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AND FORESTRY AUTHORITY
and Water Resources
ment Department

IN LAKES CLEANING AND LIVELIHOOD IMPROVE:

2. STRATEGIES UNDERTAKEN

- Manual removal using fishing cooperatives/local communities
 - Reuse of removed water hyacinths for making hand crafts
 - Sensitization to fishing cooperatives for continuous water hyacinth removal in their respective lakes
 - Equipping fishing cooperatives with the necessary equipment (mainly engine boats) for continuous water hyacinth removal

NBI Technical Reports: Basin Cooperation Series
Nile Cooperation: Lessons for the World and Lessons from the World for the Nile Basin

COOP-2014-1



Document Sheet

This Technical Report series publishes results of work that has been commissioned by the member states through the three NBI Centers (Secretariat based in Entebbe- Uganda, the Eastern Nile Technical Regional Office based in Addis Ababa - Ethiopia and the Nile Equatorial Lakes Subsidiary Action Program Coordination Unit based in Kigali - Rwanda. The content there-in has been reviewed and validated by the Member States through the Technical Advisory Committee and/or regional expert working groups appointed by the respective Technical Advisory Committees.

The purpose of the technical report series is to support informed stakeholder dialogue and decision making in order to achieve sustainable socio-economic development through equitable utilization of, and benefit from, the shared Nile Basin water resources.

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Executive Summary

The Nile Basin is one of the world's most iconic – and complex – river basins. Reflecting the challenge of managing a resource shared by 11 states and some 300 million people, efforts at achieving and sustaining basin-wide cooperation have been ongoing for many decades. Only in the 1990s, however, did these efforts develop from more narrow technical cooperation to wider cooperation embedded in the real development challenges in the basin and, ultimately, the complex politics that have challenged basin-wide cooperation for far longer.

From these efforts emerged the groundbreaking Nile Basin Initiative in 1999. This multi-country, and multi-donor-supported, transitional institutional mechanisms was accompanied by a negotiation track involving efforts at achieving a Cooperative Framework Agreement.

Both processes have faced – and have overcome in many cases – key challenges that have arisen. Neither has yet to reach the full heights of cooperation that many envisaged at the outset. In particular, the establishment of a new permanent basin-wide legal and institutional structure that can enshrine within and sustain effective cooperation in coming decades remains elusive.

That work is still required to achieve this is

widely acknowledged. Given the economic and social transitions that are required to underpin future wealth and well-being in the basin, further collective action will be required at all levels. This paper contributes by highlighting some of the key lessons emerging from cooperation to date, based on inputs and observations from of a range of Nile stakeholders consulted across three meetings convened in the basin.

Beginning with the wider context of global collective challenges, the paper then examines the emergence of cooperation in the Nile under the NBI. This is followed by a series of lessons learnt to date focusing on four core areas: 1) Ensuring linkage between levels and sectors, including a specific focus on the need for closer connection between regional processes of cooperation and national political-economic environments; 2) the need for 'smart approaches' at different scales, including connection across sectors to achieve multiplier effects, linking many smaller efforts into a broader vision and applying principles of subsidiarity; 3) empowering institutions and stakeholders, including regional cooperation mechanisms, and working effectively with external development partners; and lastly, but perhaps most important, 4) establishing understanding and trust, through both ensuring transparency and achieving broad-based stakeholder engagement.

These lessons emerged from stakeholder consultations held in Addis Ababa, Entebbe



and Dar as Salaam and attended by key NBI experts, both past and present, as well as wider Nile basin stakeholders. In tandem with these consultations a set of criteria was applied to the selection of other international river basins the lessons of which were used to inform major challenges for Nile cooperation identified during the consultation processes. The penultimate section of the paper brings together these Nile basin challenges

and lessons drawn from outside the Nile, summarized as: 1) Dealing with high levels of expectation in complex river basins – including their political environments; 2) establishing levels of understanding of key cooperation concepts by all key actors; 3) understanding more fully the nature of and capacity to generate different kinds of benefits (and share costs equitably); 4) overcoming legal and institutional challenges; 5) addressing

effectively financial challenges, including the issue of sustainability; and 6) addressing directly the political challenges arising.

Major lessons from other basins were drawn from the Columbia River in North America, the Cubango-Okavango, Inkomati and Orange-Senqu rivers in southern Africa, the Danube in Europe (the most international shared basin in the world), the Mekong in Southeast Asia and the Senegal river in West Africa. Key lessons that emerged included:

- The melding of long-term strategies with short-term tactics to nest benefits of cooperation within longer-term approaches to core basin challenges, for example reduction in long-term pollution in the Danube
- Engaging NGOs and others in data collection to inform understanding and incorporation of local realities, helping to inform and generate action at local levels – in short enhancing the buy-in of stakeholders to cooperation processes
- Flexible and adaptive management approaches through joint planning on rules for water utilization, and ensuring the framework is reflexive enough to change as wider circumstances change; providing a more dynamic and response system of cooperation
- An emphasis on subsidiarity (confirming Nile basin approaches), but even moving to the firmer institutionalization of sub-basin commissions, e.g. in the Danube system
- Building strong science and research into basin development frameworks, again using a wider vision as an umbrella with flexible management approaches, such as instituted on the Cubanga-Okavango, with an emphasis on responsiveness to environmental and socio-economic change
- Scaling up from local knowledge of change to wider ‘interconnectedness’ and working up from local benefit sharing thinking to broader basin-level approaches, as undertaken on the Inkomati basin
- In the Senegal basin, establishing innovations in benefit sharing approaches through joint fiscal responsibility over shared infrastructure and shares in benefits ‘congruent with each country’s needs’; moreover, systematically defining and breaking down benefit types: reduced systemic pressure, increased service reliability, reduced conflict and closer regional integration
- In the Danube, seeking integration

between basin organization and Regional Economic Communities, helped to achieve mutual institutional strengthening with gains from region-wide and basin-specific policy processes

- In many basins, the wider broadening of stakeholder engagement – beyond simple identification – helped create opportunities for engagement and commitment to cooperation as well as for new agreements to be reached; in some cases this has been the result of more formalized structures including, in the Orange-Senqu, a roadmap for stakeholder participation
- Financing mechanisms and political challenges are frequently lessons in building country level financial commitment, though this will not emerge unless tangible benefits are planned for and realized – as was the case under the innovative financing mechanism on the Columbia river between the USA and Canada. What is clear is that institutions of cooperation have to continue to establish and develop political trust and capital between states, but also using, where appropriate, ‘track two’ processes, including through engaging civil society. The ‘virtuous circle’ of trust building and displays of political will engendering increased external assistance is clear, including on the Danube.
- What is clear from all cases is that the Nile is not alone in trying to overcome political challenges, that this process can take decades, but that, ultimately, it is achievable – and indeed has to be achieved in order to proceed with effective cooperation to surmount huge future development obstacles.

The final section of the paper presents ways forward on lesson learning and returns to the major theme of global collective action and public goods. It argues that a more systematic mechanism for sharing experience, best practice and knowledge on cooperation in major shared river basins would in itself provide a global public good that could strengthen and enhance effective cooperation in different global regions – whilst acknowledging the many differences that exist between basins.

The NBI could take a lead in reaching out to other basins through sharing a series of knowledge products, starting with this paper, and through greater sharing establishing a more institutionalized ‘peer-network’ that could support future problem solving and the achievement of more effective cooperation.

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This paper was produced by the NBI with the assistance of and input from a wide group of stakeholders (see appendices). Of particular note are staff (past and present) of the Nile Secretariat in Entebbe, the Eastern Nile Technical Regional Office in Addis Ababa, and

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List of Acronyms and abbreviations

AfDB	African Development Bank
BDMF	Basin Development and Management Framework
CBSI	Confidence Building and Stakeholder Involvement
CFA	Cooperative Framework Agreement
CIDA	Canadian International Development Agency
CPE	Permanent Water Commission
CRT	Columbia River Treaty
DaNSS	Database of Nile Secondary Stakeholders
DPRC	Danube River Protection Convention
DSS	Decision Support System
ENIDSP	Eastern Nile Irrigation and Drainage Support Project
ENSAP	Eastern Nile Subsidiary Action Programme
ENTRO	Eastern Nile Technical Regional Office
EU	European Union
GDP	Gross Domestic Product
GEF	Global Environment Facility
GIZ	German Technical Cooperation
GW	Giga Watts

ha	Hectare
ICDPR	International Commission for the Protection of the Danube River
ICCON	International Consortium for Cooperation on the Nile
ISP	Institutional Strengthening Project
JWC	Joint Water Commission
kms	Kilometers
kWh	Kilowatt hours
ICDPR	International Commission for the Protection of the Danube River
IPCC	International Panel on Climate Change
IRBM	Integrated River Basin Management
IUCN	International Union for the Conservation of Nature
LHWP	Lesotho Highlands Water Project
m	Million
MoU	Memorandum of Understanding
MRC	Mekong River Commission
MW	Mega Watts
MWRI	Ministry of Water Resources and Irrigation
NBC	Nile Basin Commission
NBI	Nile Basin Initiative
NBTF	Nile Basin Trust Fund
NEL-CU	Nile Equatorial Lakes Cooperation Unit
NELSAP	Nile Equatorial Lakes Subsidiary Action Programme
NGO	Non-Governmental Organization
Nile-Sec	Nile Secretariat
Nile-COM	Nile Council of Ministers
Nile-TAC	Nile Technical Advisory Committee
NRBAP	Nile River Basin Action Plan
OKACOM	Okavango River Basin Commission
OMVS	Organisation pour la Mise en Valeur du Fleuve Sénégal
ORASECOM	Orange-Senqu River Basin Commission
SADC	Southern African Development Community
SAP	Subsidiary Action Programme
Sida	Swedish International Development Agency
SOGEM	Société de Gestion de l'Énergie de Manantali
SOGED	Société de gestion et d'exploitation du barrage de Diama
SVP	Shared Vision Programme
TDA	Transboundary Diagnostic Assessment
UNDP	United Nations Development Programme
UNDUGU	Nile Basin 'Brotherhood' organization
UNECE	United Nations Economic Commission for Europe
UNESCO	United Nations Educational, Scientific and Cultural Organization
USD	US Dollars
WMO	World Meteorological Organization
WRMP	Water Resources Management Project



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1. Introduction: The challenge of collective action

International river basin cooperation for development and management of the shared resource is costly and complex. It is, however, a development challenge that increasingly confronts countries and societies and one that cannot be ignored in the face of climate change, population growth and the need to achieve sustainable economic transitions to ensure the wealth and health of future generations.

The wider importance of this challenge is also reflected in global development partner engagement, including substantial support for cooperation processes in all regions of the world. Perhaps three key reasons lie behind this level of attention to shared river basin cooperation: 1) the nature of shared river basins means that actions by countries sharing the resource can be felt elsewhere in the basin, either positively or negatively; 2) potential natural disasters affecting the system may need mitigation efforts at multiple points in the system; and 3) because the opportunities for optimal harnessing of the basin resources invariably require actions at a range of scales, from local through regional.

The practical challenges of co-developing and co-managing resources at the scale of a shared river basin are immense. These are commonly referred to as ‘collective action’ challenges, the nature of which demands that in order to produce certain streams of

goods (or benefits) – usually referred to as public goods – entities need to work together or else they will not be achievable at the same level and (in some cases) of the same type. Eleanor Ostrom, the Nobel Laureate, defined collective action problems in terms of low incentives and asymmetric information that prevents joint production of a good that otherwise could not be produced alone (Ostrom, et al, 2002). An example in a shared basin context is hydropower. Whilst individual states can build hydropower facilities along branches of the same river and derive power production benefits, the same level of benefits (in terms of volume of power generated) may not be achievable unless joint planning, implementation and management of facilities takes place and a system of power pooling is established. The latter, in particular, enables countries sharing a basin to derive maximum benefit and value from developing hydropower, matching spatial distribution of supply more effectively with demand needs (including beyond the basin).

To undertake this level of joint planning and development requires a shift in thinking and mindsets to something that has been referred to as ‘regionalism’ (Söderbaum and Granit, 2014). In brief, this means the “establishment of common objectives, values and identities that lead to region-formation and regional cooperation within a given geographical area” (ibid, 7). States (and other entities) have to leave their flags at the door and enter into discussion on how to achieve development

objectives based not simply on national parameters and objectives, but through a sense of greater benefits being achieved through shared planning and development.

The central focus of this paper is on the one hand the experience that the Nile has achieved to date, principally though not exclusively under the Nile Basin Initiative; and on the other hand, the experience of cooperation in other shared basins in Africa and elsewhere that are relevant to the Nile. The logic of this approach is that important lesson sharing can and should strengthen and sustain cooperation processes and, crucially, ensure that greater benefits can be reached through cooperation by peoples and governments sharing specific river basins.

It is also important to note that the current juncture in the Nile basin – i.e. the second decade of the 21st Century – is only the blink of an eye in terms of Nile history. It is, however, a defining moment in future directions for basin development given rapid changes taking place in both human and environmental spheres. In the coming 80 years global temperatures are likely to rise by 2 degrees Celsius (and could even exceed 4 degrees Celsius under some scenarios) (IPCC, 2013). This poses major issues for changing climate patterns, the performance of agriculture, the behavior of hydrological systems and the demand for and supply of energy resources. At the same time, the human environment is being affected by rapid population growth that is projected to continue well into the Century, having at least doubled by 2100. At the same time, however, there are also vast opportunities for growth and development emerging that need to be seized, including the opportunity to build the capacities and capabilities of the basin's hugely dynamic population.

To be meaningful, however, cooperation needs to be effective (Öjendal, et al in Earle, et al,

2010). In short, that means cooperation for its own sake is clearly insufficient – it needs to lead to development outcomes that are both substantial and shared equitably at different levels. Poverty reduction, economic growth and environmental sustainability need to be at the fore. Many of these core concerns have been reflected in the development of the NBI's structure and programmes, many of which have been both unique in depth and range of vision. Taken as a whole they represent something of an historic shift across the basin, a record that now needs to be built upon and strengthened.

Beginning with a brief introduction to the Nile in Section I, the paper focuses on key aspects of the river's environment, including factors that present particular cooperation challenges. Section II then examines the wider context to the river before Section III examines the evolution of cooperation from the last century to the present day, highlighting key stepping stones in the development of the NBI. Section IV outlines lessons learnt to date, arranged as broad categories but complemented by specific examples from Nile experience. Section V then: 1) cross-references identified cooperation challenges in the Nile with the experience of other, non-Nile basins and 2) examines the implications for the Nile of these wider lessons. The range of international experience explored includes basins both within and beyond the African continent where relevance exists for contemporary Nile issues.

In Section VI the paper concludes by drawing important overarching lessons for effective Nile cooperation and returns to the collective action theme, examining how stronger approaches to lesson learning within and across international shared river basins can provide for an important global public good. This could ultimately strengthen development approaches and environmental sustainability across a substantial part of the global population.

2. The wider context

At over 6,700km in length and descending from heights exceeding 5,000 metres in the Rwenzori Mountains, alongside the Amazon the Nile is one of the world's two longest rivers, but perhaps its most iconic. Recognizable for traversing the vast arid Sahara desert, and marked by an annual flood pulse that has brought fertile silt to valley lands for millennia, the Nile has spawned a number of extraordinary civilizations along its main channel and tributaries, some of which are central to the development of humankind.

Today the river basin is home to more than 210 million people within its three million square kilometers and 11 countries¹. These countries touch nearly every region of the continent and, in many cases, form part of substantial shared river basins running to the Centre and South of the continent. Covering 10% of Africa's land mass whilst providing a home for 20% of its total population, the basin also includes one of the world's most extensive and pristine wetland areas, the huge Sudd swamp in South Sudan which extends over 30,000 km². Of the 11 basin countries, four ranked in the top 10 poorest countries and fewer than 10% of basin residents have access to electricity.

The two major sources of the river are the

Ethiopian plateau from where the Blue Nile – or Abbay – descends with force and over a short time period (August to October during the *keremt* rainy season, see right photo, above); and the Lake Victoria plateau, which forms the source of the White Nile, flowing at a more even rate throughout the year (see right photo, above). The flow regimes of the two rivers are in the table, below. Crucially for downstream states reliant on water for agriculture and navigation, continuing flow during the Summer months compensates for the significantly reduced flow in the Blue Nile. Yet still, the Abbay contributes a massive 80-90% of the Nile's total flow as measured at Aswan (an estimated annual average of 84 bcm). In comparison with the River Congo's flow of around 1,300 bcm as measured at the Inga Falls (NBI, 2012), this is small.

One key feature of the Nile is the extremely variable rainfall, from bimodal on the Lake Victoria Plateau, trending towards shorter rainfall seasons as the river flows north, and to the relatively dryer regime of the lower Blue Nile and main Nile reaches. This rainfall variability has critical consequences for countries where rainfed farming forms the bedrock of the economy (see graph below of rainfall variability and GDP from NBI/GIZ, 2012).

The relatively low depth of runoff across the basin means great sensitivity of streamflow to

¹Burundi, DRC, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, South Sudan, Sudan, Tanzania and Uganda

Figure 1



Fig. 1 Main Nile traversing Sahara Desert from Sudan to Egypt. (Source: Nasa visibleearth.nasa.gov)

Figure 2



Fig. 2 Lake Victoria (source of the White Nile) and the Ethiopian Plateau, source of the Blue Nile. (Source: Nasa visibleearth.nasa.gov)

changes in basin rainfall, leading to significant variability from year to year, (Sutcliffe and Park, 1999).

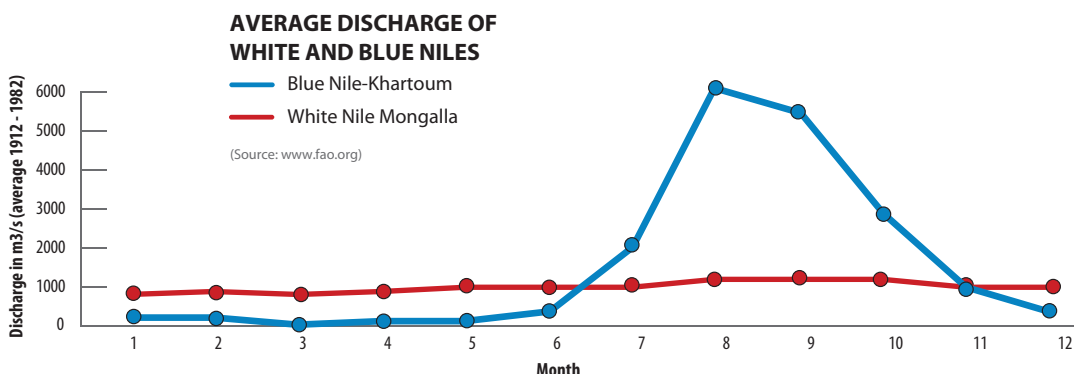
This has imbued the river’s flood regime over the years with a mystique, and agrarian civilizations reliant on its flood pulse with high levels of vulnerability.

Today, many communities living in the basin still rely on access to natural capital such as land, woody biomass and water – including green water (rainfall) and blue water (stream flow and groundwater) – to secure their livelihoods. It is estimated that currently the

basin’s environmental resources contribute between 40-60% of GDP in different member states. This serves to highlight how benefits derived from the river are closely interrelated – and potentially at the source of future competition. The environment, moreover, is not static. Significant structural shifts are taking place in soil fertility, water quality, land use patterns and forest cover. Many of these changes are at the core of the development challenges facing cooperation processes within the basin.

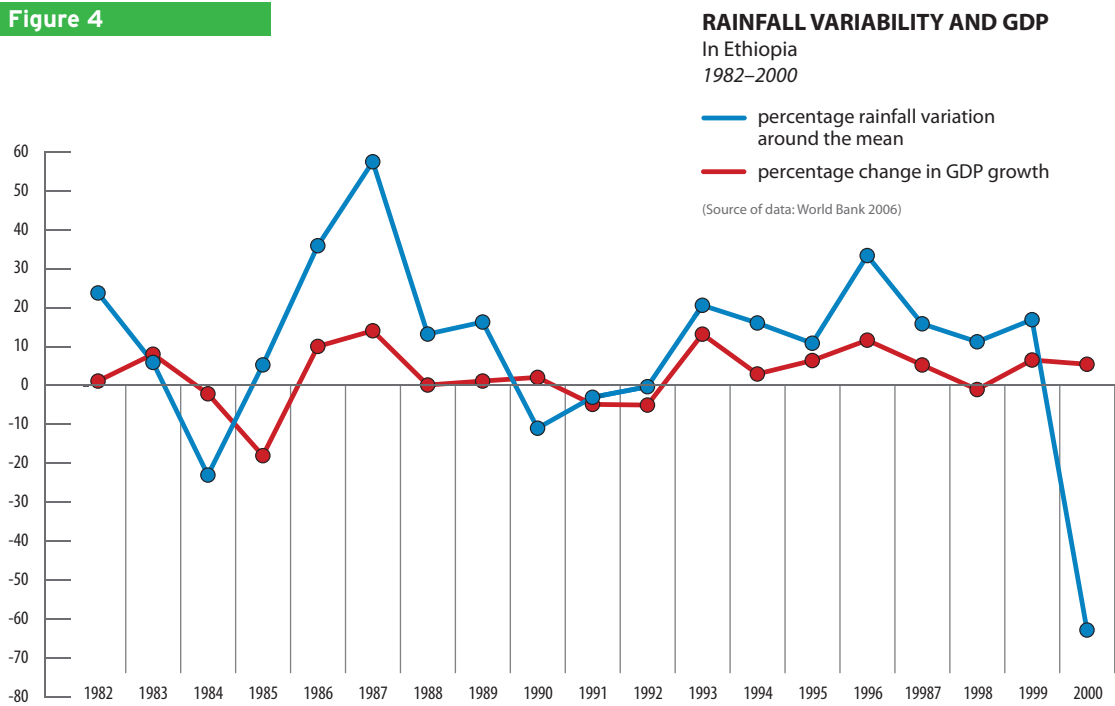
A major challenge is how to generate future employment within basin countries for the

Figure 3



Source: www.fao.org

Figure 4



Source: State of the River Nile Basin 2012

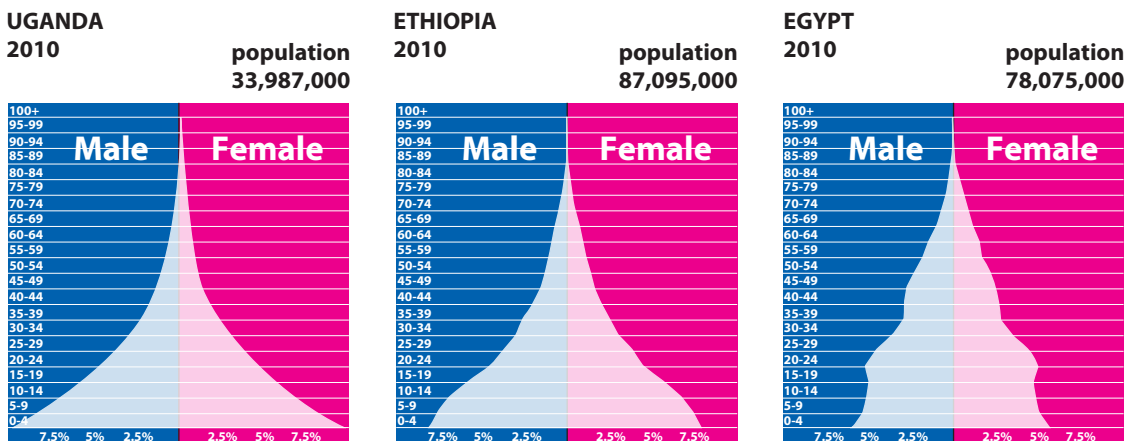
burgeoning economically active population – particularly in upstream states which have recently overtaken Egypt and Sudan in the balance of population across the basin (see Uganda population pyramid, below, with wide based and compare with Egypt’s more ageing population). Continued reliance on access to natural capital for livelihoods by a growing population in upstream countries will lead to further scouring of resources, increased soil loss and degradation and reduced vegetative cover. The productive capacity of the basin’s

agriculture in key areas could be substantially compromised. With the population living in the basin estimated to reach over 300 million by 2030 (NBI, 2012) particular attention needs paying to the development of future industries that can generate productive employment for young people – and alternatives to natural-resource based livelihoods.

Whilst the rural character of much of the basin population will persist, particularly in Burundi, Ethiopia, Kenya, Rwanda and

Figure 5

POPULATION PYRAMIDS OF SELECTED NILE BASIN COUNTRIES



Source: <http://populationpyramid.net/>

Uganda, and demand for food in the basin is estimated to double by 2030 (NBI, 2012), how this rural population generates food surpluses will become a critical development area, including the future linkages that can be made to rural production and urban food processing and other agro-industrial development which can generate greater employment.

Much current agricultural output in the basin is produced on the 87% of cultivated land under rainfed cultivation – in upstream states and largely low input-output cultivation. As a consequence, yields in these areas remain far below international norms. Most irrigation, by contrast, is practiced in Egypt and Sudan, where topography and proximity to the Nile valley make irrigation economically attractive. As a result some 4.5m ha have been cultivated, contrasting with less than 50,000 ha in upstream countries (NBI, 2012). The future development of supplementary irrigation in many upstream farming systems will be one way of bolstering production and avoiding the vagaries of rainfall in an uncertain climate. Other measures will need to include soil and water conservation to prevent further degradation and loss of fertility. Reducing excessive silt loads will also be of critical importance for downstream hydropower development and management on the Blue Nile and its tributaries.

The Nile Equatorial Lakes countries (including South Sudan) have important wetlands and other aquatic biodiversity resources to conserve but such resources are not there (or are not of high importance) in the downstream and more arid parts of the basin. In Egypt the major environmental concern is erosion of the Nile delta due to lack of sediment fluxes and sea level rises. Other critical problems include pollution caused farmer use of pesticides and fertilizers and domestic and industrial wastewater discharge.

By contrast, most upstream countries have far less industry concentrated in the Nile basin, and their greatest water quality challenges come from land degradation and poor sanitation leading to high turbidity and bacteriological contamination. These examples serve to illustrate the challenge that development issues are complex and variegated across the basin.

One common felt challenge, however, is future climate change and impact across the basin. Whilst rainfall variability is a given,

the longer term and more structural impacts of shifting agro-ecological zones as a result of temperature rises – particularly along the steep escarpments in upstream areas of the basin – will have important impacts on the pattern of rural production. Rising temperatures across the basin will increase rates of evapo-transpiration and, therefore, demand for water in agriculture. Higher temperatures will also increase evaporation losses from storage reservoirs and, potentially, cause major change to species composition in land and water ecosystems.

Increases in extreme weather events are anticipated in many parts of the region posing even greater risk to rainfed farming systems, and increasing the vulnerability of rural populations. With high levels of uncertainty surrounding Global Climate Models, planning for future events needs to take into account potentially multiple scenarios, including wetter and drier years in different parts of the basin, suggesting the need to implement a range of low and no-regrets measures.

Energy generation infrastructure using the power of the Nile flood has been under development for many decades. Current production in many states remains extremely low, however. About a quarter of all hydropower potential in the Nile basin has been developed (out of a total of 28 GW), so far, but six Nile countries still only produce less than 100 kWh per capita per year, compared to a world average of 2,752 kWh in 2007 (NBI, 2012).

Energy production is currently under rapid development, in many cases supported by programme activities under the NBI. This represents a win-win for producers, particularly when countries are networked together in power pools. What electricity production cannot do, however, is curtail continued reduction in biomass energy for heating and cooking, a key aspect of vegetation loss and declining soil fertility in parts of the basin. Energy policy more generally – including the exploitation of hydrocarbons – will need to be further networked and streamlined in coming years as basin-wide cooperation develops and deepens.

These wider contexts to development in the basin set the scene for an examination of cooperation since the early attempts mid way through the last Century to the present day.

3. Evolving cooperation

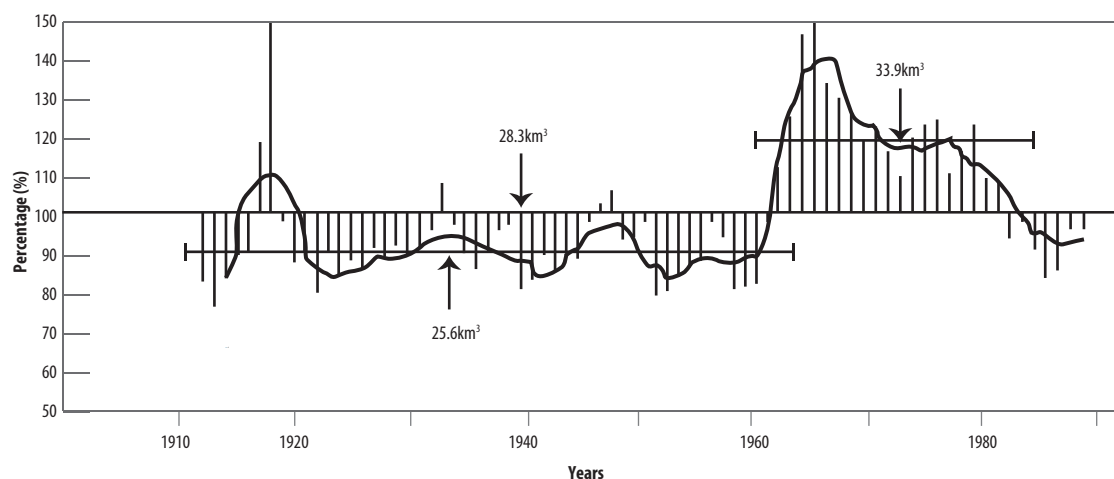
Discounting earlier bilateral-only forms of cooperation, and ‘cooperation’ during the Colonial period, genuine multilateral cooperation only began in earnest in the 1960s. This was triggered by the exceptional change in river behaviour exhibited when the discharge of the White Nile system increased substantially during the mid-1960s (see Fig 6).

This period of highly exceptional rainfall led to the establishment of the Hydrometeorological Survey of the East African Lakes (otherwise known as Hydromet), which was supported in large part by WMO/UNDP. The survey produced reports in 1974 and 1982 and continued on until 1992 when the project became Tecconile (Sutcliffe and Park, 1999). In parallel, the establishment of the Undugu organization, meaning ‘brotherhood’ in Swahili, focused on the establishment of a Nile Basin economic community (NBI, 2013), and was pushed in particular by the former Egyptian Foreign Minister, Boutros Boutros Ghali. These and related efforts were, however, seriously impaired by a lack of inclusivity and the anchor of a shared vision of what cooperating parties wanted to achieve (NBI, 2013).

The 1990s heralded a period of significant change in the basin, and more widely across Africa. Some of this change provided

unanticipated opportunities to achieve, for the first time, a common, basin-wide vision for Nile cooperation and development free from ideological and other constraints linked to wider geopolitics. The decade began with a new era of technical dialogue on cooperation, including under the auspices of the Nile 2002 conference series. Launched in Aswan, Egypt, in 1993, an annual conference was held in a different Nile country until 2002. Although largely technical in nature, this ‘track-two’ process of technical cooperation and dialogue helped to shape and support wider processes of cooperation that developed during the decade.

In 1992 the Nile Council of Ministers of Water Affairs of Nile Basin States (Nile-COM) launched an initiative which sought to promote cooperation and development across the basin, emerging out of the earlier Hydromet survey. The initiative was called the Technical Cooperation Committee for the Promotion of the Development and Environmental Protection of the Nile Basin (Tecconile). Six countries took part – DRC, Egypt, Rwanda, Sudan, Tanzania and Uganda – with the remaining four at the time participating as observers. Under this framework the cooperating countries prepared a Nile River Basin Action plan (NRBAP) in 1995, with external support from CIDA. One of the components under the NRBAP was the so-called ‘D3’ (outputs 1 and 2) which began in 1997 and concluded with the work of a Panel of Expert in 2000.

Figure 6**DISCHARGE OF WHITE NILE**

Source: <http://www.fao.org/docrep/w5183e/w5183e04.htm>

During this period, the World Bank increased its commitment to transboundary waters, particularly following the completion of its Sector Water Resources Management Policy Paper in 1994. Commitments under the paper included supporting “studies and consultations to review available organizational arrangements and help countries develop alternative solution” (World Bank, 1994). In 1995 the World Bank was invited by Nile-COM to take the lead role in coordinating external agencies, and by 1997 the Bank had proposed that it undertake the task in partnership with UNDP and CIDA, in addition to preparing a donor consultation meeting. This led to a review of the NRBAP later in the year and a revised Action Program

in which were included a shared vision and actions on the ground.

In March 1998 at the 6th Nile-COM meeting, this time with eight riparians in attendance (all except Eritrea and DRC at the time), the Revised Action Plan was endorsed and a Technical Advisory Committee established. The 1st Nile-TAC meeting held in Tanzania later in the year drafted a set of Policy Guidelines that helped in defining the nature of the Shared Vision Program, outlining four strategic areas. This was followed by a 2nd Nile-TAC meeting at which was proposed the final version of the Nile Basin Initiative Policy Guidelines and the plan of action for establishing the NBI.



Source: NBI, 2012

On 22nd February 1999 at an Extraordinary Meeting of the Nile-COM, a set of minutes were prepared, adopted and signed, formally establishing the NBI. Nile-COM instructed the Nile-TAC to prepare a portfolio of priority SVP projects for presentation to development partners via ICCON 1. At the 7th Nile-COM in May 1999 ministers approved the list of priority projects and a Project Preparation Process was set in motion under a newly-established NBI Secretariat set up in the Entebbe offices of Tecconile. Project preparation continued and in March 2000, the NBI presented its 'shared vision' to the international community at the Second World Water Forum in The Hague.

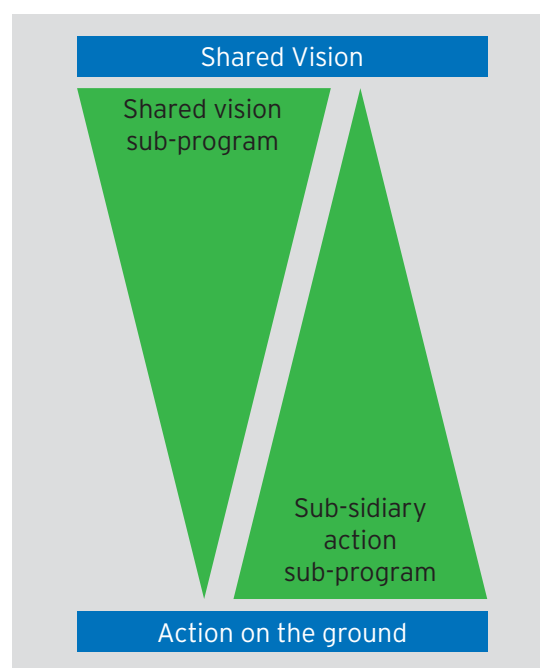
The shared vision guiding the work of the NBI was "To achieve sustainable socio-economic development through the equitable utilization of, and benefit from, the common Nile basin water resources." Under this vision, the NBI described its core functions as 1) facilitating cooperation; 2) Water resource management; and 3) water resource development.

Two subsidiary action programs (SAPs) were also agreed to provide support to the vision (the mutually reinforcing approach represented in the diagram, left): the Nile Equatorial Lakes Subsidiary Action Program (NELSAP) and the Eastern Nile Subsidiary Action Program (ENSAP). The ICCON 1 meeting in June 2001 held in Geneva sought coordinated and transparent support from donors for cooperative water resources development and management and other related projects in the Nile basin.

As a result of the meeting, funding for the first SVPs was received and in 2004 these were launched, aimed at building trust and confidence among member states, addressing capacity issues, and laying the foundations for greater regional cooperation. The SVP included projects on confidence building and stakeholder involvement, socio-economic development and benefit sharing, efficient water use in agriculture, transboundary environmental action, water resources planning and management, and applied training.

The two SAPs focused on investments and actions on the ground to address specific environmental and socio-economic challenges. These were designed to 'nourish and feed' the shared vision. Seven guidelines set for the SAPs included planning actions at the 'lowest

Fig. 8: The SVP and SAP relationship



appropriate level' related to the hydrological conditions of the Nile, the need to work at sub-basin level, appropriate planning to include all those affected, building on the principles of equitable utilization, no significant harm and cooperation, and undertaking investigations on 'solutions both that have benefits for all involved and distribute benefits, costs, and risks equitably as well as use resources efficiently and protect the environment' (Nile-COM, 1999). The Rusumo Falls (see box below), is one such example of a SAP project coming to fruition.

The portfolio of anticipated investments under the two SAPs came to exceed USD2 billion in total, though by 2013 through the Nile Basin Trust Fund, development partners had provided only about USD200 million in total for NBI programs with addition bilateral inputs from SIDA, GIZ and the AfDB (NBI, 2013).

From 2009 onwards the Institutional Strengthening Project was launched to pave the way for establishment of a Nile Basin Commission (Cascao, 2012) on the assumption that the Cooperative Framework Agreement would be completed. The ISP provided an integrated package of strengthening to be implemented by the NBI institutions. In 2012 a new Strategic Action Program (2012-2016) was launched. This was an attempt to advance the implementation of existing projects and to

continue to consolidate trust across countries in the basin in spite of political difficulties and donor anxieties. It also helped to bring a new member – South Sudan – into the initiative. By 2013, Sudan had also returned to the NBI fold and cooperation momentum

was beginning to be restored. The challenge remained, however, to bring all basin state members back on board and to continue to combine a vision of cooperation with practical actions on the ground that addressed the Nile basin's multiple development challenges.

BOX 1. ENERGIZING THE NILE



The Rusumo Falls Hydroelectric project is a leading example of cooperation on the Nile. Located on the Kagera River at the border between Rwanda and Tanzania, the sequences of rapids were identified for potential hydropower generation in the 1970s. In spite of discussions between adjacent states and a series of feasibility studies, it was not until the NBI under NELSAP-CU identified

this as a flagship infrastructure project that substantial progress was made. The project, to be inaugurated in 2017, will generate 80MW of power for the national grids of Burundi, Rwanda and Tanzania, benefitting an estimated 1,146,000 people across the three countries. As a run-of-the-river project it minimizes environmental and social impacts. The US\$470 million project is being financed through a World Bank loan of US\$340 million for constructing the generation facility and US\$130 million from the African Development Bank and other development partners for transmission lines to the three countries.

Success factors attributable to the NBI's role include providing an institutional platform for regular dialogue and information exchange, creating trust and confidence, providing a coordination mechanism and facilitating resource mobilization for implementation of the project. The NBI helped in establishing a 'Special Purpose Vehicle Company' owned by all three governments which will be responsible for implementing and managing the project. Specifically, NELSAP-CU enabled the establishment of departments of water resources in Rwanda and Burundi, including capacity building to staff, in order to ensure strong support to project preparation. NELSAP-CU also facilitated agreements between the countries in 2005, 2006 and 2012 which enabled and reaffirmed commitments to build, operate and finance the project as a result of which the three countries prioritized the RRF in their respective national development plans, including securing funding for its implementation.

Source: NBI (undated) Unlocking the Nile Basin's energy potential through cooperation - Rusumo Falls Hydroelectric Project, NBI Entebbe

4. Lessons from the Nile

Based on consultations with Nile basin stakeholders held in Addis Ababa, Entebbe and Dar as Salaam, this section provides a summary of key lessons learned under Nile basin cooperation to date. It is structured around a synthesis of outputs and represents a snapshot of opinions in the basin.

4.1 Ensure linkage between levels and sectors

Key message 1: Regional processes of developing cooperation, and benefits from cooperation, require strong linkage to national contexts and embedding in national institutions

The Nile Basin Initiative has been successful in establishing regional mechanisms and institutions. As described above, these emerged from a process of engagement across the basin with both internal and external support. The resulting Nile centres – in Entebbe, Addis Ababa and Kigali – are some of the fruits of this cooperation. Important inroads have also been made in engaging the regional processes in national policy making, but it is recognized that greater embedding in national planning and policy contexts can still be achieved.

The benefits of cooperation will be most

keenly felt, in fact, where regional processes blend effectively in national development. One example from the NBI is the Rusumo Falls project. (see box). This kind of project has managed to derive synergies from regional and national development planning but has been the exception rather than the rule. More could be done to integrate within national development contexts, including funding of regional processes through national budgets. Increasingly, though, it is recognized that to do so, a binding legal framework (in the form of an MoU, policy, or law) is key.

Under the NBI, the development of cooperation took at least a decade of activity at a political level, in spite of relatively low external support. The desire for cooperation was built up over time through regional dialogues involving key stakeholders. As part of the embedding in national contexts, it is recognized that more could be done to engage with the notion of effective cooperation, i.e. cooperation that leads to tangible development results. The NBI vision and SAPs provided an important framework on which to build close national-regional linkages. The Water Resources Management Project of the SVP also developed important approaches to national water policy coherence, helping to build regional thinking into national water management policies and strategies. Yet overcoming significant challenges remains key, including matching the very different internal processes of policy change and planning specific to different co-riparians.

Building the vision of ‘regionalism’ represented by the SVP into key focal point institutions was one goal of the Confidence Building and Stakeholder Involvement project. In future, greater emphasis and support needs to be given to such initiative, including focusing on universities, ministries, the media and civil society. The emphasis should be on shifting mindsets that may be entrenched against

cooperation – or simply not interested – using basic communications and public dialogue over anticipated achievements and results.

Starting points are important and can include increased data sharing agreements (see box below on DSS). The co-production of transboundary policies (e.g. on the environment) can also assist. Past efforts

BOX 2. SHARING THE BENEFITS OF ‘DECISION SUPPORT’



Training in DSS at Nile Sec, Entebbe

The Nile is a complex mix of hydrology, climate socio-economic and ecosystems. Most of the river’s flow is generated in less than a third of the basin area. GDP in upstream countries is sensitive to fluctuations in rainfall which affect large parts of the agricultural economy. The concentration of rainfed farming and small plot

sizes in upstream catchments has led to intensive land use and soil erosion problems with serious implications for sediment load and deposition in the river system. This can also cause severe impacts on downstream reservoirs.

Given these challenges the NBI members identified the need to establish an objective basis for analyzing the river system. The Nile Basin Decision Support System (Nile DSS) represents a shared analytical and knowledge system to assist member states in making rational decisions on water resources planning and management. Costing some USD23 million, the co-development of the system has generated an ‘epistemic community’ comprising over 200 professionals from across the basin, many of whom have been trained in its use. The primary target audience is technical staff from ministries responsible for water, environment, hydropower, agriculture and economic planning. The Nile DSS provides a common analytic platform and knowledge base with which to support cooperative development of the river. Using analysis of water resources and transboundary opportunities, member states can share their knowledge, understand river system behavior and evaluate development alternatives.

For transboundary projects the Nile DSS provides a knowledge base that can support joint identification of development strategies and help in evaluating the impacts and benefits of alternative plans. Example questions include what are the trade-offs between water use in irrigation and hydropower, which alternative development options provide ‘win-win’ benefits to stakeholder, and how can alternative development options differ under climate change? DSS functions include cost-benefit analysis, multi-criteria analysis, rainfall runoff models, water budget models, time series analysis and scenario management. Currently the DSS is supporting decision making on how to improve water management, addressing questions that include how water utilization can enhance existing dams storage if operated in a coordinated manner, how storage reservoirs should be operated under different drought conditions and what minimum flows should be in order to meet environmental flow requirements.

Source: NBI (undated) Nile Basin Decision Support System (NB DSS) - A Jointly Developed Analytic System

under the NBI have made clear the benefits of cooperation, at least at a regional level, and riparians generally have understood the risks of continued unilateral action.

However, more can and should be done in both the Nile and other transboundary contexts to develop clear, communicable case studies and scenarios that show the benefits – including more effective quantification of these benefits – as well as the costs of non-cooperation in simple, publicly understandable terms, with a specific focus on political leaders, opinion formers and the general public.

4.2 Build smart approaches at different scales

Message 2: Working at different scales can support the achievement and recognition of significant benefits from cooperation, including achieving early ‘low-hanging fruits’

The NBI has shown how ‘low-hanging fruits’ including transmission interconnections, improved flood management and watershed protection, can help strengthen the case for a wider vision of and commitment to cooperation – showing that effective cooperation can deliver results. Under NELSAP, the programme started with smaller projects, and found that existing perceptions of impacts supported the pursuit of further cooperation. Along the cooperation journey the use of language also changed, spawning a ‘language of cooperation’, altering the nature of discourse between riparians.

This evolving cooperation environment was fertilized by the principle of subsidiarity, in which development challenges are addressed and solved at their lowest appropriate level. In the Nile this meant at two sub-basin levels given the huge extent of the basin and number of riparian countries. The principle of subsidiarity provided a closer connection between stakeholder and Nile cooperation in the ENSAP and NELSAP regions, including engagement with secondary stakeholders through a Nile Database of Secondary Stakeholders. Partners to these processes now recognized the subsidiarity needs to be accompanied by continued and ongoing stakeholder engagement, such as that carried out by Nile DaNSS under the CBSI project. In this regard, inclusivity through stakeholder

engagement is an important goal, but regarded as one that has to be achieved over time, and incrementally.

One of the enabling factors of working at different scales under subsidiarity is dealing with basin social, political and environmental asymmetries. The ENSAP/NELSAP partition enabled these asymmetries to be dealt and helped to facilitate processes of negotiation.

4.2.1 Multilateral cooperation should be inclusive and can achieve multiplier effects

Message 3: A broad coalition can achieve greater results, particularly through wider multiplier effects

Cooperation is necessarily a political – and multilevel – process. Joint management of infrastructure is one manifestation of an all-inclusive approach in which multilateral cooperation addresses not just the immediate countries involved in the development of infrastructure, but the interests of all countries, including those not participating. This may well be the case, for instance, in developing power pools and hydropower (see box on Rusumo Falls). By bringing in the interests (and concerns) of as wide a group of stakeholders as possible, incentives can be provided to encourage countries to engage more fully in cooperation processes.

In broadening the stakeholder base – a ‘big tent’ approach in effect – multilateral (and multilevel) cooperation can and should also encourage other forms of cooperation in the form of spin offs and multiplier effects. The NBI has many good examples of this kind of process, including experience from the Eastern Nile Power Trade study, the Nile Basin Decision Support System (see box), the Rusumo Falls project (see box), the flood preparedness project and other data sharing and related projects and programmes.

4.2.2 Dispersed and ‘projectised’ development processes need careful linkage

Smaller, dispersed projects are important in order to achieve ‘traction’ and ‘tangibility’ within cooperation processes, including capacity to share early benefits for stakeholders. The Nile Basin Initiative established a number of such projects in

Message 4: There is a difficult balance to strike between projects and a wider, shared vision of region-wide transformation

its early stages, included the Watershed Management Project in the Eastern Nile.

However, project-based approaches can also have limitations in terms of performance, and may lead to cooperation processes not exceeding the sum of the parts, with countries seeking ‘their benefits’ from the process of cooperation, rather than appreciating and strengthening the process of cooperation as a whole.

In the case of the Nile the great contrast in the hydrology and physical conditions, and levels of human and economic development demands a flexible and ‘decentralised’ approach. No single problem or development challenge exists of equal importance to all riparians and so agreement must be across a spectrum of different approaches at different levels. The key implication of this is that cooperation needs to balance smaller, incremental project development with larger transformations and (potentially multi-country) projects that are part of a wider vision of collective action to generate a number of ‘goods’, including regional public goods (See box Future Farmer benefits, below). From the Nile experience, small but incremental change towards a common goal or set of goals has been important, but so too has been the development of large-scale and ‘transformational’ projects – for example the vision of the Joint Multipurpose Project in the Eastern Nile.

One approach to adopt in project-level development is using the inherent flexibility and shorter timescale of smaller projects to engineer demonstration of wider benefits that cooperation processes ‘scaled up’ can achieve through investment in larger projects. Showing that ‘win-win’ outcomes are possible can enable states – and other parties – to overcome fears of particular types of projects. Establishing early wins helps in underpinning the political case for cooperation and assisting those in all countries and at all levels championing processes of cooperation.

4.2.3 ‘Subsidiarity’ at sub-basin levels can accelerate cooperation

Collective action with multiple stakeholders

Message 5: Whilst multilateral engagement in cooperation processes can establish multiplier effects, collective action at sub-basin levels can help accelerate the achievement of results and impacts

from all riparian countries has often been very slow, for good reason – the more parties included, the harder it can be to reach agreement. Designing collective action at sub-basin levels can therefore speed up the process of cooperation through reducing the numbers of parties and achieving greater commonality of approach and position. Good examples include programmes established within the NELSAP sub-basin around joint power development. These sub-programs have been marked by high degrees of consensus and collective action to achieve common goals with clear outcomes in sight.

Within this cooperation environment, the subsidiarity principle enabled a range of scales to be addressed, particularly given the huge extent of the basin and number of riparian countries. In key ways this principle enabled the ‘reaching out’ of a ‘cooperation for results message’. Addressing stakeholder engagement in the sub-basins was a core task of the CBSI project. During consultations continuing this process was identified as a priority to be continued throughout the process of cooperation. Inclusivity is an important goal, but often cannot be achieved in one go, rather it is an incremental process and requires continual effort.

4.3 Empower institutions and stakeholders

4.3.1 Regional-level institutions need empowering

Message 6: Empowered regional-level institutions will strengthen cooperation processes, including through delegation of authority

The strength of cooperation processes (particularly in the longer term) lies in the empowerment of key regional-level institutions. The basis for the NBI’s success to date has been provision of a platform and



neutral space for dialogue within the three Nile centres– the Nile Secretariat, Eastern Nile Technical Regional Office and Nile Equatorial Lakes Cooperation Unit. Without this strength – including upward delegation of authority – leadership of cooperation processes will be challenging, including the capacity to communicate convincingly that cooperation can achieve results and impacts at different levels.

In the case of the Nile, the NBI emerged from a process of regional institution-building, beginning in a narrow technical manner and gradually broadening to include a wider range of development goals and objectives including, increasingly, political-level cooperation. The NBI at present is still a transitional mechanism, pending the establishment of the full Nile Basin Commission. This transitional nature has hindered its capacity to effect change and also the degree of high-level political engagement that a fully-fledged commission would be able to garner through the involvement of heads of state.

The nature of the three NBI ‘centres’ was such that it established a horizontal structure,

enabling on the one hand ‘subsidiarity in decision making’, but also failing to deliver a strong hierarchy of reporting and accountability. This hindered cross-organizational strengthening in the long term. One of the important lessons surrounding this challenge applies to regional cooperation processes more generally, many of which go beyond transboundary water management. It also suggests that collective action needs to be achieved at the regional level as well and between regional institutions, for example regional economic communities and river basin organizations need to work together more closely to bring greater coherence to shared visions and strategies. Whilst the NBI took steps to engage with organizations at a regional level, including the Lake Victoria Basin Commission (and wider East Africa Community), greater ongoing joint planning and development is suggested.

This includes the establishment of a strong regional secretariat for coordinating, monitoring and overseeing basin activities in relation with wider trade and development organs – drawing together and sharing lesson learning not just between river basin

organizations, but also with a wider set of inter-governmental – and non-governmental – development organs. The political integration of the NBI with national and regional development processes would be strengthened further by closer support at heads of state level through stronger vertical integration. An absence of vertical integration can hinder cooperation, reducing the scale and scope of cooperation as lower political levels ‘follow suit’ and distance themselves from processes. In recent years in the Nile, this has been a challenge for CFA implementation.

4.3.2 External engagement is important, but complex

Message 7: The role played by development partners (and other external parties) is frequently complex, but nevertheless important at different levels

The relationship of donors to cooperation processes is critical but also complex due to their engagement at different levels, from strategic funding to operational and country-level programming. They may come with distinct agendas that can be as disparate as country positions on cooperation. Their role is key, however, in providing some of the process financing necessary to support early stages of cooperation, and particularly in enabling regional cooperation institutions to emerge. In the case of the NBI this was particularly important for the financing of the SVP.

At the same time, given that high dependence on external resources can impact sustainability of cooperation, external support also needs to have clear and transparent exit strategies. In the Nile Basin case, a number of partners agreed to engage in the Nile Basin Trust Fund arrangement facilitated and managed by the World Bank. This provided a level of coherence and harmonization that was important for funding key parts of the NBI program. But at the same time, however, some donors remained outside the structure, seeking instead their own direct relationship to NBI institutions and programmes. Whilst there are recognizable differences in the governance of aid environments by different donors, the multiplicity of relationships can cause challenges for recipient institutions and programmes.

What is key is that the roles of external parties are clearly defined from the outset, accompanied by a regular review of experience in supporting cooperation processes at different levels and, where necessary, adjustments in the level and type of engagement in order that maximum benefit is received.

4.4 Establish understanding and trust

4.4.1 Cooperation processes require transparency

Message 8: A clear sense of the reason and purpose behind engagement in cooperation by each party is critical to long term success

Transparency of engagement in cooperation is critical. The development of cooperation processes and effective collaboration in joint decision making on both projects and wider programmatic work requires the provision of open and accessible information on anticipated results and impacts as well as clarity of intentions by key partners.

Whilst it is recognized that collaboration can include differing agendas (including by different institutions in the same government), if these remain at odds they can undermine effective problem solving and collective decision making. As a result, action to achieve benefits for basin stakeholders will be harder to achieve. One way of ensuring more openness and transparency is for political actors engaged in regional cooperation processes and institutions to discuss openly key water management issues, in addition to other important issues of process and governance (including, for example, the approval of work plans, budgets, reports, etc). The addition of more strategic level discussion could enhance common understanding of critical water resource issues and enable greater transparency of positions taken by different parties.

For this reason, each stakeholder input to the process needs to yield tangible benefits in the short and medium term in order to underpin wider support for cooperation particularly amongst politicians with constituencies to address. Tangible results on water supply

BOX 3. FARMING FUTURE BENEFITS



Egyptian Farmer: Source English Al-Ahram

The Eastern Nile Irrigation and Drainage Support Project (ENIDSP) undertook a coordinated and regional approach to developing irrigated agriculture in the Eastern Nile. This aimed to ensure food security and enhance agricultural productivity for farmers. Coordinated under ENTRO, the

project supported a number of areas including the development and expansion of irrigated agriculture (focused on improving the productivity of both small and large-scale agricultural water use), enhanced institutional, infrastructural and technological development to improve irrigation productivity, and enhancing national capacity for project implementation and promoting local farmer responsibility for operation and maintenance.

Faced with multiple challenges - including climate change - Egypt, Ethiopia and Sudan initiated the ENIDSP with the NBI providing a platform for consultation, developing guidelines for assessing and identifying irrigation projects and examining the agriculture development policies and projects that would provide win-win outcomes for member states. This included identifying potentially irrigable land, proposing ways of strengthening the performance of existing schemes and the development of an Eastern Nile Irrigation Management Information System. The benefits that were identified included saving billions of cubic metres of irrigation water, increasing the irrigable area by millions of hectares, achieving a 20% reduction in harvest/productivity losses on existing schemes and improving access to markets and credits, as well as increasing rural employment opportunities and better income for both women and men. total investment of USD342.6m included a contribution of USD230m from Egypt.

The Regional Trade and Productivity Project conducted studies that highlighted potential agriculture and trade opportunities in the Nile basin, with the objectives of defining future agriculture functions of the NBI, supporting productive water use in basin agriculture and incorporating agricultural trade into basin water planning. The NBI's role in this included defining the core agricultural functions of states, integrating agricultural data and information into the Nile-DSS, assessing irrigation potential in NELSAP countries, preparing irrigation scheme pre-feasibility studies for at least four irrigation schemes per country, and preparing and disseminating training materials on best practices in rainwater harvesting and small-scale irrigation. The NBI role also included conducting analysis of cross-border trade and documenting virtual water and the water footprint for major commodities.

Source: NBI (2011) Egypt and Nile Basin Initiative - Benefits of Cooperation, NBI and MWRI, Egypt.

projects, irrigation projects, power projects, fisheries and conservation are all forms of important political capital. Efforts to improve cooperation must go hand in hand with demonstrating benefits in non-abstract terms to the cooperating parties.

This also underpins the need for greater horizontal linkage between water 'benefits' and wider development impacts, suggesting the need – in the Nile in particular – for a cooperation agenda (and accompanying framework and set of institutions) that can go beyond water and extend to the political,

socioeconomic and cultural spheres.

4.4.2 Multistakeholder involvement in cooperation is important

Message 9: River basin cooperation is a multistakeholder environment; multiple stakeholders should be involved in developing cooperation and shaping the distribution of costs and benefits

Many more secondary stakeholders in the Nile Basin participated in Nile cooperation processes because of the relationship between the NBI and Nile Basin Discourse. This enabled avenues for engagement by civil society and enhanced specific stakeholder consultation over key projects and programmes.

Nevertheless, the level and strength of stakeholder engagement could have been enhanced through better coordination between different institutions and sectors.

Stakeholder engagement needs to be systematic, built in early on, and to be effectively measured and monitored over time. This will help in highlighting any gaps and shortcomings and measures to overcome them.

The CBSI developed high levels of stakeholder dialogue and in its project completion report noted a number of key results. These included the growing understanding and acceptance by governmental and non-governmental actors that Nile waters are a shared resources; that stakeholders in downstream countries increasingly appreciate the water needs of upstream countries and there is a growing realization that the sustainability of the Nile resources depends on transboundary cooperative management; and that all NBI governments have been actively advocating for increased NBI cooperation in their public pronouncements. This included key government and non-government stakeholders making calls and support for deeper and broader cooperation (NBI, 2009).

5. Lessons for the Nile: Dealing with challenges

Key challenges facing Nile basin cooperation include the following lessons drawn from the three basin-level consultations as well as results of visits by Nile basin staff to other basins in Africa and elsewhere, captured in back to office reports. It should be noted, however, that every basin context is specific and it is very hard – and probably unwise – to draw ‘lessons’ too readily across widely divergent contexts, particularly given the huge historical, political, cultural socio-economic and ecosystem differences involved. It is in this vein of caution that this section provides pointers for the Nile, with the hope that these can assist through contributing to a wider pot of thinking on taking forward and strengthening Nile basin cooperation.

Examples of lessons from elsewhere are drawn from literature on transboundary cooperation. The main criteria for selecting specific case studies are that: 1) they derive from complex multi-country basin contexts; 2) there is existing documentation on successes and challenges to date; and 3) the lessons provided are of relevance to the Nile basin today (subject to the proviso above). A summary table presented below outlines key features of basins identified and under the main cooperation challenge areas major lesson areas from beyond the Nile basin are described.

Challenge areas with for Nile basin cooperation derived from consultations with key stakeholders are identified below, followed by ways in which other basin experience can provide useful lessons for ways forward.

5.1 High expectations

The twin-track cooperation process initiated in the mid-1990s under the NBI led to three very strong expectations: a) that the process of cooperation would be incremental, starting under a shared vision for the basin, while negotiations took place for a new legal and institutional agreement based on principles of equitable utilisation of water resources; b) that in the medium-term tangible investment projects and their socio-economic benefits would be identified by the SAPs, some of which would be implemented; and c) that the CFA negotiations would be finalised in a timely manner and spirit of cooperation, and the transitional institutional arrangement (the NBI) could be replaced by a permanent river basin commission (the NBC). Many of these expectations were not achieved, or if they were, there was no shared agreement on achievements across NBI member countries.

In other river basins, including the *Senegal river basin*, key strengths have derived from openness amongst members to discuss crucial issues on cooperation, including agreeing the need to get legal and institutional issues in place as a foundation. The basin has also served as a good example of learning by

River System: Columbia River

Key features and challenges

The Columbia River system has both Canada and the United States as upstream and downstream co-riparians. The two countries have used different approaches to managing the system since 1909 when a Boundary Waters Treaty was signed. Most of the stress has been on equality rather than equity. This was particularly so in the 1950s when hydropower projects were proposed. Different principles invoked included equitable utilisation, historic use, riverine integrity and absolute sovereignty. By the end of the 1950s, the US accepted the sharing of downstream benefits.



Cooperation history

In 1961 the Columbia River Treaty was signed, but not fully ratified until 1964. The CRT featured equal sharing of downstream benefits for hydropower and flood control in the US that result from development and use of 19 bcm of usable storage in Canada.

In an innovative mechanism of benefit sharing, the United States prepaid Canada's share of the value of benefits from 60 years of flood control and 30 years of hydropower. This was sufficient to pay for the construction of the CRT dams. The CRT also allowed the US to build Libby Dam and disallowed the McNaughton Plan (Muckleston, 2003).

Cubango-Okavango

Key features and challenges

Shared by three states, the Cubango-Okavango covers an area of 725,000km² and is 1,100km in length. Population variation and reduction of hydrological flow are key issues. The system receives most flow from the headwaters of the Cubango and Cuito, then progressively 'loses' water downstream to evapo-transpiration and groundwater recharge. During low flows a lack of water can be critical.



The river and its floodplains provide key ecological services supporting livelihoods for much of the basin's population. Recent evidence provided by a TDA suggests that most alternative water use scenarios provide negative economic returns compared to current economic returns from ecosystem services. Key development issues in the Okavango basin are somewhat different to those in the Nile basin. On the demand side, the agricultural use of water is far less significant and abstractions correspondingly lower. However, this could change if Angola develops its upstream irrigation potential on key tributaries. Currently, food security is imports, particularly from neighbouring South Africa.

Within the basin itself, important communities – predominantly low-income, mixed agriculture and pastoral – are found along the river and depend on its resources. Industrial and urban domestic use, however, is more significant for each riparian, not least because the flow regime of the Okavango is more sensitive to abstractions than the Nile. Growing demands placed on the river by Namibia and Botswana are important and, in the case of the former, originate in parts of the country external to the basin itself. In Botswana, the growth of population centres in and around the delta adds to problems of resource degradation and demand for resources, including high abstraction of groundwater.

Cooperation history

The 1994 OKACOM Agreement establishes the Permanent Cubango-Okavango River Basin Commission (OKACOM). This commits three member states to promoting coordinated and environmentally sustainable regional water resources development, while addressing the 'legitimate social and economic needs of each of the riparian states'.

OKACOM was mandated to advise states on 'sustainable long-term yield, reasonable demand, conservation criteria, development of water resources, prevention of pollution and other matters' (OKACOM, 2011).

Danube River

Key features and challenges

The Danube is Europe's second largest river covering over 800,000km² and the territory of 19 countries (which also makes it the world's most international river basin), including a population of 81 million people living within the basin area. The Danube delta is an important international wetland and a UNESCO World Heritage Site.



In the past century and a half, human activity in the basin has been substantial, reducing wetlands and floodplains to a fifth of their former extent, removing important species habitats and, more recently, polluting key reaches of the river with heavy metals and persistent organic pollutants. Other critical pollutants include nitrate and nitrite pollution leading to the eutrophication of parts of the Black Sea, much of which originates from the Danube.

Some of these challenges have been, in part, mitigated with the reduction in heavy industry and farming methods that damaged the environment, however, this is relatively short-lived given the rapid subsequent development of some economies. The introduction of new farming techniques, in particular, that reduce drainage of nutrients into the river is of key importance.

Cooperation history

13 of the 19 countries are 'Contracting Parties' to the Danube River Protection Convention. The International Commission for the Protection of the Danube River (ICDPR) was mandated to implement the DRPC, as well as the wider Water Framework Directive of the EU.

It is also responsible for developing further the Danube river's management and international cooperation. The Commission also includes representatives from ministries, civil society and the expert community. Administration of the Convention is by a Permanent Secretariat of the Commission.

Inkomati River

Key features and challenges

At 44,800 km² and shared by Mozambique, Swaziland and South Africa, the Inkomati is relatively small by international standards (even within Africa), but nevertheless provides important lessons in ways of developing and innovating cooperation in politically – and technically – difficult circumstances. During the 1980s the basin was subject to tensions between countries, driven, in part, by relations during Apartheid in South Africa, but also by the serious consequences of a major drought in 1982, followed a decade later by another devastating drought event. Coupled with rapidly rising demand for water in the basin due to growing sugar cane development and river diversion, increasing pressure grew for collective action between the co-riparians.



A major challenge is the differing socio-economic development situation of riparian countries. Mozambique began to emerge from years of civil war in the 1990s. Upstream South Africa went through political convulsions during the same period but eventually emerged from minority rule in the 1990s, with the formal end of Apartheid. This paved the way for closer cooperation in negotiating a comprehensive water sharing agreement between the three countries, finally signed in August 2002 at the World Summit on Sustainable Development, the culmination of a decade of concerted effort.

The Inkomati is one of Africa's most intensively 'used' water sources, with more than 50% being withdrawn, primarily for agricultural use, and particularly for sugar cane production (Vaz and Van der Zaag, 2003). The biggest challenge at the present time is the closure of the basin (allocation of all available water). This increasing demand on the resource was a key driver for cooperation (ibid).

Cooperation history

Discussions between states on managing the river began in the 1960s, including a bilateral agreement in 1964 between South Africa and Portugal (then the colonial power in Mozambique). Mozambique acceded to the agreement on independence. Swaziland acceded to Part I of the agreement in 1967, included in which were principles of 'best joint utilization', 'common interest rivers', and sharing of hydrological and other data and joint studies (Vaz and Van der Zaag, 2003, 27).

In 1983 a Tripartite Permanent Technical Committee was established to address water shortages and the division of flows, as well as mechanisms to coordinate and integrate the findings and plans of each country and to 'report on the optimum joint scheme or schemes catering for the needs of all three countries' (ibid).

By 1992 the three riparians had agreed to sign the Treaty on the Development and Utilization of the Water Resources of the Komati River Basin and Treaty on the Establishment and Functioning of the Joint Water Commission under which both countries declared that they 'Recognize the right of the Republic of Mozambique to a reasonable and equitable share in the use of the waters of the Inkomati River Basin of which the Komati River Basin is an integral part'. Subsequently, under a Joint Water Commission it was agreed that all decisions would be taken on the basis of consensus. The Commission would act in an advisory capacity with regard to the various aspects of the joint development of water resources of common interest to the parties and was charged in particular with supporting the interests of Mozambique. (Vaz and Van der Zaag, 2003, 28).

Orange-Senqu River

Key features and challenges

At 850,000km² and 2,300km in length, the Orange-Senqu is the largest basin in Africa south of the Zambezi and one of the most developed. Covering South Africa, Lesotho, Botswana and Namibia, the basin hosts one of the most industrially-developed parts of Africa and supports many commercial farming and subsistence agriculture activities. The two main tributaries of the Orange River are the Senqu and the Vaal.



A key development within the basin in recent decades has been the Lesotho Highlands Water Project (LHWP), the largest international inter-basin transfer in the world. Identified in the 1950s and prepared in the 1980s, the LHWP was designed to meet the growing demand for water in the heartland of South Africa. The Orange River is hugely important to all four riparian countries, not least (but by no means only) because of the LHWP. Lesotho receives important payments from South Africa under the LHWP.

Beyond the LHWP, the ORASECOM agreement, reached in 2000 as the first multilateral basin-

wide agreement between all riparian states, led to the establishment of the Orange-Senqu River Commission (ORASECOM). Many challenges on the Orange-Senqu persist under the LHWP, in particular. These include high rates of soil erosion in the river's upper reaches and water quality challenges downstream.

Cooperation history

The first phase of the Lesotho Highlands project (Phase IA) was implemented from 1990 to 1998 and sought to develop Lesotho's water resources and alleviate water shortages in South Africa through the construction of dams, tunnels and controls. This would provide Lesotho with the means to earn export revenues from the sale of water to South Africa.

The project was a groundbreaking effort between one of the world's poorest countries and one of the richest in Africa. In 1986, the Government of Lesotho and RSA signed a Water Treaty to carry out LHWP over a 30-year period starting in 1990 with the ultimate aim to transfer 70m³/sec water from Lesotho to South Africa. By 2007 the LHWP was contributing 4.8 percent to Lesotho's gross domestic product.

A Permanent Joint Technical Commission was set up to safeguard the interests of the two governments involved and the Lesotho Highlands Development Authority was to execute project activities in Lesotho and a counterpart agency, the Trans Caledon Tunnel Authority in South Africa.

Mekong River

Key features and challenges

The Mekong is the longest river in Southeast Asia and the world's 12th longest overall. Spanning six countries, the runoff from the river system is the 8th greatest in the world. Running down from the Tibetan plateau, the Mekong flows 2,300 km to the ocean, through southern China, Myanmar, Laos, Thailand, Viet Nam and Cambodia.



More than 40 percent of the population lives in the Lower Mekong Basin. Rainfall patterns drive the river's flow, particularly the flood pulse of the wet season (April to May). The huge excesses of water carried during this season can lead to severe flooding. Tonle Sap, the major inland lake in Cambodia, buffers water flow in the delta downstream of Phnom Penh by storing portions of peak flow from July to September and releasing from October to April.

Traditionally, agriculture (irrigation and livestock), domestic water supply, and industry have been the major water uses in the basin. Recently, navigation, fishery, and eco-tourism and recreation, as well as the maintenance of environmental flows have been increasing in importance (IUCN).

The basin faces major challenges as a huge push for hydropower development along major reaches of the river and its tributaries alters river flow behaviour at a time of increasing demand for resources in the river system. Related to this, there are challenges within the riparian countries surrounding development and release of data on the river, including the negative environmental and social consequences of development projects (ibid).

Key features and challenges

The USBR undertook studies of the river in 1955 which led to the establishment of the Mekong Committee from 1957-1975. From 1976 to 1995 an Interim Mekong Committee emphasized more joint planning and eventually led to the establishment of the Mekong River Commission in 1995.

The examination of the development needs of the Mekong areas was usually carried out by the Mekong River Commission (MRC) Secretariat within the scope of Mekong areas. However, socioeconomic development of these areas cannot be separated from other areas of the

respective countries. (PCCP, 2003).

Some national committees of the MRC are more powerful than others and exert considerable influence. There is a sense amongst wider society that much decision making is not transparent and overly government-driven, with little policy space allowed for NGOs and civil society organizations.

Senegal River

Key features and challenges

With a basin extent of 490,000km², and river length of 1,800 km, the Senegal River, the second longest in West Africa, is shared by Guinea, Mali, Mauritania and Senegal. The river's source is in Mali and its three principal tributaries, the Bafing, Bakoye and Faleme, originate in the Fouta Djallon mountains of Guinea, together producing over 80% of its flow. The region has distinct dry and rainy seasons, with flooding sometimes occurring from June/July to October/November.



The basin has a population of around 3.5 million people, with multiple ethnic groups and a range of livelihood activities, ranging from farming to livestock keeping and fishing. There is also considerable rural to urban migration. The valley is famous for flood-recession farming, combined with more modern irrigation schemes. Droughts in the 1970s and 1990s had lasting impacts on the ecosystem of the basin.

The Senegal River's regulation has brought problems. The Diama dam changed the ecology and livelihoods of the lower Senegal river in Mauritania and Senegal, and the Manantali dam affected traditional recessional agriculture in Mali. One of the biggest challenges for the countries is the need to tackle the growth of aquatic weeds, such as water hyacinth and typha australis, resulting from the uniform environment induced by the Diama dam.

To restore ecological diversity and rural livelihoods, Mauritania and Senegal both established the Djoudj and Diawling National Parks in 1971 and 1991, respectively, on their sides of the river. The dams have also caused major ecological changes to the floodplain, reducing the volume and duration of annual floods and affecting 'traditional' flood recession agriculture. These impacts, amongst others, were recognized after 2000 and were tackled through a Plan d'Attenuation et de Suivi des Impacts sur l'Environnement (Environmental Impact Mitigation and Monitoring Programme). (Alam and Dione, 2004)

Key features and challenges

The OMVS – Organisation pour la Mise en Valeur du Fleuve Sénégal – is an intergovernmental organization to which each state designates a representative to participate in its executive body and the Permanent Water Commission. The CPE defines the principles of, and procedures for, allotment of river water between member states and use sectors (UNESCO, 2003). Overall political authority comes from the Conference of Heads of State and Government. The mandate of OMVS, defined in the founding convention is to promote and improve economic co-operation and joint economic development of the Senegal River resources. Following the adoption of the Senegal River Water Charter (OMVS, 2002), the OMVS redefined mandate is to promote a policy of optimal, responsible and sustainable use of the river resources within a policy of water conservation, integrated management, and equitable use for the benefit of present and future generations (OMVS, 2002).

The OMVS has the following functions: Implementation of the Convention concerning the Status of the Senegal River, which sets out rules and guidelines on agricultural and industrial exploitation as well as navigation and transport; and promoting and coordinating study and development of the Senegal River Basin within the territories of the Member States (In particular, OMVS supervises the development and management of common works); and carries out all technical and economic functions entrusted to it by the Member States.

doing – addressing problems along the way in order to achieve concrete results. These are important lessons for the Nile in terms of privileging the institutional and legal whilst launching a series of projects that tangible cooperation benefits to be identified and shared. The OMVS has had to revise the way project development have been managed and operated over the years, reflecting and important reflexivity within legal-institutional arrangements in the basin, a lesson that the NBI could adopt.

5.2 Conceptual understanding

Both the assumption that cooperation is always wanted by all parties or countries that prefer a cooperation scenario to a non-cooperation scenario, and that cooperation implies gains to all parties or countries when compared to a scenario of non-cooperation, can be incorrect. Yet both have been basic assumptions informing multilateral cooperation under the NBI since its inception.

In the *Danube river basin*, mixing long-term strategies with short-term tactics provided for quick wins. These demonstrations of the benefits of cooperation were nested within wider approaches that sought to tackle the source of key basin challenges. This helped to develop important programmatic and sectoral inter-linkages and understanding upstream-downstream, and between national institutions and other regional organizations (e.g. the Black Sea Commission). As a result, wider levels of conceptual understanding were achieved bolstered by strong communication and participation through regular dissemination of information to basin stakeholders. This supported transparency and allowed for key public feedback and input – and shared understanding of the nature of the challenges and responses facing the basin. Critically, this included NGOs contributing to and enhancing data collection, providing for stronger understanding and incorporation of local realities, and raising awareness and generating action at a local level (ICDPR, 2007). These lessons suggest that information and communication and different rates of progress in cooperation activities can help match the needs of different cooperating parties, though nested under wider visions.

In the *Mekong* basin adaptive management through joint planning and development of rules for water utilization has helped member countries agree on more detailed

rules and mechanism for concretizing and operationalizing relevant provisions, adapting the cooperation framework as new needs arise and as new knowledge about the basin becomes available. Again, a reflexive, adaptive model allows for change over time and revision of cooperation pathways, if necessary. These approaches support a more dynamic version of cooperation that can accommodate the wider inconsistencies and complexities of different ‘stakes’ in the cooperation process.

5.3 Understanding the benefits

Although benefits of multilateral cooperation may be various, they have not been fully understood by decision-makers in basin countries; abstract conceptualisations such as benefit-sharing need to be ‘translated’ into real-world examples. The NBI should develop its Benefit Sharing Framework further and try to reach the highest political echelons in Nile countries. The exercise should include quantification of benefits, costs and trade-offs using existing, under construction, planned and potential investment projects (unilateral, bilateral and multilateral) as examples.

In the *Danube* a range of challenges included the key issue of addressing river pollution. The use of sub-basin initiatives and recommendations on the implementation of best practice to reduce pollution has provided wider lessons for strengthening IRBM and helped in developing a framework for collaboration at sub-basin levels. This includes in some cases sub-basins establishing their own commissions. These structures and processes have enabled the identification of benefits to be achieved at lower, subsidiary levels, closer to the felt river basin challenges within communities.

The *Cubanga-Okavango* experience includes the use of strong science and research programmes that can secure an evidence base and agreed data, ideally co-produced by riparians. This has enabled focused environmental and socio-economic monitoring programmes under a Basin Development and Management Framework (BDMF). This includes the development of a long-term vision and agreement on flexible management approaches that are informed by scientific and economic analysis and can respond to changing socio-economic and environmental conditions in the basin over time (OKACOM, undated). This use of strategic information under a BDMF can

provide the basis for stronger understanding of potential shared benefits.

In the *Inkomati* basin, negotiating water use has been iterative. After an initial focus on smaller spatial scales as pressure on the resource increased, and interconnections between various parts of the basin became more apparent, (the drying up of the Incomati at the border between Mozambique and South Africa was an ‘emblematic’ event), this widened the scope of the water allocation process to larger scales (Vaz and Van der Zaag, 2003), which assisted in the identification of key benefit sharing mechanisms.

In the *Senegal* basin parties succeeded in linking different benefits to form a package acceptable to all (Klaphake, 2006). The OMVS burden-sharing formula or ‘Clef de repartition’ used two principles: ‘solidarity’ which meant joint fiscal responsibility for shared physical infrastructure, even if all the states did not benefit immediately; and ‘equity’ which meant a share in the benefits congruent with each country’s needs. (Alam and Dione, 2004) consider that OMVS countries have embraced the concept of hydro-interdependency, and performed a paradigm shift in the way international rivers are managed. This means a move away from allocations of water between riparians to a focus on the outputs or benefits from water use, including developing creative and original ways of dealing with complex sovereignty issues and hydro-interdependency in their transboundary basin. Key to this has been the development of joint institutions as well as physical infrastructures. The co-riparians achieved four types of benefits in return for a trade-off on reduced national autonomy, namely: reduced pressure on the Senegal river, which otherwise would have had to meet the separate needs of four riparians; greater reliability of services such as electricity and water supply; reduced international conflict due to joint ownership of infrastructure; and a move towards closer regional integration (Alam et al., 2009).

5.4 Legal and Institutional challenges

One of the main challenges in the Nile River Basin is the lack of a comprehensive legal agreement to guide the management and development of the shared water resource. Multi-stakeholder negotiations for a new legal and institutional framework (the CFA) have been conducted by all countries since 2007.

The new framework is informed by principles of international water law, such as equitable utilisation, no harm and obligation to cooperate. The second part of the framework deals with the institutional structure of the permanent river basin commission, yet to be established. Although it is consensual that a framework is needed in order to move cooperation forward, the CFA has been waiting adoption since 2010. Difficult legal and institutional challenges remain.

In the *Danube* a number of important lessons have emerged. One is the recent integration of wider RECs policy into transboundary mechanisms. The EU Water Framework Directive was introduced in 2000 as the operational tool of European Water Policy. Setting objectives for water protection in the coming decades, covering both surface and ground water, the Directive is binding on member states and accession countries. It also obliges every EU river basin to undertake ‘River Basin Analysis’ and a river basin management plan. In addition, Danube countries became parties to the UNECE Convention on the Protection of Transboundary Rivers and Lakes (1992), which formed the basis for the DPRC. The key lesson is the mutual institutional strengthening in terms of river protection that can be gained from overlapping region-wide and basin-specific policy processes.

In the *Inkomati* basin institutional lessons include a broadening of stakeholder engagement. In 1998 a stalemate and relatively minor development created new opportunities for an agreement to be reached. A Smallholder Irrigation Project, on a river basin that was less contested than the Incomati (the Maputo basin), brought to the negotiating table by the least controversial riparian country (Swaziland), created a broadening of the negotiation base with the inclusion of the Maputo basin. New combinations of negotiation positions thereafter became possible offering more options and enhancing the chances of a positive outcome. Later on the recognition by upstream countries that the environment required water gave fresh impetus to an old issue – the establishment of minimum flows – that had been the subject of negotiations ever since the Incomati river dried up for the first time in 1982 (Vaz and Van der Zaag, 2003). The river has also revealed the importance of a phased approach, from data sharing and consensus on ‘facts’, to achieving a shared vision. Short-cuts, it

is argued, are ‘costly in terms of time and opportunities lost’ (Vaz and Van der Zaag, 2003).

The *Orange-Senqu* has shown to some extent the importance of wider actor-networks in strengthening cooperation. These have been through formal adoption by ORASECOM of a Roadmap Towards Stakeholder Participation. The legal framework is being strengthened through the passage of new water laws in some of the basin states and after the Orange-Senqu River Awareness Kit was set up in 2009 outreach to other stakeholders and across borders improved (ORASECOM, 2010).

The *Columbia* river basin highlights the lesson that international water management is more likely when co-riparian states have a history of harmonious relations and can create permanent legal-administrative frameworks designed to address identified problems from use of transboundary waters (Mucklestone, 2003).

Key innovations in the *Senegal* river basin include the declaration of the Senegal as an International River leading to joint ownership and joint financing of benefit sharing projects (see box below). A flexible Water Charter agreed between states enabled agreements to hold in spite of conflicts. At the same time the creation of SOGEM and SOGED as operating companies (evolving with infrastructure financing) with Boards comprising members from each country. The basin has also achieved the creation of a Permanent Water Commission that makes all water regulation decisions, an OMVS Environment Observatory and strong links to national agencies. The 1972 Conventions that preceded the establishment of OMVS created a far-reaching and legally innovative institutional framework, because it simultaneously acknowledged that the riparian countries would regard the Senegal’s water resources as a “common resource” and recognise the Senegal as an “international river.” For this reason, unlike in the cases of most other African rivers, the negotiations were focused less on sovereignty issues than on aspects of water use from the outset (Klaphake, 2006).

5.5 Financial challenges

The NBI faces challenges of financial sustainability. For most of its existence, operational costs and programmes have been financed by external partners, namely through

the Nile Basin Trust Fund (NBTF) managed by the World Bank and established in 2003. This external funding was vital in launching the first stages of cooperation, but future financial sustainability of the cooperation process remains a concern.

In the *Orange-Senqu* the financing situation was rated low because of a perceived high reliance on donor funding for basin-wide cooperative initiatives. This was partly addressed through efforts by the basin states to contribute more of their own resources e.g. funding the Secretariat and providing co-funding on various projects.

In the case of the *Inkomati*, it was less the level of funding, than the source, which was significant. External donor (World Bank) support was considered important to ensure that the project met international standards and achieved international support. Financing, however, was ahead of science on water management as approaches shifted from supply management to demand management during the 1990s (though there has been a shift back to supply infrastructure in recent years). This suggests that large-scale infrastructure development needs to undertake wide horizon scanning and scenario building as part of development processes, anticipating changes that may take place in future policy directions.

5.6 Political challenges

Whilst decisions concerning transboundary waters are often taken by politicians and their advisers, they are not necessarily based on technical knowledge or expertise. The converse is the limited capacity of technical people to influence the political level, which can mean that technical and even economic benefits are usually less appreciated by the decision-makers than the political costs that decisions may involve.

In the *Cubanga-Okavango* basin the three countries are more closely aligned at political and the technical levels, than on water issues and on ties generally. OKACOM has played a significant role in establishing political trust and capital between the three states but this process took time and considerable effort on the part of the respective national delegations to OKACOM. One obstacle was the differing political alignments of the three countries in the early 1990s, as well as the fact that the Okavango is viewed very differently in terms

BOX 4. THE OMVS: STRENGTH IN EMPOWERMENT

Convention of 1972 and the subsequent 1978 Convention. Under these the member states relinquished to the OMVS their sovereign control over dams and hydraulic infrastructures. This has empowered the organization. The constitution of OMVS as an inter-governmental entity requires it to advance its policy agenda in four contracting States in which there is a different administrative and political culture.

In 2002 states parties signed and subsequently ratified the Water Charter for the Senegal River. This is a transboundary agreement for sharing waters and promoting basin-wide cooperation. The Charter acts much like the Water Framework Directive of the EU, which requires each contracting state to pass national legislation so that obligations in the Charter have legal effect in respective countries.

In 2009, the OMVS established in Senegal a new River Basin Committee institution, based on the French model of river basin management. The Basin Committee is an assembly of public authorities, water users, associations and experts, the key objective of which is to wider the involvement of stakeholder in the development of policy in the Senegal River basin. This move to a French model of management was further evidenced in the development of Strategic Water Plans, providing an instrument for 'broad review of development alternatives at basin level' (Newborne for IUCN). In spite of efforts at integrating

The countries overcame traditional sovereignty concerns to establish strong political commitment to joint management and commonly held works, which then reinforced intra-basin relationships that facilitated economic growth by building trust that benefits will be shared equitably and that the country hosting common works will respect their joint ownership. The OMVS countries used an economic model that separated the infrastructure costs from the benefits each country would gain to devise the burden-sharing formula, the Clé de répartition. (Alam). For example, the loans to construct the Diama and Manantali dams were guaranteed equally by Mali, Mauritania, and Senegal. This burden-sharing approach also ensured an equitable allocation of water to different sectors. For example, the expansion in irrigation was divided equitably, with the irrigation area increasing from 20,000 hectares in 1980 to 120,000 hectares, mainly in the valley between Mauritania and Senegal. (Alam).

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of socio-economic importance by the three countries.

OKACOM has provided a forum for the three states to meet on a regular basis through which development and conservation aims of respective states have been recognised. One key factor has been early recognition that it would not be able to perform most of the required activities in the basin themselves, leading to promotion of national community based organisations and NGOs in public outreach and stakeholder participation. The Every River Has Its People (ERP) project has been running since 1999 through three NGOs, one from each of the basin state, working at the level of local politics and action, linking up and empowering communities living along the river, allowing them to play an active role in management of basin resources and combating poverty and environmental

degradation.

The *Danube* river basin has shown the importance of consistently displaying political will and drive, which attracts donor assistance to build the foundations on which results can be achieved. Key to this, however, has been careful donor coordination. An example is the cooperation between the GEF/UNDP and the European Commission, from agreement to jointly manage the EPBRD to support for the Danube River Basin Analysis. Even though they had different technical assistance priorities, they shared the same overall objectives.

The *Inkomati* basin is an example of cooperation transcending legacies of conflict and suspicion, in some cases spanning decades (Vaz and Van der Zaag, 2003). The capacity to reach an agreement, including a water

sharing formula and then to institutionalise it, is an important lessons. Key enabling factors include pressure to cooperate through co-use, the impact of political developments and the brokerage role of one riparian accepted by the other two (Vaz and Van der Zaag, 2003). The TIA signed allows for a significant increase (by some 30%) in consumptive water uses by all three countries, enabling the commitment level to increase from 51 percent in 2002 to 65 percent in the near future (Vaz and Van der Zaag, 2003). In signing the agreement, the

three countries not only accepted the equity principle in utilizing the Incomati and Maputo water resources, but 'have also been able to translate this into concrete, measurable, and thus enforceable, commitments (Vaz and Van der Zaag, 2003, 47). The resulting lesson is that clear technical guidance can support clear political leadership. At the same time there is also a need for capacity building in order to level the playing field between countries. Uneven capacity can hinder – and possibly jeopardize – negotiated settlements.

6. Ways forward on lesson learning

There are many potential ways forward on incorporating lessons from other basins – including demonstration and piloting new approaches. Clearly there are issues and approaches at a technical level that will be easier to undertake than more strategic political change and, as emphasised in this report, political change takes time. It is also worth reiterating, of course, that the Nile remains in many ways exceptional and unique by dint of its history and experience. Nevertheless, some key areas emerge that are worth highlighting.

1. Stakeholder engagement and real, structural shifts in thinking that go upwards from technical levels to the highest political leaders and downwards to the lowest levels of community action are required. A broad coalition of support is required, in other words, for meaningful and successful cooperation to be embedded in countries and societies. The trigger for this embeddedness has to be successful articulation and demonstration of benefit sharing approaches and results. Many lessons can be learnt from other basins on these issues.
2. Every political situation has unique circumstance. The Nile politics such as they are, therefore require Nile-specific political solutions. Nevertheless, generic lessons that are important relate to the

inputs to political processes that may be direct or indirect, including the role of technical support and data provision, the wider communication with basin polities – and not just with and between governments – and the role of non-state actors as stakeholders in basin development.

3. At the same time, the supranational level – the regional economic communities and other forms of cooperation over non-resource related issues (including cultural, media and security cooperation) can reinforce inter-state relations specifically over the Nile. In some ways these other forms of cooperation and the mechanisms associated with them can inform and play important brokerage roles, including underpinning tangible benefit sharing frameworks and related outcomes and impacts.

But nothing can take place spontaneously and robust institutions are still required to help garner the actors and networks required for collective action over commonly perceived challenges. These actors and networks need to be drawn from a wide network of sectors that go ‘beyond water’, and from both empowered and disempowered institutions. To identify and support these institutions more effective knowledge and evidence, and the systematisation of knowledge in decision making, is key. So too is the ‘publicness’ of information in a way that can inform public debate and discourse and support more

evidence based and rationale reporting and communications within and across countries.

The experience of lessons sharing, whether or not directly relevant and compatible, still performs an important function and its systematization at an international level would provide a significant public good shared by the 46% of the planet's surface that comprises shared river basins. This report recommends the Nile Basin Initiative continues to explore

ways of engaging with other shared basins in Africa and beyond and finding ways of unlocking the challenges of collective action to achieve effective cooperation. The NBI could take a lead in reaching out to other basins through sharing a series of knowledge products, starting with this paper, and through greater sharing establishing a more institutionalized 'peer-network' that could support future problem solving and the achievement of more effective cooperation.

7. Annexes

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7.2 Outline of report

	RESPECTIVE SECTIONS IN THE PROVISIONAL OUTLINE OF THE REPORT
PA1: Broad context: The Nile is within a global system of shared basins – there are collective action problems and challenges in all of them	1. The Nile has specificities of history, politics, hydrology, demography and environment. Yet it also shares many characteristics with other basins that are also under increasing resource pressure as a result of population growth, economic development and environmental change
	2. Many of the challenges require action at scale – i.e. transboundary collective action – in order to achieve optimal socio-economic and environmental development outcomes. Each basin has specific features that ensure a range of approaches have been taken to solving these problems and challenges. These responses usually (though not always) involve collective action between nation states, and also other levels and actors. What is important is the range of experience exhibited and the innovations and results that have been achieved in response to differential development pressures and demands
PA2: The Nile basin has provided key lessons on generating cooperation processes, but also highlights some of the challenges of sustaining and building on cooperation	3. From a history of belligerence and political dispute between co-riparians, the Nile basin achieved important progress from the late 1990s onwards (preceded by in-depth technical discussions over a period of years from 1992 onwards). This opened up new areas of cooperation and understanding on technical options for cooperation and provided political space for agreeing steps towards basin-wide development planning
	4. However, success at a technical level has been matched by only partial political cooperation, particularly in the past seven years. Though nonetheless substantial, this has not managed to reconcile specific upstream-downstream relations, particularly given challenges over the meaning and interpretation of ‘water security’ within the basin. Lessons from other basins are important in this respect and a series of examples are flagged for substantial discussion in the next section.
PA3: Important lessons exist from other regions and basins	5. Sub-Saharan Africa: key lessons from southern and west Africa include operation of dams, environmental management, data sharing and communication. Important lessons also exist in terms of joint socio-economic development planning between river basins and regional economic communities. One pressing challenge in all cases is how to embed regional cooperation actions in national political-economic contexts.
	6. South Asia: agreements in South Asia include the development and implementation of treaties in highly contested political environments, as well as more recent upstream-downstream bilateral agreements. Recent actions to promote political dialogue at a region-wide level are also significant in terms of the identification and engagement of stakeholders and support to ‘track two’ processes.
	7. Latin America: Lessons on hydropower development and joint management between countries can be useful for the Nile. Whilst the lessons are not always proven successes, they provide options for management and development of resources that can be shared as examples within the Nile basin context

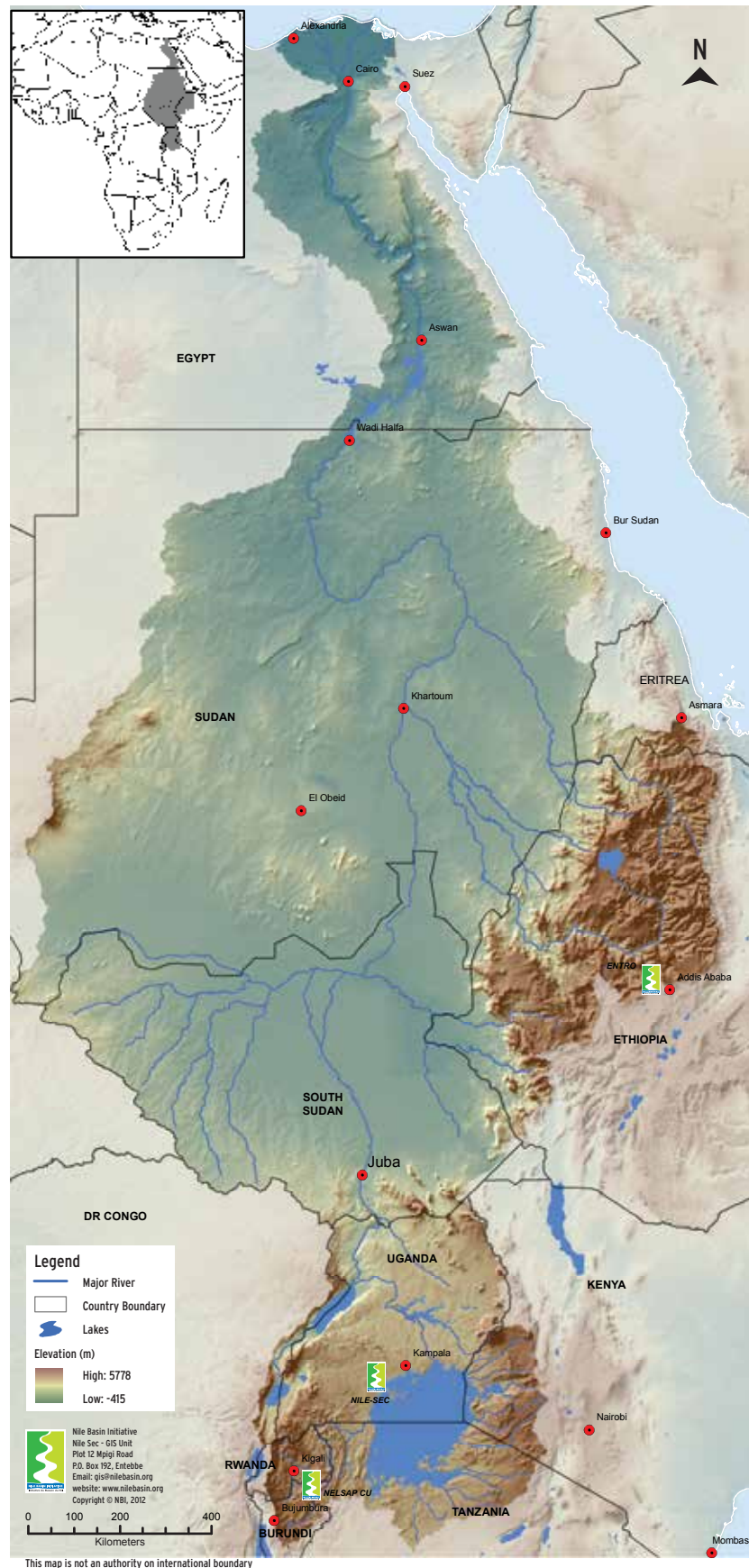
PA4: Identification of lessons from elsewhere needs to be accompanied by a better international mechanism for sharing and exploring options.	8. Discussion and analysis of the key options for consideration as ‘lessons from’ the Nile basin for these other contexts – what can be shared, how and to achieve what core set of objectives elsewhere. How can different lessons be shared most effectively? What kinds of institutional arrangements are required, including support at a supra-national level
	9. Discussion and analysis of the key options for consideration as ‘lessons for’ the Nile basin, including contextual relevance, technical feasibility and potential processes for sharing and understanding success in implementation
PA5: The current situation requires out-of-the-box thinking and willingness to look widely at global experience (including the pitfalls of non-cooperation)	10. Discussion of future scenarios under current cooperation directions, and implications for development in the basin
	11. Discussion of a set of scenarios based on importing experience from elsewhere, and what options could exist for changing current cooperation processes and achieving greater inclusivity

7.3 Persons consulted

NAME	AFFILIATION
Bagyenda, Robert	IUCN
Kanangire, Canissius	EAC/LVBC
Abate, Solomon	NBI
Abdalla, Babiker	Private
Abdalla, Seifeldin	Sudan
Asfaw, Gedion	Private
Beyene, Teferra	NBI
EL-Shamy, Mohamed	NBI
Fekade, Wubalem	NBI
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Gebreselassie, Tadelle	Private
Hamad, Osman el Tom	Private
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Matemu, Sylvester	Tanzania
Mohamed, Musa	Private
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Mwango, Fred	IGAD
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Ndayiziye, Audace	Burundi Federal Chamber of Commerce and Industry
Ndyomugenyi, Roland	NBI
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Nyaoro, John	NBI
Nyasigin, Peter	South Sudan
Nyembo, Jean-Paul Mwamba	DRC
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Tumwebara, Wycliffe	Uganda
Waako, Tom	NBI
Waniwajo, Francis	South Sudan
Wekesa, Gladys	Kenya

7.4 The Nile basin



7.5 International transboundary basins

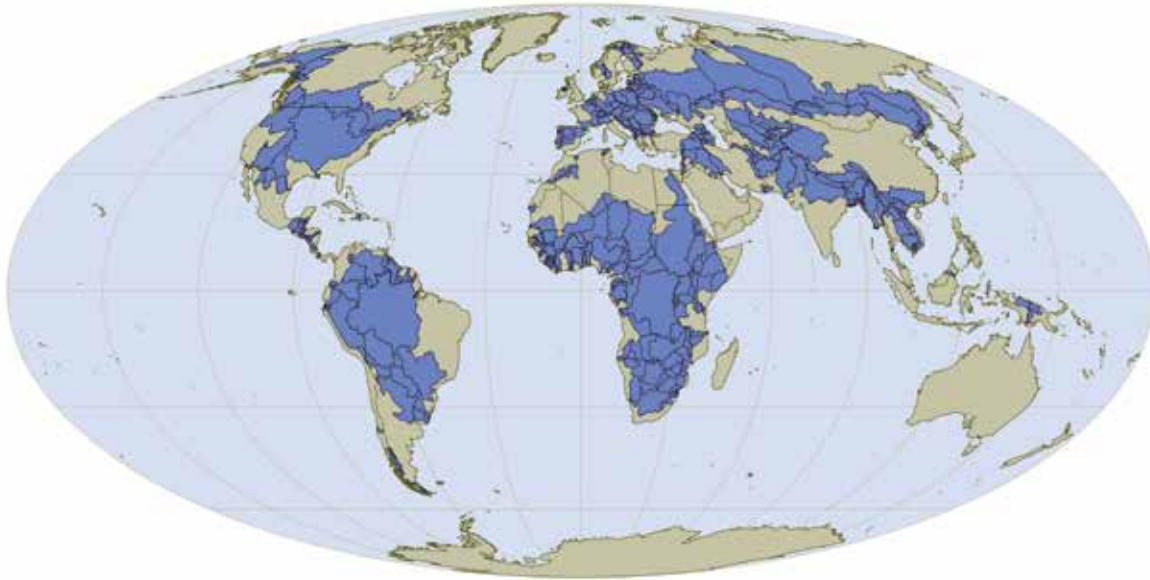


Fig. 10 International Transboundary River basins (Source: Transboundary Freshwater Dispute Database, Oregon State University)



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