new Electricity Regulatory Authority of Vietnam (ERAV). ERAV was created in 2005 to guide all aspects of power market reform. One notion was to explore if market mechanisms for revenue sharing could be implemented in parallel with power market reforms so as to improve the sustainable performance of dam projects.

A three-phase TA process was designed to explore the best feasible approach:

- Phase 1. *A Policy Review:* to assess the extent Viet Nam’s current laws and policies enable local benefit sharing, management of ecosystem services impacted by hydropower and sustainable financing of measures. This included a sector-by-sector review and SWOT analysis of primary and secondary legislation and policies (i.e. the State Constitution, plus primary and secondary legislation in the power, water resources, environment, forestry,

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<sup>22</sup> Reservoir Maintenance Funds for Hydropower Projects have been available since 1981, managed by local county resettlement offices and Hydropower Plant Authorities. They were used for maintaining reservoir facilities; infrastructures used for irrigation, drinking water and transportation infrastructures benefiting resettlers; and economic support to the displaced populations.

fisheries, agriculture and rural development, land administration and social sectors, including laws relevant to Ethnic Minorities and International Conventions and Agreements of Viet Nam).

- Phase 2. *Preparation of Draft Guidelines*: to develop guidelines to introduce benefit sharing into planning, implementation and operation stages of hydropower projects, based on the policy review, consultation processes and drawing on experiences with benefit sharing from other countries. This stage incorporated rapid appraisals of 3 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. *Pilot Project Work Plan*: to prepare a detailed work plan to Pilot Test the 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 programs, community-based organizations or through supervised schemes for local entrepreneurs and enterprises on a group or individual basis.

The governance structure established for the TA 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 Viet Nam (e.g. WWF, IUCN), dam development interests and donors agencies was convened. Three workshops were held, one after each Phase to get their reaction and comment.

What actually transpired was that instead of preparing general guidelines for future consideration, the Steering Committee and National Stakeholder Forum conclude 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 of the Stakeholder Form and offered support such as independent legal review of the draft legislation and technical expertise on CDD rural development models.

Annex B provides extracts of the draft Decree now undergoing an article-by-article review in the Pilot test on the 210 MW A'Vuong Project in the Vu Gia-Thu Bon river basin in the central highland area of Quang Nam Province. That extract indicates the scope of the legislation.

The pilot project is in 2 stages. Stage 1 now underway 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 Viet Nam, once legislation is formally approved.

In **Lao PDR** 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”.<sup>ii</sup> 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 programs for the distribution of these funds on the basis of the National Growth and Poverty Eradication Strategy (NGPES), namely: basic education; basic health care; 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% of electricity generation from hydropower output, which the State can allocate to different electricity using sectors without charge (which they do mainly to subsidize electricity rates for farmers using irrigation pumps), or the States can sell power to recover money for other State budget uses. In 2007 this State allocation was increased to 12% of the generation revenue from hydropower projects. However, there was no mechanism where States were required to target, or sharing these funds with project-affected communities.

Recognizing that local communities were entitled to a share of the revenues and in mind of other successful models to target benefit-sharing funds to local communities, in October 2007 the Indian central government via its new hydropower strategy announced plans, where:

- Permanent Local Area funds will be established on hydropower projects in future;
- The local area fund will have a multi-stakeholder board composed of with representatives of project-affected communities and local governance structures. A local government representative appointed by the State will chair the fund;
- Beneficiary preference will be reflected in how the money is spent and expenditures of the fund 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 reported in the media), it is not clear yet whether the Fund will be set up on both new and existing projects. For example, “All memorandum of understandings (MoUs) proposed between the Central power generation companies and states like Himachal Pradesh, Uttarakhand and J&K will have a provision of separate local area development funds, besides 12 per cent free power for the states,” said Union Power Minister Sushil Kumar Shinde here today.”<sup>iii</sup>

In **Nepal**, the 1992 Hydropower Policy in Nepal and the 1992 Electricity Act required hydropower projects to pay a royalty to the government. In 1999, the Local Self-Governance Act and Local Self-Governance Regulations stimulated the central government was required to redistribute part of these hydropower royalties to (i) village development councils in the project area (ii) district development bodies, and (iii) other district the region where the project is located.



While the specific arrangements changed over time, since 2004 the regulations provide that for all existing projects above 1 MW generation:

- 1% of the royalty is transferred to the Village Development Committees (VDC) directly affected by the hydropower infrastructure with the sole purpose of expanding village electrification of these VDCs;
- 12% of the royalty is transferred to district's development committee,
- 38% of the royalty is transferred and divided among all districts of the development region where the hydropower project is located.

Apart from the stipulation that the VDC share will be dedicated to improving local access to electricity services, the regulations in Nepal do not stipulate how such amounts should be spent or distributed within a district, only that it fund development activities and not administration.

There is a tax holiday on some portion of the royalties in the first 15 years, but after 15 years royalties are 10% of generation (Gwh) plus a charge on capacity (MW). Nevertheless, the amounts have a significant impact. In some Districts these hydropower revenue sharing arrangements represent up to 65% of the district revenue from all sources, including government administration and development budgets.<sup>liii</sup> Participants in a multi-stakeholder workshop in Nepal 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.<sup>liv</sup>

### **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 is part of a general resource use tax that applies to other resources as well, including petroleum and mineral resources. Under a Constitutional provision, forty-five percent (45%) of income generated from the water-use tax annually goes to municipalities losing land to reservoir inundation (proportioned based on the area affected); forty-five percent (45%) goes to the state or provincial authorities where the project is located; and ten percent (10%) goes to the federal government to finance regulatory functions (i.e. 8% to the Federal Electricity Regulatory Agency (ANEEL) and 2% to the Ministry of Science and Technology).<sup>lv</sup>

In addition, some project development Authorities (e.g. Itipu) enter into long-term contracts with local communities that cover a range of issues, including support for community development and agreements on local hiring and employment in project related activities.

Several Latin American countries also specify that payments for managing ecological functions and the environment services transformed by hydropower project must be provided through hydropower revenues. This is on top of support for social development needs of the communities that host the project. For example, in **Columbia**, legislation stipulates that 3% of revenues from hydropower projects must be transferred annually to the watershed agency of the dam to fund watershed management activities working with basin communities.<sup>lvi</sup> The funds must be used to protect the environment in the watershed upstream of the dam and in downstream areas influenced by flow changes. A further 1.5% of project revenues must be transferred to the municipalities that border the reservoir, and 1.5% to the municipalities in the watershed upstream of the dam. These funds are allocated to finance infrastructure projects identified in municipal development plans.

## OECD: Canada and Norway

Benefit sharing has also evolved in developed countries, where increasingly a basin orientation is adopted.<sup>lvii</sup>

To illustrate, a leading example of a basin-level programme is the Columbia Basin Trust (CBT) in the province of British Columbia in western **Canada**.<sup>lviii</sup> The Columbia River Treaty between the Government of Canada and the United States that had been under consideration from the mid-1940's, and was implemented in 1964. It stipulated the mode of development of large dams on the Canadian side of the border and represented a major bi-national benefit sharing arrangement (details of which is referred to a significant work by John Krutilla (1967) and summarized more recently by (Yu, 2008)).<sup>lix</sup> Canada later transferred its obligations under the agreement to the Province of British Columbia, which owns and operates all hydropower facilities in the upper Columbia basin, through BC Hydro.

By the early 1990's it was apparent the principal benefits from upstream storage dams in Canada were conferred upon major regional population centres where power services were delivered, while many of the local communities in dam affected areas received little in the way of direct economic benefits. The residents in the Basin (about 160,000 people today) felt there was a lack of prior consultation in decisions on the dams (including 2,300 residents at that time who were displaced by flooding of their communities and farms (60,000 ha of high value land was flooded for the reservoirs). Numerous First Nations' cultural and archaeological sites were also submerged.

The communities in the Columbia Basin within Canada came together in the early 1990s to petition to Provincial government for recognition of the injustice of this situation.<sup>lx</sup> They coordinated efforts at the regional, district and tribal council levels under the Columbia River Treaty Committee, which first met in 1992. Under growing local political pressure, the Province agreed to set up the Columbia Basin Trust (CBT Trust Act, 1995) as a mechanism to share a portion of hydropower revenues with the residents of the basin.<sup>lxi</sup> 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 Basin Resident reports on the state of Basin with indicators to illustrate changes in the ecological, economic and social health of the basin.

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 programs that involved short-term cash investments, business loans, real estate ownership, and venture capital projects. In addition to 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 Province of BC committed to transfer a further \$250 million to an entity called the Columbia Power Corporation (CPC), a specialized equity vehicle, which is the CBT's Joint Venture Partner in power projects in the Basin. From the CPC, 50 % of the net profits go to the Columbia Basin Trust to be spent on social, economic and environmental benefits for the residents of the Basin. The delivery of benefits under the CBT is community managed with an elected Board.

Lessons drawn for the West African context include multi-faceted lessons on how the basin level benefit sharing arrangement can be established, the sort of advocacy roles that local communities and local governments can play and the essential governance requirements for benefit sharing mechanisms. The CBT Trust otherwise represents the case of how revenue sharing can address outstanding environmental and social issues of existing dams to the satisfaction of all concerned.

**Norway** derives virtually all its power supply from hydropower. It also exports power to other Nordic countries to enable them to displace fossil generation. Norway is relatively unique in the sense there was little resettlement in its hydropower development over the years due to its geography. Generally the large storage projects are located in remote and sparsely populated mountain areas, whereas dam projects in the lowland areas are typically run-of-river, and many are part of the regulation schemes of existing natural lake systems designed for flood management.

Municipalities where hydropower projects are located, who foregoing former water uses and for negative environmental impacts, receive income from a variety of sources. These include:

- Taxes and fees paid to regional and local authorities (from taxes on profits by power companies, licence fees and a resource use tax);
- The resource use tax 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% 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% of the market value of the power facilities);
- Preferential electricity rates (for municipalities that host hydropower projects); and
- Business development fund (municipalities are entitled to receive from the electricity production company a non-recurrent amount to be used in a local area business development fund).

The Norwegian legislation thus comprises a variety measures that explicitly recognize 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.

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## Reference and Endnotes:

<sup>i</sup> Forum Bulletin 7, A Daily Report of the 3rd World Water Forum and Ministerial Conference Published by the International Institute for Sustainable Development (IISD) in collaboration with the 3rd World Water Forum Secretariat and the Ministry of Foreign Affairs of Japan. March 2003. These calls were reinforced at the 4<sup>th</sup> WWF in Mexico in 2006.

<sup>ii</sup> Carolyn Fischer, International Experience With Benefit-Sharing Instruments For Extractive Resources, May 2007, <http://www.rff.org/rff/Documents/RFF-Rpt-BenefitSharing.pdf>. Looks at examples in the mining petroleum industries. In Vietnam individuals and communities receive payments for protecting watersheds by planting trees under Forestry Program 661. Other laws provide for direct sharing of revenue from forest product sales between local communities and State Forest Enterprises (SFEs) to ... “ensure a harmonious benefit-sharing relationship between, on one hand, labourers and the State and the SFEs, and on the other, between SFEs and localities”. Article 2 (item 3) of the PMO Decision 187, 1999

<sup>iii</sup> <http://www.cbd.int/abs/>

<sup>iv</sup> IUCN Publication Share: Managing Water Across Boundaries, 2008  
<http://www.iucn.org/resources/publications/index.cfm?uNewsID=2185>

<sup>v</sup> The OMVS is comprised Mali, Mauritania, and Senegal. The original objectives of multi-State cooperation in 1972 were to: promote food self-sufficiency in the basin; reduce economic vulnerability to climatic fluctuations and external factors; accelerate economic development; and secure and improve the incomes of basin populations.

<sup>vi</sup> <http://www.riob.org/transfrontalier/dakar-2004/Information-%20A1.pdf>.

<sup>vii</sup> YU, T Winston H, “Benefit Sharing in International Rivers: Findings from the Senegal River Basin, the Columbia River Basin, and the Lesotho Highlands Water Project”, Report No. 46456, Africa Region Water Resources Unit Working Paper 1, 2008, The World Bank. <http://go.worldbank.org/U87VJHWH20>

<sup>viii</sup> Elaboration of an Action Plan For The Sustainable Development Of The Niger Basin, Phase 1 Assessment And Analysis, Final Report, Niger Basin Authority, (NBA) Executive Secretariat, 2007

<sup>ix</sup> Sadoff, Claudia W. and David Grey. (2002). ”Beyond the river: the benefits of cooperation on international rivers” in Water Policy, 4, 5: 389-403. Dr. Anders Jägerskog, Project Manager, SIWI, “Benefit Sharing in International River Basins” based on the Nile Basin Initiative, and (Yu, 2008) as cited above.

<sup>x</sup> A policy principle of Strategic Priority 7 of the WCD, “ Riparian States go beyond looking at water as a finite commodity to be divided and embrace an approach that equitably allocates not the water, but the benefits that can be derived from it. Where appropriate, negotiations include benefits outside the river basin and other sectors of mutual interest”. Source: WCD, 2000

<sup>xi</sup> Concepts articulated by (Yu, 2008) base on literature reviews. At the same time, the difficulties in estimating and allocating benefits from multi-purpose reservoirs between states should not be underestimated, recognizing also it is a highly political process that can span decades.

<sup>xii</sup> See companion paper (Part 1 of the consolidated paper).

<sup>xiii</sup> If dam are best development option it also means less vulnerability to international oil price shocks in power generation and related unsustainable debt burdens for fuel imports in countries such as Sierra Leone.

<sup>xiv</sup> These include multi-stakeholder processes like the WCD (2000).

<sup>xv</sup> Failure to honour his was a frequent cause of controversy around large dams, especially commitments made for livelihood restoration of project affected-communities, beyond compensation and resettlement support.

<sup>xvi</sup> Multi-country arrangements are typically more complicated because of cost sharing dimensions, benefits that each country realizes vary, and agreements can take decades to realize if political relations between states are complex.

<sup>xvii</sup> The role of central government is to provide the enabling policy and legal framework and establish rules on the level of benefit sharing (by prescription or negotiation) and define financing mechanisms (e.g. how revenues are collected from the power or navigation sector). Local government, together with river basin organizations, CSOs and NGOs who normally work closely with project-affected groups would provide guidance and support on the delivery mechanisms. In certain cases there may be a Development Board associated with the dam project, like the Lesotho Highland Development Authority.

<sup>xviii</sup> For example, in Brazil, the Itupu Authority signed long-term contracts to contribute the development of the resettlement communities, which come on top of the direct payments allocated to affected municipalities that came from the national water use tax, the cost of which was recovered from power tariffs. When there is a single, large multi-purpose dam owned by the State (i.e. a single shareholder) regulation is less an issue, but the principle holds unless there is a justifiable case for a State (general taxpayer) subsidy.

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<sup>xix</sup> There is a wide range of experience. In developing countries it ranges from 1% to as high as 10 to 15%. Benefit sharing in the range of 2 to 3% of the gross generation is more typical.

<sup>xx</sup> Transparency International offers handbooks on successful practice to ensure transparency and accountability and otherwise prevent and detect corrupt practices in local development initiatives by working closely with beneficiaries. One key is multi-stakeholder approaches to the governance mechanisms.  
[http://www.transparency.org/tools/e\\_toolkit](http://www.transparency.org/tools/e_toolkit)

<sup>xxi</sup> Different approaches to operationalize benefit sharing may be considered when dam developments are wholly government-owned, special project companies set up as public-private ventures, and purely private sector projects or independent power producers. Local communities or local governments may be part of the ownership structure and derive benefits from the share of equity.

<sup>xxii</sup> As noted in Annex 1, the Bumbuna Trusts are to be coordinated with the Local Council budget expenditures, and line ministries must sign off on measures that involve government budgetary commitment such as teachers for schools or medical staff for rural health posts. In Vietnam all expenditures must be consistent with the integrated rural development plans sanctioned by the People's Committee's from the village to Provincial level.

<sup>xxiii</sup> Especially in situations where rural electrification requires considerably more investment than available revenue sharing funds that need to cover non-power development aspects. For example, legislation may require resettlement communities to be electrified as part of the project capital budget. Dam affected communities along the reservoir perimeter may receive priority in the province, district or national rural electrification programme.

<sup>xxiv</sup> Experience world wide shows there are opportunities, for example, to build flexibility into structures (e.g. bottom flow outlets, variable level intakes where appropriate) to enable flood simulation releases and adjustment of environment flow releases over time).

<sup>xxv</sup> Such as whether local government capacity is weak, or under resourced, whether there is synergy to be gained with the introduction of catchment management, and the preferences for one model or other of the beneficiary. The Fund approach offers advantages of flexibility, rapid response to development needs, local ownership, more amenable to implementation of IWRM approaches, and consistency as affected communities can typically spread among different locations and municipalities.

<sup>xxvi</sup> Membership typically consists of representatives of local government, the dam project and river basin authority and community representatives who adequately reflect the socio-economic interests among the project-affected population, as well as local or national CSO / NGOs.

<sup>xxvii</sup> 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

<sup>xxviii</sup> <http://www.unep.org/dams/Publications/>

<sup>xxix</sup> <http://www.unep.org/dams/documents/Default.asp?DocumentID=684>

<sup>xxx</sup> LFCED encountered many problems that illustrate the importance of establishing and implementing sound institutional procedures to manage such funds. The internal World Bank Completion Report for the LFCED regards the project outcome as highly unsatisfactory; in part due to the fact the governance arrangements were not appropriate. Instead of a mix of community representative, local government and project authorities the governing board was mainly comprised of Ministers. The LFCED was to be governed by a nine-member Board, with four Ministers (as opposed to the design teams' recommendations of Principal Secretaries) and NGO representation. <http://go.worldbank.org/Z0HARFPG80> and <http://web.worldbank.org/external/projects/main?pagePK=64283627&piPK=64290415&theSitePK=40941&menuPK=228424&Projectid=P058050>

<sup>xxxi</sup> Egré, D., Roquet, V. and Durocher, C. 2002. Benefit Sharing from Dam Project. Phase 1: Desk Study.

Report prepared for Alessandro Palmieri, World Bank.

<sup>xxxii</sup> This report was updated by updated by Dominique ÉGRÉ for the Dams and Development Project in 2007  
[www.unep.org/dams/files/Compendium/Report\\_BS.pdf](http://www.unep.org/dams/files/Compendium/Report_BS.pdf)

<sup>xxxiii</sup> The initial steps have brought together international experts and Bank staff to discuss and provide inputs from their own experience a 3-day session on Enhancing Development Benefits to Local Communities in Hydropower Projects in 2008, and work on the toolkit is ongoing in 2009. From the World Bank Website: The main deliverables of the work program are a series of individual case studies with synthesis report highlighting the main lessons learned good practices and key success factors for effective enhancement of benefits and a guidance note/toolkit for use by Bank staff. Examples of benefits-sharing programs will be assessed using social, economic and institutional indicators. The study will pay particular attention to non-monetary forms of benefits sharing such as water management, community participatory mechanisms, and other innovative approaches.

<sup>xxxiv</sup> International Association for Impact Assessment, 2008, <http://dev.iaia.org/tf/forum.aspx?id=TF2.2>

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<sup>xxxv</sup> 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 who develops and operates dams (e.g., 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.

<sup>xxxvi</sup> 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> Page 99. Allocate resources and share benefits: An excellent way to ensure that members of displaced communities are better off after the project is to provide such communities with long-term revenue streams based on benefit sharing mechanisms.

<sup>xxxvii</sup> [http://www.hydropower.org/sustainable\\_hydropower/HSAF.html](http://www.hydropower.org/sustainable_hydropower/HSAF.html)

<sup>xxxviii</sup> Map: UN Cartographic Section, Map of West Africa, February 2005. No. 4242. Online.

<sup>xxxix</sup> Another question is which of the 16 countries in the region will host a pilot project, and otherwise take the lead in advancing legislation and regulation.

<sup>xl</sup> On the first question, it is important to see revenue sharing as relationship between consumers of services and local communities who give up resource access enable 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, on 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 to directly target funds.

<sup>xli</sup> Recognizing processes to reach a cooperative agreement can take decades, in large part 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.

<sup>xlii</sup>

<http://web.worldbank.org/external/projects/main?pagePK=64283627&piPK=64290415&theSitePK=40941&menuPK=228424&Projectid=P058050>

<sup>xliii</sup> As reported by Dominique Egré (2007)

<sup>xliv</sup> Details of what was planned in 2005 are provided in the Project Appraisal Document

[http://www-](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2005/05/27/000012009_20050527095956/Rendered/INDEX/31844.txt)

[wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2005/05/27/000012009\\_20050527095956/Rendered/INDEX/31844.txt](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2005/05/27/000012009_20050527095956/Rendered/INDEX/31844.txt)

<sup>xlv</sup>

<http://web.worldbank.org/external/projects/main?pagePK=64312881&piPK=64302848&theSitePK=40941&Projectid=P086801>

<sup>xlvi</sup> A World Bank grant will finance the environment and social management components during project implementation and lay the groundwork for establishment of the Bumbuna Trust. <http://www.bumbuna.com/>

<sup>xlvii</sup> Discussion is provided in the book, “The Future of Large Dams: Dealing with social, environmental, institutional and political costs.” 2005, Thayer Scudder, former Commissioner of the WCD. This enabled households and communities resettled around the reservoir margin fund income-generating enterprises that re-established livelihoods.

<sup>xlviii</sup> For example Hubei Hydropower Development in poor areas with partnership agreement using equity sharing and revenue sharing and funding of poverty alleviation plans on a World Bank supported project.

<sup>xlix</sup> Introduction of Shuibuya Resettlement and Sharing of Benefits arising from the Project, Hubei Quigjiang hydroelectric development Company Ltd. October, 2008. This project is an 1840 MW hydropower project on the largest upstream tributary of the Yangtze River, above the Three Gorges Project.

<sup>l</sup> Communication with Shuibuya project authorities, and report on the Shuibuya Resettlement and Sharing of Benefits, Hubei Province

<sup>li</sup> Revenue And Expenditure Management: Nam Theun 2 Hydroelectric Project, authored by Adrian Fozzard, Senior Public Sector Specialist, World Bank, 2005

<sup>lii</sup> As reported in the Indian Financial Times. And articles such as “Displaced families to get stake in hydel projects” Manoj Kumar Tribune News Service, <http://www.tribuneindia.com/2006/20060926/biz.htm#1>

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<sup>liii</sup> Égré (2007) reporting on analysis of the Makawanpur District Development Committee (DDC) expenditures (Uppadyaya, 2006)

<sup>liv</sup> Also Uppadyaya, 2006

<sup>lv</sup> WCD (2000) In addition large projects such as Itapu have long-term contracts between the affected communities and the project entity.

<sup>lvi</sup> <http://www.worldwaterweek.org/stockholmwatersymposium/workshop7.asp>

<sup>lvii</sup> The basin orientation is partly because there is often more than one hydropower facility in a basin. Consequently, the adverse impacts are difficult to disaggregate, such as the impacts of river flow changes on downstream communities.

<sup>lviii</sup> <http://www.cbt.org/main/default.asp>

<sup>lix</sup> Krutilla, J. (1967). The Columbia River Treaty: The Economics of an International River Basin Development, Resources for the Future, p. 211. (As cite by Yu, 2008)

<sup>lx</sup> As noted on the CBT website <http://www.cbt.org/>

<sup>lxi</sup> This CBT ACT (1995) granted the affected communities (through the CBT) a part equity share in hydro projects that BC Hydro owned in the basin. In addition, the provincial government provided an establishment grant to the CBT for a period of 5-years. The long-term equity holdings of the CBT generated a return on investment of \$ Canadian 3.8 million in 2004.

<sup>lxii</sup> WCD case study on the Glomma and Laagen (G&L) basin (2000) and (Egre, 2007)