

Benefit-Sharing Framework in Transboundary River Basins: The Case of the Eastern Nile Subbasin

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Abstract

In some parts of the world, including Africa, problems related to water scarcity and water stress (which is even worse) is evident. Currently, about one-third of the African population is experiencing water scarcity. For countries sharing transboundary rivers, the adoption of water governance in all their strategies is of paramount importance. For this to happen, cooperation among riparian states becomes indispensable. Cooperation can help in availing more water in the basin, reducing soil erosion, mitigating drought and ensuring food security. At present, there is more emphasis on the sharing of transboundary benefits rather than physical water per se. Whereas the former can bring about a zero-sum negotiation the latter can yield a positive sum outcome. The benefits that can be accrued through cooperation could be economic, environmental, social and political. The aim of this study is to highlight the concept of benefit sharing and benefit-sharing framework in general terms as well as in the context of the Eastern Nile Subbasin. By doing so, the study looks into some of the ongoing and planned Eastern Nile projects, with particular emphasis on the Joint Multipurpose Program (JMP), to test the degree of relevance of the issue of the benefit-sharing framework and to suggest the way forward. The findings of the study have indicated that benefit sharing in transboundary river basins is an outcome of a collaborative effort by the co-riparian states to reduce costs and increase outputs. It could also mean the management of shared waters more efficiently and effectively across all sectors, so-called sectoral optimization. The effects and impacts of joint investments in both upstream and downstream states can yield a bundle of benefits including, but not restricted to, flood control, reduction of sedimentation, availability of more water in the basin and hydropower production. These, in turn, can ensure food security, mitigate drought and avail renewable energy. For transboundary rivers such as the Nile, attempts should be made to identify the typologies of benefits, aspects of benefit sharing, scenarios of benefit sharing, and the optimization/maximization of benefits. With the better management of ecosystems cooperation can provide 'benefits to the river'; with cooperative management of shared rivers benefits can be accrued 'from the river' (e.g., increased food production and power); with the easing of tensions between riparian states costs 'because of the river' could be reduced; and with cooperation between riparian states leading to economic integration comes 'benefits beyond the river'. In terms of aspects of benefit sharing, issues related to benefit sharing for whom, by whom and because of who need to be addressed. Similarly, scenarios of benefit sharing

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should be considered as phases or time perspectives by anchoring short-term works of strengthening the hitherto existing riparian links, medium-term tracking and improvement of in-country and transborder institutional arrangements for resource use and cooperation, and long-term efforts on investment in basin-wide joint development and programs. Due to the prevalence of centuries of hydropolitical stalemates in the Nile Basin, costs 'because of the river' remained high. The lack of cooperation impeded many of the basin states to reap little or no benefits from the river. The establishment of the Nile Basin Initiative (NBI) in 1999 has been marked as a strong departure compared to its predecessors. The Eastern Nile Subsidiary Action Program (ENSAP) and with it the Eastern Nile Technical Regional Office (ENTRO) have identified a number of projects, of which JMP stands out as one of the most significant ones. It aims to undertake multipurpose and multi-country programs of activities encompassing watershed and environmental management; and enhanced agricultural production and renewable energy. When this project gets grounded, it could mitigate natural resources degradation, alleviate poverty and enhance agricultural production. There is a possibility for the three Eastern Nile countries to accrue transboundary benefits. As things stand now, the three Eastern Nile countries need to first and foremost identify the bundle of benefits that can be generated from the project and then agree on the mechanisms by which they can realize the 'equitable sharing of benefits'. They also need to formulate and sign a benefit-sharing treaty, develop a sound financial framework to realize the equitable sharing of benefits, costs and risks and the joint ownership of assets. Last but not least, the Eastern Nile countries should establish institutions that will manage benefit-sharing schemes and address issues such as mechanisms of delivering benefits.

Introduction

Water is a unique resource that plays a central role in the functioning of human society and ecosystems. Now-a-days, as the demand for freshwater begins to outstrip the available supply global water crisis is becoming more evident. Currently, one billion people in the world live without access to clean water and about two billion have got no access to sanitation. The UN forecast has shown that more than half of the world's population suffers from the direct consequences of water scarcity. If the current situation continues unabated, the same organization believes that over the next two decades the average supply of water per person worldwide will drop by a third. For instance, it is projected that by 2025 half of African countries will experience water stress and the sharing of water will play a significant role in inter-state relations amidst a combination of burgeoning population and recurrent drought/famine in some parts of the continent (Tesfaye, 2001). Such water scarcity and even worse water stress in the African continent will limit the growth of nations, brings about declines in their human health and further degrades their resource base (Alavian 2000).

Although 60 percent of the African landmass is covered by transboundary river basins that produce more than half of the continent's renewable water resources, about one-third of its population (ca. 300 million people) is experiencing increasing water scarcity. As stated by Lautze et al (2007), such a large dependence on transboundary waters requires

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the adoption of transboundary water governance in all regional water strategies in the continent. The key to these strategies is forging cooperation among riparian states that share the dozens of transboundary rivers found in Africa. As stated by Grey and Sadoff (2007), cooperative management of shared river basins can provide opportunities to (a) increase the scope and scale of benefits, (b) generate basin-wide benefits and (c) establish and sustain transboundary institutions. Cooperation becomes important not only to improve water availability but also to tackle problems of soil erosion, mitigate drought, ensure food security, avail hydropower and to prevent and monitor water pollution. In short, cooperative transboundary water resource development is critically important in helping to alleviate poverty and obtain economic benefits, including but not restricted to flood control, irrigation and hydropower development activities.

Now more than ever before, there is a stronger emphasis on the sharing of benefits rather than physical water. Many writers consider volumetric water allocations among riparian states in shared river basins as obsolete and traditional (Grey and Sadoff, 2007; Giordano and Wolf, 2003; Lautze and Giordano, 2007). They believe that such a stance brings about winners and losers or zero-sum negotiations. Instead, they opt for equitable sharing of benefits that is based on mutual agreement. The distribution of water benefits, they believe, can bring about positive sum outcomes as has empirically been observed in the case of the Mekong, Senegal, Orange and Columbia River Basins. According to Qaddumi (2008), benefit sharing has been proposed as an approach to bypass the contentious issue of property rights. The idea is that if the focus is switched from physical volumes of water to the various values derived from water use in multiple spheres, including economic, social, political, and environmental— riparians will correctly view the problem as one of positive-sum outcomes associated with optimizing benefits rather than the zero-sum outcomes associated with dividing water. Even then, the author of this paper believes that the significance of water allocation for the hitherto disadvantaged co-basin states such as Ethiopia should not be minimized or sidelined.

The aim of this study will hence be to highlight the concept of benefit sharing and benefit sharing framework in general terms as well as in the context of the Easter Nile sub-basin. By so doing, the study attempts to define and conceptualize benefits in the context of shared water resources and discuss the framework of benefit sharing in terms of typologies, scenarios, directions, valuations, optimization/ maximization, distributions and costs. The study has looked into on-going and planned EN projects, most particularly the joint multi-purpose project (JMP) to test the relevance and applicability of benefit sharing and to suggest the way forward.

It should at the outset be stated that the issue of benefit sharing is in its infancy, having neither a fully tested methodology nor a planned worldwide experience (Woodhouse and Phillips, 2009). Most of the international literature generated to date on the sharing of benefits is of a 'soft' nature, and there is a need for much greater specificity. The aforementioned authors stated that where transboundary benefit sharing currently exists, it is more often the result of long-term influences and activities than a deliberately planned approach. Besides, the fact that benefit sharing encompasses economic, environmental, social and political elements with some of them being measurable and

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others not makes the issue much more complex. It is against these sets of limitations that the study tries to shed some light into the concept and framework of benefit sharing, with particular reference to the Eastern Nile sub-basin.

The concept of benefit sharing

Benefits can mean anything that society recognizes as valuable, such as livelihood improvement, food security, gender equality, amelioration of ecosystems and biodiversity, aesthetics, ethics etc. As stated by Woodhouse and Philips (2009), benefit sharing is an outcome of a collaborative effort at different levels that in the end can reduce costs and increase outputs. In the context of transboundary basins, benefit sharing can mean the management of water more effectively across all sectors with the intent to generate benefits to all stakeholders. The idea of benefit sharing revolves in and around sectoral optimization, with the optimization of water use in one sector leading to optimization of water use in another sector.

Looked at from upstream-downstream perspective, for instance watershed management projects in upstream states can yield shared benefits through control of floods, reduction of siltation, prevention of water pollution, availability of more water in the basin and reduction of erosion in downstream states. Similarly, upstream joint investments in the production of hydropower can avail power at reasonable price to the co-riparian states. The effects and impacts of joint investments will be felt in the basin via developments such as irrigation and power, which in turn can ensure food security, mitigate drought and avail renewable energy.

In any transboundary river basin, cooperation can yield economic, environmental, social and political benefits. The economic benefits may include power production and transmission, agricultural intensification, fisheries and industry, while the environmental benefits include watershed management, soil conservation, water regulation, flood control and afforestation. Similarly, the social capital benefits may include capacity building, training and skill sharing, while the political ones stability, integration, cooperation, rural water supply and rural electrification. The list is not exhaustive and may include more benefits that may or may not be measurable. That is why it becomes a difficult and complex task to calculate benefit sharing. It is hence incumbent upon the riparian states to identify value and share the bundle of benefits in a manner that is agreed as fair and transparent.

Benefit sharing should also include all forms of available water while building scenarios. These include blue water (surface plus ground), green water (water entrenched in the soil) and grey water (water that can be re-usable after treatment). Similarly, the 'basket of benefits' approach is preferred and recommended than a project by project approach. The importance of the 'basket of benefits' approach lies in the fact that it spells out all possible benefits from common resources and joint investments. As argued by Woodhouse and Phillips (2009:9), "negotiating on a project by project basis can easily result in a stalemate – whereas the basket of benefits approach means opportunities can be modified and changed until an acceptable outcome is agreed by all".

Benefit sharing framework

In this section, attempts will be made to illustrate the underlying set of ideas or frameworks of benefit sharing in terms of typologies, aspects and scenarios.

Typologies of benefits

As stated by Sadoff and Grey (2002a), with better management of the ecosystems cooperation can provide ‘benefits to the river’; with cooperative management of shared rivers benefits can be accrued ‘from the river’ (e.g. increased food production and power); with easing of tensions between riparian states costs ‘because of the river’ could be reduced; and with cooperation between riparian states leading to economic integration comes ‘benefits beyond the river’.

As exemplified in Table 1, there are challenges and opportunities embedded in the aforementioned benefits. Transboundary cooperation could enable basin states to overcome various challenges, such as degraded watersheds, increased demand for water, tense regional relations and regional fragmentation and furnishes opportunities, such as improved water supply, soil conservation, more agricultural and power production, cooperation and integrated regional markets and cross border trades.

Table1: Types of cooperation and benefits on international rivers

Types of cooperation	The challenge	The opportunities
Type 1: increasing benefits <i>to the river</i>	Degraded water quality, watersheds, wetlands, and biodiversity	Improved water quality, river flow characteristics, soil conservation, biodiversity and overall sustainability
Type 2: increasing benefits <i>from the river</i>	Increasing demands for water, sub-optimal water resources management and development	Improved water resources management for hydropower and agricultural production, flood-drought management, environmental conservation and water quality
Type 3: reducing costs <i>because of the river</i>	Tense regional relations and political economy impacts	Policy shift to cooperation and development

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Type 4: increasing benefits <i>beyond the river</i>	Regional fragmentation	Integration of regional infrastructure, markets and trade
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Source : Sadoff and Grey. 2002: 393

Some real world examples of economic and non-economic benefits that can be accrued as a result of cooperation endeavors will be mentioned hereunder (summarized from Sadoff and Grey, 2002a).

(a) ‘Benefits to the River’ (‘Ecological River): Cooperative efforts to restore and protect shared river basins have been exemplified by Rhine River (ibid). Due to the pollution of the Rhine, Salmon (fish) disappeared from the river in the 1920s. In due cognizant of the problem, the ministers of the eight riparian states met in 1987 and came up with a plan to repopulate the river with Salmon under the motto ‘Salmon 2000’. As a result of the concerted efforts made by the basin states and the allocation of enough fund, Salmon resurfaced in Rhine as planned in 2000. The lessons one can draw from this example is how cooperation on shared water resources yields ecological benefits to the river.

(b) ‘Benefits from the River’ (Economic River): in this context, two examples could be given. The first one refers to the Senegal River where Mali, Mauritania, Guinea and Senegal are cooperating to regulate river flows and generate hydropower using common resources and designing fair benefit sharing mechanisms. The Senegal River Basin Organization (OMVS) achievements to date include: (a) the construction of two dams and hydropower plants, (b) implementation of environmental management projects, (c) creation of the observatory of the environment and (d) adoption of a water charter (ENTRO, 2007).

The second example takes us to the Lesotho Highlands Water Project (LHWP) that has been designed to harness the Orange River for the benefit of both Lesotho and South Africa. As noted by Vincent Roquet & Associates Inc. (2002: 50), LHWP had dual purposes: (i) to control and redirect a portion of the water of the Orange River from the Lesotho mountains to the Vaal River basin through a series of dams and canals for utilization in the Guateng Province of South Africa, (ii) to take advantage of the head differential between the highlands and lowlands of Lesotho to generate hydropower in Lesotho to meet its own needs.

In order to attain both purposes, the two parties have agreed to share the cost of construction in rough proportion to the share of their anticipated benefits. According to the agreements reached between the two countries, South Africa has agreed to pay Lesotho royalties for water transferred for 50 years (it currently accounts for 5% of Lesotho’s GDP) and Lesotho will receive all the hydropower generated by the project. Both parties have considered the water and power deals as equitable allocations of benefits (Sadoff et al, 2002a).

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(c) ‘Because of the River’ (Political River): the costs incurred due to the presence of shared water resources have remained higher in rivers flowing through arid and semi-arid environments, such as the Jordan, Nile and Euphrates-Tigris. Tensions and disputes, which have long remained the norms than exceptions in these river basins, inhibited regional integration and facilitated fragmentation. As noted by Sadoff et al (2002a: 398) with reference to the above-stated rivers, “little flows between the basin countries except the river itself – no labor, power, transport or trade”.

(d) ‘Benefits beyond the River’ (Catalytic River): it envisages other flows than the river itself, such as improved communication and trade (ibid). The same authors (2002a: 399) stated that “cooperation on shared river management can enable and catalyze benefits ‘beyond the river’, more directly through forward linkages in the economy and less directly through diminished tensions and improved relationships”. A good example for such a benefit is the Mekong Basin. During years of conflicts in the region, Laos always provided hydropower to Thailand. Similarly, Thailand has always purchased gas from Myanmar and Malaysia and hydropower from Laos and China. In effect, the riparian transactions brought about mutual dependency.

Aspects of benefit sharing

In line with the above-stated typologies of benefits, one can assert that the most important aspects of benefit sharing that need to be addressed include benefit sharing for whom, by whom and because of whom. One needs to identify the stakeholders who are involved in benefit sharing, i.e. whether it is government to government or people to people or civil society to civil society. In other words, benefit sharing should be looked at different levels and need not be restricted at the macro level alone. One also needs to go beyond large infrastructure projects such as, the generation of streams of electricity or the prevention of watershed degradation. The grass root benefits that trickle to the rural poor be it in terms of rural electrification or small-scale irrigation need to be identified.

In order to trace the direction of benefits, we need to pose questions, such as where do benefits go and whether they go to the people or the private sector. This will lead us to the fundamental question of valuing benefits by which we need to weigh, for instance, watershed/flood protection benefits versus increments in high value cash crops because of irrigation benefits. Once this is done, the next task will be to monetize (value) benefits and share them by building mechanisms. One also needs to take into consideration the different aspects of benefit sharing including direct vs. indirect, tangible vs. immeasurable, planned vs. spillover and domestic vs. transboundary.

In line with what has been stated above, the basin states need to ponder over issues related to the mechanisms of benefit sharing in the basin, the time scale involved in reaping shared benefits, the likelihood of benefits being realized in terms of planning in time scales (ten, fifteen, twenty years or more), the degree to which the existing political economies in the basin affect the fairness and transparency of benefit sharing. There must be a minimal level of benefit sharing in a descending order that will take us into a real economic integration on the basis of shared resources, i.e. ‘benefits beyond the river’. For

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instance, the planned power transmission between Ethiopia and the Sudan should not be taken as an end in itself but rather as a means to an end. The grids should rather be used as drivers of integration irrespective of the time it takes to generate benefits to Ethiopia or to translate the benefits to real growth. One needs to bring in lessons from attempted regional integrations in Africa and elsewhere where there had been problems of translating political agreements into economic benefits. The integration attempts failed simply because there was a major lag between political will and economic benefits that in turn resulted in the frustrations of people.

Benefit sharing does not only mean the generation of benefits. It should also look at the distribution of benefits and the distribution of costs. Costs have to be part of the benefit-sharing framework with a built-in benefit-cost sharing mechanism.

Scenarios of benefit sharing

Prior to the construction of big dams in upstream states (e.g. Ethiopia, DRC), there is a need to come up with short, medium and long-term scenarios. Scenarios could be considered as phases or time perspectives of benefit sharing. Short-term works of strengthening the already established links and benefits through different initiatives and continuous rational dialogue among co-basin states could be considered as short-term scenario. A medium-term scenario could be tracking and improving in-country institutional arrangements for shared resource use and cooperation as well as in building benefit-cost sharing mechanisms. In the long term, one can think of efforts needed to bring about investments in multi-purpose joint development projects and programs that can potentially yield a 'basket of benefits'.

The short-term scenario in shared river basins may dwell on the benefits that have already been achieved in the basin. These include, among others, the establishment of river basin institutions, such as the NBI ('benefits to the river'), the continuous dialogue that is taking place between Nile riparian states to come up with a permanent Nile Basin Commission and the building up of confidence among the relevant stakeholders who have got a stake in the river. The medium scenario could, for instance, be changes in the regulation of reservoirs, which would maximize hydropower potential, develop irrigation, control flood and reduce siltation. These benefits can facilitate cross-border trade amongst the riparian states. Lastly, long-term impacts could be funding joint multi-purpose projects such as, large-scale irrigation, watershed conservation and biodiversity conservation.

There are also medium-term long impacts and long-term high impacts. The former include a bundle of benefits related to access to markets for different goods, development of joint flood protection measures and joint water management, while the latter the development of integrated river basin management system combining power transmission with dams and irrigation, so called high impact multi-purpose projects. A good example for the latter could be the envisaged/planned multi-purpose project on the Blue Nile River at Kara Dobi site in Ethiopia.

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Although, in principle, cooperation is a search for win-win solutions, still optimization or maximization of benefits needs to be quantified in time, place and in terms of the maximum value that can be generated. Different types of intervention in different countries jointly or unilaterally may have multiple benefits and costs differentiated by space/place and time. Optimization of benefits among basin countries needs also to be considered in the context of dynamic economic, social and political relations in the basin. Trade relations, experience of joint programs, similarity in major policy direction, tradition of cultural and social relations and history are among factors that would influence the venture of benefit sharing and cooperative arrangement.

An important task that deserves close attention is identifying the focus of the benefit sharing and ensuring ways of supporting the economic and social development of the people in the basin without losing sight of conserving water resource for long term use, controlling watershed degradation, minimizing any political upheavals among the basin states, and facilitating cross-border trade. Of course, every measure to realize each component would have effects on other components of the basin network.

It should also be made clear that in reality the political economies of some basin states may not allow other basin states to have an optimal benefit. For instance, more environmental benefits may bring about less economic benefits and vice versa. The former may have long-term economic benefits but may not generate short-term gains. For instance, the benefits of watershed program may require 20 to 30 years of realization times. Each basin state can hence seek to optimize but need to agree on the nature of the framework of optimization. In order to sort out such benefits, the Nile basin states need to draw lessons from the Lesotho Highlands Conservation Project where there have been lots of debates about benefit sharing frameworks. As has been discussed in the previous section, the Lesotho Highlands Project brought about water for South Africa, power and royalties for Lesotho but miseries for people who used to live in the inundated areas. Examples for the latter include externalities such as, displacement, resettlement and environmental changes. The parties have failed to give support measures for development and welfare opportunities for local and regional communities that have negatively been affected by the project, e.g. cash compensation. Despite the completion of the Lesotho Project, there are still quite a lot of controversies on the actual impact, with the resettlement issue being still outstanding.

Benefit sharing in the context of the eastern Nile sub-basin

The Nile is the longest river in the world that traverses 10 states. The basin encompasses 3.35 km² areas, i.e. 10 percent the continent's landmass, and is inhabited by 40 percent of Africa's population. The Nile Basin is home to 160 million people in ten riparian states, namely Burundi, Democratic Republic of Congo (DRC), Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda. Of the ten Nile riparian states, four of them live under 'water scarcity' situations.

Due to the prevalence of centuries of hydropolitical stalemates in the Nile Basin, costs 'because of the river' have remained high in the basin. The various attempts that were

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made to forge cooperation and bring ‘benefits to the river’ amongst the co-basin states via Hydromet, Undugu and TECCONILE did not bring the desired fruit. A strong departure has been made with the launching of the Nile Basin Initiative (NBI) in 1999 in Dar es Salaam, Tanzania. It has been established as a transitional mechanism pending the establishment of a permanent Nile Basin Commission. The latter requires, *inter alia*, the signing or ratification of a Cooperative Framework Agreement (CFA), which is still in limbo. The major objectives of the NBI include addressing the region’s brewing water conflict, reducing poverty and promoting economic integration (*ibid*). The establishment of the NBI is in conformity with the 1992 Dublin Principles and the Rio Conference, which called for global consensus for a participatory cooperative approaches to water and water resources development. As stated by Alavian (2008:8) “the fact that this many countries [10] with very different economic, political and development objectives and positions have recognized that there is more to be gained by cooperation than conflict, with water as the catalyst, is a major step forward”.

The NBI is composed of two complementary programs, namely the all-basin Shared Vision Program (SVP) and the sub-basin Subsidiary Action Programs (SAP). The latter are meant to come up with investment programs with the intent to translate the vision into action. In the Eastern Nile sub-basin, ENTRO has come up with a number of projects, which include, among others, watershed management, irrigation & drainage, Ethio-Sudan power transmission, regional power trade and Joint Multipurpose Program (JMPs). Some, if not all of the projects, have gone through feasibility stages and are awaiting funds for their implementation. Of these projects/programs, this study has considered JMP as an example to contextually discuss the benefit sharing framework.

JMP is a joint undertaking by the three EN countries, namely Egypt, Ethiopia and Sudan, to use the shared resources as entry points to foster economic integration through multi-purpose projects that go beyond the water sector (ENTRO, 2008). Its immediate development objective is to undertake cooperative and sustainable development and management of the shared Blue/Main Nile water resources through multipurpose storage/dam and power systems infrastructure, watershed and floodplain management and the ‘selective’ development of irrigation systems. According to ENTRO (2007), four elements are included under JMP: (i) watershed and environmental management, (ii) enhanced agricultural production, (iii) infrastructure with linked river and power systems, and (iv) leveraged Growth and Integration.

It has been recognized by ENTRO that cooperative development and management of the Eastern Nile Basin, as one river system, offers tremendous opportunities for economic development. This could be achieved through a multi-country, multipurpose program of activities that could increase power supplies, build reservoir capacity and enhance agricultural production that can mitigate natural resource degradation, alleviate poverty and support more sustainable livelihoods for the peoples of the EN sub-basin. According to Blackmore and Whittington (2008), a large dam with over-year storage on the Abbay (Blue Nile) is suggested to achieve the aforementioned benefits. The same authors believe that a large multipurpose dam on the Abbay would meet the criteria for JMP investments, including the generation of multipurpose benefits to all the three EN

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countries in terms of hydropower, irrigation, flood control and regional cooperation. Put in a nutshell, such JMP activities “would make better use of the Blue Nile water to produce more food and fiber, while at the same time reducing sedimentation and enhancing environmental values” (Ibid:73).

Blackmore and Whittington (2008) have also itemized the benefits that can be accrued to all the three EN countries after the construction of a large dam on the Blue Nile. The authors mentioned that Ethiopia stands to benefit in financial terms from the sale of large amounts of hydropower to downstream riparians; Sudan would benefit in several ways, including flood control, improvements in seasonal navigation and reduction in sediment loads reaching Sudanese reservoirs, while Egypt benefits from upstream storage by receiving alternative sources of reliable power and increased opportunities for trade, regional integration and cooperation.

Of the various projects of the JMP, special attention has been given to the development of sustainable watershed management due to the existence of close inter-relationships between watershed, environmental management and enhanced agricultural production. ENTRO (2008) asserted that in the absence of watershed management interventions, soil erosion, environmental degradation and deforestation will continue at accelerated rates, reducing agricultural productivity and increasing the numbers of households falling at and below the poverty line.

The JMP and other ENTRO projects should however consider a number of things related to the identification of bundle of benefits (water and non-water related ‘basket of benefits’) and the realization of the ‘equitable sharing of benefits’ to the Eastern Nile countries. In the context of benefit sharing, the power benefits in Ethiopia should be weighed against the bundle of downstream benefits in terms of flood control, availability of more water downstream that could be used for irrigation due to regulated release as well as watershed management in Ethiopia. Thus, for example, the downstream co-riparians should generate benefits for Ethiopia, if the latter releases flows which could otherwise be utilized upstream (at least theoretically).

Under the joint development program, i.e. JMP, there must be (a) a benefit sharing treaty of the EN countries that should entitle the three riparian states to a lump sum payment for various downstream and upstream benefits, (b) a sound financial framework for transboundary water resources development which includes, among others, methods for equitable sharing of the costs, the benefits and the risks and (c) building financial mechanisms for joint ownership of assets. It should also be borne in mind that the perception of benefits (and their usefulness) will alter over time, and any international agreement based on benefit-sharing scenarios will need to take account of this.

The challenge appears not only in the identification of benefits but also to put them in a realistic framework as funded and agreed upon by EN governments on multilateral basis. Once this is done, the next important step would be to treatise the benefit sharing. Efforts should hence be made to come up with the Eastern Nile Basin Benefit sharing Treaty rather than restricting ourselves to the Eastern Nile Basin Waters Agreement.

Conclusions

Due to the growing demand for freshwater in many parts of the world, including Africa, water scarcity is becoming the norm than exception. In Africa, where there is a large dependence on transboundary waters and about one-third of its people live under water scarcity situation, transboundary cooperation becomes imperative. Cooperation does not only avail more water in the basins but also tackle problems related to soil erosion, drought, food insecurity, and power shortage and water pollution.

Transboundary cooperation can yield positive sum outcomes if more emphasis is made on the sharing of benefits rather than water. This does not however mean that the volumetric allocation of shared waters should be shelved aside. The emphasis on sharing of benefits than water is borne more out of pragmatism and convenience than persuasion.

Looked at from upstream-downstream perspective, joint or cooperative investments at both levels can yield a stream of shared benefits, including flood control, silt reduction, power production and added water. These shared benefits in turn enable the riparian states to ensure food security, mitigate drought and avail renewable energy. It is incumbent upon the riparian states to list out, value and share the benefits in a manner that will be taken as fair and transparent.

For transboundary rivers such as the Nile, attempts should be made to identify the typologies of benefits, aspects of benefit sharing, scenarios of benefit sharing, and the optimization/maximization of benefits. With the better management of ecosystems cooperation can provide 'benefits to the river'; with cooperative management of shared rivers benefits can be accrued 'from the river' (e.g. increased food production and power); with easing of tensions between riparian states costs 'because of the river' could be reduced; and with cooperation between riparian states leading to economic integration comes 'benefits beyond the river'. In terms of aspects of benefit sharing, issues related to benefit sharing for whom, by whom and because of whom need to be addressed. Similarly, scenarios of benefit sharing should be considered as phases or time perspectives by anchoring short-term works of strengthening the hitherto existing riparian links, medium-term tracking and improvement of in-country and transborder institutional arrangements for resource use and cooperation and long-term efforts on investment in basin-wide joint development and programs.

Due to the prevalence of centuries of hydropolitical stalemates in the Nile Basin, costs 'because of the river' remained high. The lack of cooperation impeded many of the basin states to reap little or no benefits from the river. The establishment of the NBI in 1999 has been marked as a strong departure compared to its predecessors. ENSAP and with it

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ENTRO have identified a number of project, of which JMP stands as one of the most significant ones. It aims to undertake multipurpose and multi-country programs of activities encompassing watershed and environmental management; enhanced agricultural production and renewable energy. When this project gets grounded, it could mitigate natural resources degradation, alleviate poverty and enhance agricultural production in the Eastern Nile sub-basin. There is a possibility for the three Eastern Nile countries to accrue transboundary benefits.

As things stand now, the three EN countries need to first and foremost identify the bundle of benefits that can be generated from the project and then agree on the mechanisms by which they can realize the 'equitable sharing of benefits'. They also need to formulate and sign a benefit sharing treaty, develop a sound financial framework to realize the equitable sharing of benefits, costs and risks and the joint ownership of assets. Last but not least, the EN countries should establish institutions that will manage benefit sharing scheme and address issues such as mechanisms of delivering benefits.

References

- Alavian, V. 2000. Shared Waters: Catalyst for Cooperation. Rankin International Inc.
- Amer, El-Din S., Yacob Arsano, El-battahani, A., Hamad, El-Tom; Hefny, Magdy and Imeru
- Tamrat. 2005. "Sustainable Development and International Cooperation in the Eastern Nile Basin". Aquatic Science, Vol. 67, pp. 3-14
- Blackmore, D. and Dale Whittington. 2008. Opportunities for Cooperative Water Resources Development on the Eastern Nile: Risks and Rewards. An Independent Report of the Scoping Study Team to the Eastern Nile Council of Ministers.
- ENTRO. 2007. The Management of a Transboundary River: An African Cross-Learning. Report on NBI's Eastern Nile Joint Multipurpose Program (ENJMP) Knowledge Exchange study Tour to the Senegal River Basin. Addis Ababa (unpublished).
- . 2008. Cooperative Regional Assessment (CRA) for Watershed Management: Benefits of Watershed Management in the Context of a Joint Multipurpose Program. Addis Ababa (unpublished).
- . 2008. Joint Multipurpose Program Launch Phase Draft Report Executive Summary. Addis Ababa (unpublished).
- Fischer, Carolyn. 2005. Review of International Experience with Benefit Sharing Instruments. A Report for the World Bank, Southeast Asia Division.
- Giordano, M.A. and Aaron Wolf. 2003. "Sharing Waters: Post-Rio International Water Management". Natural Resources Forum, Vol. 27, pp. 163-171.
- Kitissou, M. 2004. Hydropolitics and Geopolitics: Transforming Conflict and Reshaping Cooperation in Africa. Africa Notes.
- Lautze, J. and M. Giordano. 2007. "Demanding Supply Management and Supplying Demand Management: Transboundary Water in Sub-Saharan Africa". The Journal of Environment and Development, 16, 3, 290-306.

Benefit-Sharing Framework in Transboundary River Basins: The Case of the Eastern Nile Subbasin

- Pottinger, Lori. 2004. Can the Nile States Dam their way to Cooperation? International Rivers Network (unpublished).
- Qaddumi, H. 2008. Practical Approaches to Transboundary Water Benefit Sharing. London: Overseas Development Institute.
- Radis, A.M. 2006. The Role of Resource Sharing Initiatives in Peace Building: The Case of Peace Parks. Unpublished BA Thesis.
- Sadoff, W.C and D. Grey. 2007. "Sink or Swim? Water Security for Growth and Development". Water Policy Vol. 9, pp. 545-571.
- , 2002a. Beyond the river: the benefits of cooperation on international rivers. Water Policy 4: 389-403.
- , 2002b. Africa's International Rivers: an Economic Appraisal. Washington, D.C.: The World Bank.
- , 2003. Cooperation on International Rivers: a continuum for Securing and Sharing Benefits. Unpublished Manuscript.
- The World Bank Group. 2002. Benefit Sharing from Dam Projects, Phase I Desk Study Final Report.
- Transboundary Management Guidance Committee. 2002. Development of a Sharing Allocation Proposal for Transboundary Resources of Cod, Haddock and Yellowtail on Georges Bank. Fisheries Management Regional Report, Canada.
- Tesfaye Tafesse. 2001. The Nile Question: Hydropolitics, Legal Wrangling, Modus Vivendi and Perspectives. Muenster/Hamburg: Lit Verlag. Vincent Roquet & associates Inc.
2002. Benefit Sharing from Dam Projects – Phase I Desk study (Final Report). World Bank.
- Woodhouse, M. and David Phillips. 2009. Transboundary Benefit Sharing Framework: Training Manual (Version 1). Prepared for Benefit Sharing Training Workshop. Addis Ababa.