

# Cooperation in International Waters in Africa

Annual Report FY2017

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Supplement to [www.CIWAannualreportFY17](http://www.CIWAannualreportFY17)



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# Acronyms and Abbreviations

AC	Advisory Committee
AFD	Agence Française de Développement
AfDB	African Development Bank
CIWA	Cooperation in International Waters in Africa
COP 21	21st United Nations Framework Convention on Climate Change Conference of the Parties
CRIDF	Climate Resilient Infrastructure Development Facility
CRIP	Climate Resilience Investment Plan
DANIDA	Danish International Development Agency
DIFD	U.K. Department for International Development
DSS	Decision Support System
EC	European Commission
ECOWAS	Economic Community of West African States
ENTRO	Eastern Nile Regional Technical Office
ESIA	Environmental and Social Impact Assessment
EU	European Union
GEF	Global Environment Facility
GFR	Grant Funding Request
GIZ	German Agency for International Cooperation ( <i>Deutsche Gesellschaft für Internationale Zusammenarbeit</i> )
GMI	Groundwater Management Institute
ICOLD	International Commission on Large Dams
IGAD	Intergovernmental Authority on Development
IGRAC	International Groundwater Assessment Center
IW-Learn	International Water Learning Exchange and Resource Network
IWRM	Integrated Water Resources Management
LCBC	Lake Chad Basin Commission
LDCRAP	Lake Chad Basin developed the Lake Chad Development and Climate
LRA	Luapula River Authority
LVBC	Lake Victoria Basin Commission
MAPIO	Macroeconomic Assessment of Public Investment Options
MBA	Mono Basin Authority
MDTF	Multi-Donor Trust Fund
MoA	Memorandum of Agreement
MSIOA	Multi-Sector Investment Opportunities Analysis
NBA	Niger Basin Authority
NBD	Nile Basin Discoursed
NBDF	Nile Basin Development Forum

NBI	Nile Basin Initiative
NBTF	Nile Basin Trust Fund
NCORE	Nile Cooperation for Results
NELIP	Nile Equatorial Lakes Investment Program
NELSAP	Nile Equatorial Lakes Subsidiary Action Program
NELSAP-CU	Nile Equatorial Lakes Subsidiary Action Program–Coordination Unit
NGO	Nongovernmental Organization
OKACOM	Okavango River Basin Water Commission
ORASECOM	Orange-Senqu River Commission
PID	Project Information Document
PMU	Program Management Unit
PPIAF	Public-Private Infrastructure Advisory Facility
PPP	Public-Private Partnership
RBO	River Basin Organization
RPID	Regional Program for Integrated Development
SADC	South African Development Community
SAP	Strategic Action Program
SAPP	Southern African Power Pool
SAREP	Southern Africa Regional Environmental Program
SDAP	Sustainable Development Action Plan
SDG	Sustainable Development Goal
SIDA	Swedish International Development Cooperation Agency
SIWI	Stockholm International Water Institute
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	U.S. Agency for International Development
VBA	Volta Basin Authority
VSIP	Volta Strategic Action Programme Implementation Project
WARWP	Regional Water Resources Policy
WEAP	Water Evaluation and Planning
WRF	Weather and Research Forecasting
WWF	World Wildlife Fund
ZAMCOM	Zambezi Watercourse Commission
ZAMSTRAT	Zambezi River Basin Strategic Plan
ZAMWIS	Zambezi Water Information Management System



## Foreword

The Cooperation in International Waters in Africa (CIWA) program works at the interface of some of the most important challenges facing Africa today: economic development and growth, poverty reduction and social inclusion, climate mitigation and adaptation, fragility and conflict, and disaster risk management and reduction. The way that Africa's water is developed, managed, and shared has very significant ramifications for each of these challenges, and the CIWA program is proud to be working with African leaders, organizations and communities to tackle these challenges.

With most of Sub-Saharan Africa's water resources shared among several countries, cooperation over those resources is essential. The CIWA program continues to provide clients with the well-rounded support they need to improve their ability to manage and develop their water resources in inclusive, climate-smart, and cooperative ways.

Over the course of FY2017, CIWA has supplemented its programs with a sharper focus on climate mitigation and adaptation, since water is the means through which the impacts of climate change are first felt. Disruptions in water patterns are already affecting the continent through more frequent and severe droughts and floods; 90 percent of all recent disasters in Africa were driven by weather and climate. When countries collaborate, they can greatly enhance their resilience to climate change, for example, by increasing water storage capacity to alleviate the effects of drought and sharing information on rainfall to inform flood models. A new CIWA-produced report, *Transboundary Cooperation for Climate*

Resilience, thoroughly documents the ability of cooperative water management to build climate resilience.

Building climate resilience through shared information, the Zambezi Watercourse Commission (ZAMCOM) concluded the first phase in developing the Zambezi Water Information Management System (ZAMWIS) with support from CIWA. Once completed, ZAMWIS will enable timely water management decisions through forecasting and early warning systems and long-term decision support through an integrated model of the basin's resources.

Water touches most of the Sustainable Development Goals (SDGs), but they will not be met without changes in how water sector projects are financed. In a move to facilitate closing the financing gap, a new project screening methodology was implemented by the Nile Basin Initiative (NBI) this year to determine an investment's suitability as a public-private partnership (PPP). The resulting list of projects enable the NBI to seek and secure additional financing and expertise beyond the capacity of limited government and concessional financing.

This year also saw the completion of the Okavango Multi-Sectoral Investment Analysis – a critical cooperative assessment that evaluated various development scenarios to address poverty while preserving the ecologically rich river basin. In Lake Tanganyika, an options analysis revealed constraints to trade and explored opportunities for sediment management and improved navigation. And in the south, the Lesotho-Botswana Water Transfer Study concluded with a recommended institutional structure to ensure the investment's success in contributing to regional water security.

As our successes grow, so does the demand for CIWA services. Current CIWA clients have voiced the need for additional support to comprehensively advance toward their development objectives, and additional governments, basin authorities, and nongovernmental organizations (NGOs) have requested our support for a variety of needs, be it to strengthen their regional institutions, capture and share hydromet data, or improve professional capacity for investment preparation.

CIWA will therefore continue its focus on mobilizing additional resources and expanding our programs while at the same time continuing to deliver the range of finance, knowledge and capacity-building services that CIWA has become known for.

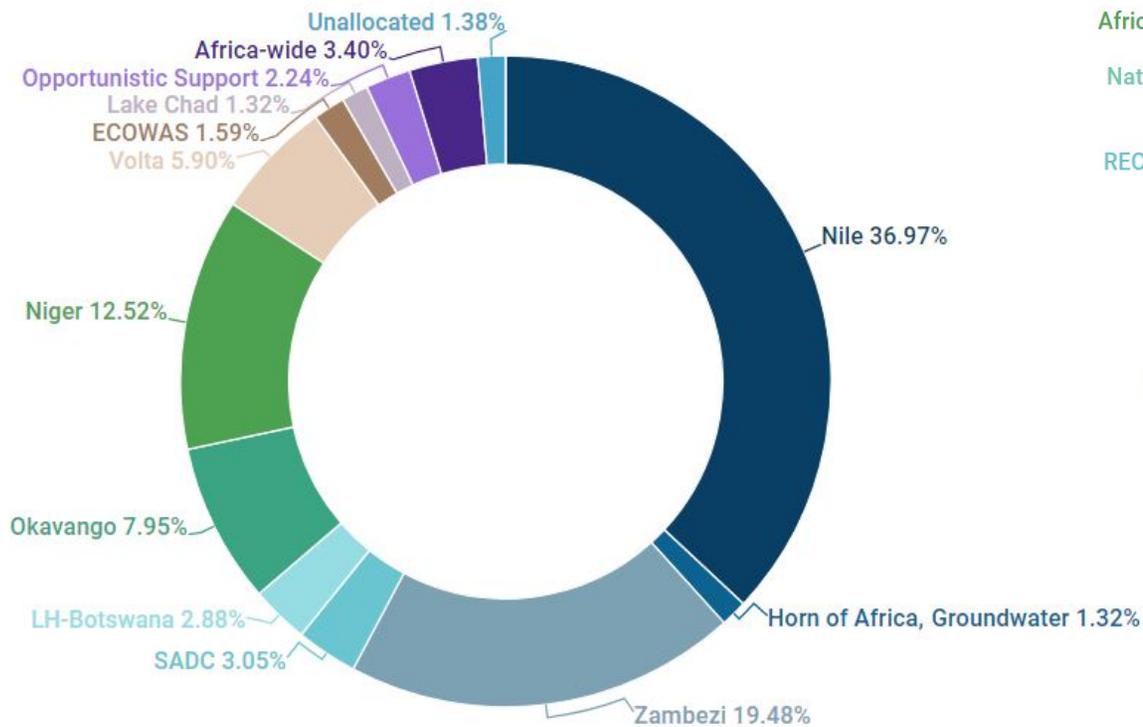
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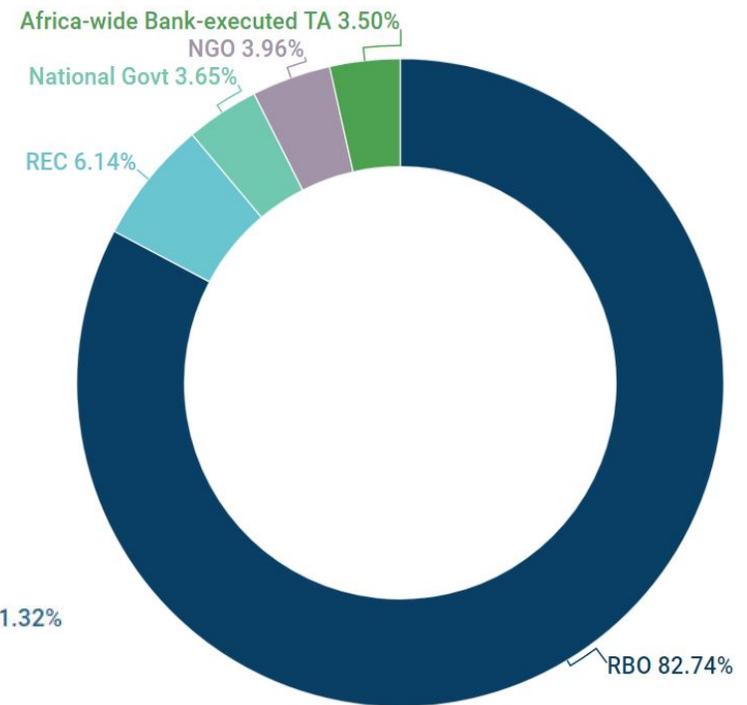
William Rex

Program Manager, CIWA, World Bank

# Overview of Funding Allocations in the CIWA Portfolio

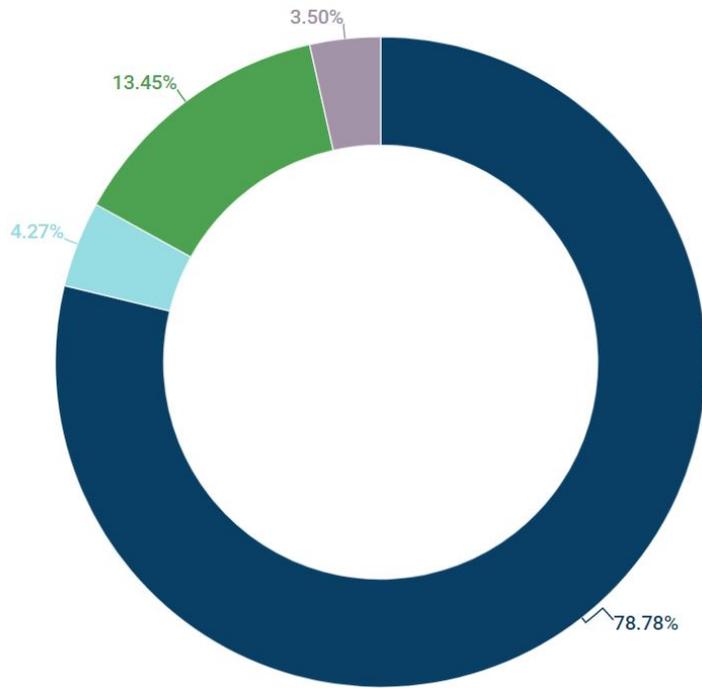


**Total Funding Allocation by Basin**



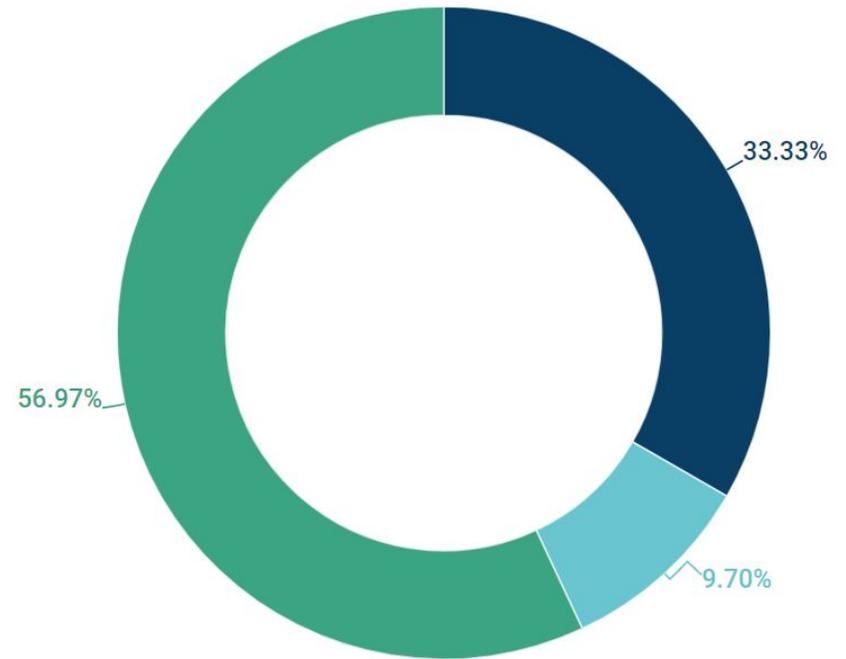
**Total Funding Allocation by Partner Type**

### Total Funding Allocation by Grant Type



- Recipient-executed grants
- Preparation & Supervision of RE grants
- Direct support to clients - BE
- Africa-wide Bank-executed TA

### Total Funding Allocation by Primary Outcome



- Large-Scale Infrastructure
- Small-Scale Infrastructure, Watershed Restoration
- Institutions, Information, Capacity Building



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# Quantitative Program Results

In line with CIWA results framework

The following section provides quantitative program results in line with CIWA's results framework (see Annex A). Additional details regarding investments influenced by the program are included in Annex B. Project-specific quantitative reporting can be found in publicly available reporting documentation on the World Bank's website.

## **PROGRAM RESULTS**

The CIWA program's objective is to strengthen cooperative management and development of international waters in Sub-Saharan Africa, and to assist in achieving sustainable climate-resilient growth. To accomplish this objective, CIWA supports the institutions that manage and develop the basins, catalyzes and enables transformative water-related investments, and facilitates information gathering and sharing on the benefits of cooperation. As with all infrastructure preparation projects, information sharing efforts, and institutional strengthening work, the impact of any support provided may not be fully realized for many years. In particular,

CIWA works upstream of actual investment, making immediate attribution of results a challenge. CIWA tracks progress toward long-term results by measuring on an interim basis the estimated value of potential investments influenced by CIWA and by identifying potential direct beneficiaries of the relevant investment projects. As project preparation advances and actual financing is mobilized for investments influenced, CIWA results reporting reflects both potential investments and projects where financing has been mobilized.

Table 1 lists the potential investment projects influenced by the program where preparation studies enable estimations of investment values and project beneficiaries. Table 2 lists those investment projects influenced by CIWA that have thus far mobilized resources. Depending on the project, and on the cooperation status of the specific basin, CIWA's influence on investments and beneficiaries can vary. Details of the investments listed in Table 1 are included in Annex B.

Table 1. Potential Investments Influenced by CIWA

Potential Investments	CIWA role	Estimated Potential Investment Value (US\$, billions)	Estimated Number of Potential Direct Beneficiaries (millions)	Anticipated Benefits
<b>Nile Basin Investments</b>	Support for NBI to facilitate cooperative activities such as improved IWRPM, and the identification and preparation of regionally significant cooperative investments.	2.9	8.4	Increased water supply, increased power generation, improved watershed management, irrigation development
<b>Fomi Dam</b>	Facilitating informed regional dialogue and decision making in preparation of the potential project	1.3	30.8	Increased power generation, irrigation development, enhanced fisheries, job creation
<b>Lesotho Highlands - Botswana Water Transfer</b>	Financing pre-feasibility studies to explore costs and benefits of water transfer and incentivize cooperation	0.8	2	Increased water supply, additional revenues
<b>Cubango-Okavango Livelihood Enhancement Program</b>	Support for the Multi-Sector Investment Opportunities Analysis used to develop long-term investment and livelihood improvement programs	1	Not yet available	Increased income, access to water, sanitation and sustainable energy, actions to address hunger and disease, and promotion of gender equality, education and environmental sustainability
<b>Luapula sub-Basin Investments</b>	Exploring potential cooperative legal and institutional arrangements for a future Luapula River Authority	1.9	Not yet available	Increased power generation
<b>TOTAL</b>		7.9	41.2	

Table 2. Mobilized Investments Influenced by CIWA

Mobilized Investments	CIWA's Role	Estimated Current Investment Value (US\$ billions)	Estimated Number of Direct Beneficiaries (millions)	Benefits
<b>Lake Tanganyika Transport Program (previously proposed Lukuga Barrage)</b>	Supported an options analysis to help countries understand water level dynamics and options for improved navigation and maritime safety.	0.2	Not yet available	Improved navigation and maritime safety
<b>Niger Basin Climate Resilience Investment Project</b>	Technical and political consultations to develop investment plan.	0.3	Not yet available	Rural livelihoods, early warning and climate-information systems, climate resilience
<b>Kandadji Dam</b>	Supporting analytical study of resettlement best practices.	1.0 <sup>1</sup>	1.0	Increased power generation, irrigation development, job creation
<b>Kariba Dam</b>	Produced studies on rehabilitation of the Dam which led to decision to invest in safety and reliability improvements.	0.294 <sup>2</sup>	3.0 <sup>3</sup>	Increased power generation, reduced risk, and avoided disaster
<b>Batoka Gorge HES</b>	Analysis of financial implications of the investment and facilitated negotiations to review findings and encourage renewal of project. Additional engineering studies and investment preparation.	2.6	6.0	Increased power generation
<b>Volta Basin</b>	Direct investments to improve water quality, flows and ecosystem services.	0.0069 <sup>4</sup>	0.05	Irrigation development, enhanced fisheries, improved pastoral activities, job creation
<b>Lake Chad Recovery Project (building on the Lake Chad Development and Climate Resilience Action Plan)</b>	Support for development of Action Plan to execute the investments within Climate Resilience project.	0.240	Not yet available	Rural livelihoods, climate resilience
<b>The Multinational Lakes Edward and Albert Integrated Fisheries and Water Resources Management Project</b>	Support for the Nile Basin Discourse to prepare this scale up of an earlier pilot project with a focus on participatory and conflict sensitive consultations and bi-lateral cooperation.	0.025	0.2	Rural livelihoods, fisheries, ecosystem management
<b>Rusumo Falls Hydroelectric Scheme</b>	Supported implementation and mapping of the resettlement development plan	0.306	1.4	Increased power generation
<b>TOTAL</b>		<b>5</b>	<b>11.5</b>	

<sup>1</sup> For more information, see "Project Information Document (PID) Appraisal Stage: Additional Financing to the First Part of the Second Phase (Phase 2A) of the Niger Basin Water Resources Development and Sustainable Ecosystems Management Program – Kandadji," May 22, 2014.

<http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2014/03/17/00041439720140318113602/Rendered/PDF/Kandadji0AFoPID000P14897200AFCR10cleared.pdf>

<sup>2</sup> For more information, see "Kariba Dam Rehabilitation Project," accessed August 20, 2015, <http://www.worldbank.org/projects/P146515?lang=en>

<sup>3</sup> Figure updated based on latest calculations and World Bank Project Documentation; Dam-break analysis will further refine this estimation.

<sup>4</sup> For more information, see "Project Appraisal Document on Proposed Grants to the Volta Basin Authority," April 30, 2015, [http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2015/05/05/090224b082e409d4/2\\_0/Rendered/PDF/Africa000Volta0plementation0Project.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2015/05/05/090224b082e409d4/2_0/Rendered/PDF/Africa000Volta0plementation0Project.pdf)

## **Program Development Objective (PDO): To strengthen the cooperative management and development of international waters in Sub-Saharan Africa to facilitate sustainable climate-resilient growth**

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*Indicator 1: U.S. dollar financing mobilized for cooperative management and development of international waters projects supported by CIWA*

**FY17 Target:** US\$9 billion in potential projects influenced by CIWA

**FY17 Actual:** US\$7.9 billion in potential investments influenced by CIWA; US\$5 billion in mobilized investments influenced by CIWA

*Indicator 2: Number of people directly benefiting from improved water resources management and development in target basins through projects supported by CIWA*

**FY17 Target:** 20 million potential beneficiaries of projects influenced by CIWA

**FY17 Actual:** 41.2 million potential beneficiaries of projects influenced by CIWA; 11.5 million direct beneficiaries of mobilized investments influenced by CIWA

## **Intermediate Result 1. Regional cooperation and integration strengthened**

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*Indicator 1: Number of relevant transboundary institutions strengthened to improve regional cooperation*

**FY17 Target:** Eight relevant institutions with projects or activities in operation

**FY17 Actual:** Eight relevant institutions with projects in operation: ECOWAS, NBA, NBI, SADC, VBA, ZAMCOM, ZRA, OKACOM (eight basin institutions, five basins, two Regional Economic Commissions (REC)) have projects currently in operation that contribute to strengthening regional cooperation

*Indicator 2: Number of strategic analyses and knowledge products used to illustrate the evidence base for cooperation, needs, and challenges*

**FY17 Target:** 18 strategic analyses conducted

**FY17 Actual:** 23 strategic studies completed

The following strategic analyses relevant to all of Africa were finalized in FY17: The Okavango Multisector Investment Opportunity Analysis; Climate Resilience in Africa: The role of cooperation around transboundary waters; Fouta Djallon Water Atlas (ECOWAS); Sustainable financing mechanisms for the Mono Basin Authority (MBA); Volta Basin Authority Institutional Assessment; Eastern Nile Multisector Investment Opportunity Analysis; Lake Tanganyika Options Analysis

The following 16 strategic analyses were reported previously:

*Political Economy of Cooperation in International Waters in Africa; Economic Rationale for Cooperation in International Waters in Africa; An Institutional Assessment of Transboundary Watercourses in Africa; Improved Access to Basin Data* activity was also finalized, and produced important inputs to the *Spatial Agent App*, a publication titled *Spatial Data Primer* and the *CIWA Africa Atlas; Climate Change Assessment of the Energy-Water Nexus* for the Zambezi basin; The assessment of the first phase of the Kandadji resettlement program; Lake Chad Development and Climate Resilience Action Plan diagnostic; Priority Needs for Lake Chad Basin Information Systems report; *Nile Cooperation: Opportunities and Challenges; Nile Cooperation: Lessons for the World* and *Lessons from the World for the Nile Basin*; Four briefing papers on Nile cooperation 2024 scenarios; Assessments of instruments and practices for conserving ecosystem services; Good practices in gender mainstreaming in Nile Basin Initiative; Quantification of benefits in transboundary water cooperation; Eastern Nile Technical Regional Office (ENTRO) published and disseminated a number of knowledge products including a watershed management field guide titled "*What have we brought back from China?*"; Institutional Assessment of the Zambezi River Authority

## Intermediate Result 2. Water resources management strengthened

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*Indicator: Number of relevant transboundary institutions using improved analytical tools, knowledge products, data, forecasting, and/or capacity for improved water and climate risk management or investment operation coordination*

**FY17 Target:** Seven relevant institutions with projects in operation that improve water and climate risk management and/or investment operation coordination

**FY17 Actual:** Eight relevant institutions have projects in operation that contribute to strengthening water resources management. ECOWAS, LCBC, NBA, NBI, SADC, VBA, ZRA and ZAMCOM (seven basin institutions, three basins, two RECs) have projects in operation that contribute to strengthening water resources management. Support for a climate risk assessment for the Batoka Gorge HES is underway through a collaboration between ZRA and the World Bank.

### **Intermediate Result 3. Water resources development strengthened**

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*Indicator 1: Number of investment opportunities with regional benefits that have been advanced through CIWA support*

**FY17 Target:** 31 investment opportunities with regional benefits influenced by projects in operation

**FY17 Actual:** 32 investment projects are being advanced by projects in operation. NBA, NBI, VBA, ZRA, OKACOM, LCBC and the governments of Botswana, Tanzania and DRC and Zambia and the DRC have projects in operation that contribute to advancing 32 investment opportunities

*Indicator 2: Number of relevant transboundary institutions with an improved approach to sustainable investment planning and bankable investment preparation*

**FY17 Target:** Five institutions with projects in operation that improve the approach to sustainable investment planning and bankable investment preparation

**FY17 Actual:** Five institutions have relevant projects in operation. LCBC, NBA, NBI, ZAMCOM, ZRA have projects in operation that contribute to improving the approach to sustainable investment planning and bankable investment preparation; the governments of Botswana, South Africa and Lesotho as well as the governments of the Democratic Republic of Congo and Tanzania are receiving support to improve sustainable investment planning

### **Intermediate Result 4. Stakeholder engagement and coordination strengthened**

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*Indicator 1: Number of basins with improved engagement of civil society, private sector and academia; Percentage of engagements where improved stakeholder engagement explicitly supports the incorporation of gender issues into the design and implementation of water management and development activities*

**FY17 Target:** Five basins with projects or activities in operation, 50 percent of engagements explicitly support the incorporation of gender into the design and implementation of water management and development activities

**FY17 Actual:** Targets achieved. NBA, NBI, NBD, OKACOM, SADC, VBA,ZRA and ZAMCOM (seven basin institutions in five basins plus one REC) have projects in operation that contribute to strengthening stakeholder engagement and coordination; CIWA support to NBI, NBD, SADC and ZRA (50 percent of engagements) explicitly supports incorporation of gender issues into design and implementation of the activity

*Indicator 2: Number of basins with increased water resources management and development information in the public domain*

**FY17 Target:** Four basins with increased information in the public domain

**FY17 Actual:** Four basins with increased information in the public domain. CIWA's engagements in the Nile, the Niger, the Lake Chad and the Zambezi Basins have contributed to increased water resources management, climate data and water development information in the public domain

# Qualitative Results

## Organized by Project or Basin



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## ECOWAS

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### Information

Shared information boosts riparian trust and confidence and forms the basis of transboundary cooperation

*OUTCOME AREA 2. Shared data, knowledge, and analytical tools enable timely, transparent, and regionally beneficial decision making*

**Water Atlas:** With CIWA support, the Economic Community of West African States (ECOWAS) is elaborating the first Fouta Djallon Water Atlas, which will help fill existing knowledge gaps pertaining to the Guinean Highlands. Although mostly located within Guinea, the Highlands have tremendous regional significance as the source of 12 transboundary rivers, including the Niger River, West Africa's longest river; the Senegal and Gambia Rivers; and rivers in Sierra Leone, Liberia, Maritime Guinea, and western Côte d'Ivoire. Strengthening the knowledge around this 'water tower' of West Africa is critical to enable the appropriate watershed protection mechanisms and inform sustainable national and regional planning. The Fouta Djallon Water Atlas provides an integrated description of the Highlands, including its physical components and its water resources, their uses, and their roles. It contains the results of a recent study meant to determine the state of current knowledge on the basins and sub-basins and provide an exhaustive synthesis of the hydrological regimes of the main rivers deriving from the Fouta Djallon Highlands. Most important, the

preparation of the Water Atlas has established an initial basis for sharing knowledge among countries and stakeholders that are interested in or dependent on water from the Highlands. Facilitated by ECOWAS, countries endorsed the Water Atlas in a regional workshop in May 2017. The Water Atlas supplements historic work of the Regional Program for Integrated Development (RPID) of the Fouta Djallon Highlands started by the African Union in 1981.

## Institutions

Effective regional and national institutions enable riparian states to manage shared risks and harness net benefits of cooperation

*OUTCOME AREA 1. Strengthened, adaptable, institutional structures enable robust water management amidst growing uncertainty due to climate change and competing demands for water*

**Common Directive:** With CIWA support, the Water Resources Coordination Center of ECOWAS led the validation process for the Directive on West African Shared Water Resources. Unanimously decided during an ECOWAS Conference of Heads of State in 2000, the directive was driven by a common desire of West African states to have a binding regional instrument for implementing the Regional Water Resources Policy (WARWP). The process of elaboration and validation of the Directive started in 2013 and adoption of a participatory, consultative process across ECOWAS countries has resulted in gradual progress. CIWA supported two regional workshops to review the draft Directive over which countries reviewed and improved text around adoption of IWRM and also validated the Directive in June 2017. CIWA's financial and technical support has allowed widened stakeholder consultations and integration of stakeholder concerns and priorities into the drafting of the text. Once adopted by countries, this Directive forms a cornerstone in establishing and enabling a legal environment for the sustainable management of water resources at the regional level. In particular, the Directive focuses on the prevention and peaceful resolution of conflicts between Member States over shared water resources and on the promotion of water resources for socioeconomic growth among ECOWAS Member States. The Directive also facilitates the implementation of the 1997 United Nations Convention on International Watercourses in the region.

*OUTCOME AREA 2. Financially and institutionally sustainable regional organizations provide effective water management services to countries*

**Financing Mechanisms:** A CIWA-supported study by the Water Resources Coordination Centre of ECOWAS explores sustainable financing mechanisms for the Mono Basin Authority (MBA). Having established the MBA in 2014, Benin and Togo sought support from CIWA and ECOWAS to understand viable financing options for its effective and sustainable operationalization. The MBA is one of Africa's newest, and among its smaller, RBOs. A technical committee of experts from the MBA, along with ECOWAS and CIWA, has concluded a study that examines the MBA's functions and needs; identifies cost-saving approaches; evaluates potential financing mechanisms; and provides recommendations for short-, medium-, and long-term financing for the authority. The study was informed by regional experiences in smaller African RBOs (including Cestos, St. John, Moa) as well as a number of larger African RBOs (including Volta, Niger, Congo, and Senegal). The study examined several financing mechanisms, including Member State contributions, a dedicated regional tax, user fee-based financing, polluter fee-based financing, sale of data and services, project

management fees for infrastructure projects, management and administration fees, dividends from an investment fund, donor contributions, and public-private partnerships (PPPs). It recommends application of a small user-fee-based levy to the hydropower and mining sectors to allow a compact MBA to focus on priority functions and most important, to function independently from Member State contributions. Pending review and decision by its Council of Ministers, the MBA is a step closer to adopting a financing strategy that allows the two small nations to operationalize this RBO for cooperative and peaceful decision making around the shared waters of the Mono River.

## IGAD

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### Information

Shared information boosts riparian trust and confidence and forms the basis of transboundary cooperation

*OUTCOME AREA 2. Shared data, knowledge, and analytical tools enable timely, transparent, and regionally beneficial decision making*

**Resource Assessment:** Shallow groundwater, mainly found in wadi beds and tapped through shallow traditional wells, is widely used in the region. Shallow groundwater availability is subject to seasonal variability and is vulnerable to drought. Several projects and initiatives in the region focus on expanding this resource through the construction of water harvesting and recharge structures. Scaling up of water harvesting and watershed management initiatives in all IGAD countries can contribute to building drought resilience but will also impact surface water flows and downstream users, including those in neighboring countries. A better understanding of the surface water availability and improved planning and information sharing is therefore essential for a balanced regional development. The region is underlain by a number of aquifers that vary in size and potential. The knowledge on these deeper groundwater resources is scattered and incomplete. The deeper groundwater is potentially an important source of water for urban centers, for regions that do not have access to surface water and can form an important back-up to the shallow groundwater resource and thus strengthen climate resilience. Locally deep groundwater could also provide opportunities for economic development. The CIWA-supported program with IGAD will expand the assessment of surface water availability and the planning of investments for water harvesting at a national level. The program will also contribute to the creation of a regional Water Resources Information System through the creation of the groundwater component of such a regional system.

### Institutions

Effective regional and national institutions enable riparian states to manage shared risks and harness net benefits of cooperation

*OUTCOME AREA 2. Financially and institutionally sustainable regional organizations provide effective water management services to countries*

**Protocol Development:** CIWA will support IGAD's role as regional facilitator in water resources management by supporting discussions on a regional water protocol. It will also strengthen the capacity of the Water Unit in data management and sharing through the development of an online groundwater information system.

**Investments**

Regionally beneficial investments generate socioeconomic benefits and gender-inclusive poverty reduction

*OUTCOME AREA 2. Coordinated investment planning and inclusive stakeholder engagement ensures equitable benefit sharing and effective risk management*

**Socio-economic Assessment and Communication:** A small portion of the drought relief budgets focus on improving access to high-quality and reliable water points even though the largest economic impacts of droughts in the region are in the livestock sector and are the result of inadequate access to water and fodder. The activities under the CIWA project aim to strengthen the profile of groundwater in the drought resilience agenda through the support to IGAD in developing a communication strategy. Building drought resilience is the most efficient way to protect economic activity in rural areas, mainly in the livestock sector, and to prevent people from migrating after losing their livelihoods. Through a socio-economic assessment, the CIWA program will help IGAD to identify more precisely the most vulnerable groups in each country that require support and investments to build resilience to climate shocks.

## Lake Chad

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**Information**

Shared information boosts riparian trust and confidence and forms the basis of transboundary cooperation

*OUTCOME AREA 2. Shared data, knowledge, and analytical tools enable timely, transparent, and regionally beneficial decision making*

**Risk Mapping:** Analytical work and knowledge sharing in the Lake Chad Basin aims to help Lake Chad Basin Commission (LCBC) better understand uncertainty surrounding the lake's future and define the framework for a development plan. Major knowledge gaps regarding regional hydrology combined with climate change impacts result in tremendous uncertainty about the future of Lake Chad. A major decrease in the lake's volume or water quality would seriously threaten the region's vulnerable population and its already endangered ecosystem. An analysis conducted with CIWA support used best available technical information to reveal hydrological scenarios that would cause future changes in Lake Chad's morphology. The data on changes to the lake size were also linked with socioeconomic data to describe how water-use and precipitation changes will affect the socioeconomic and productive systems in the region. A series of publications, events, and consultations with policy makers highlighted these findings and is fostering dialogue toward an improved and regionally beneficial approach to decision making.

**Modeling:** Based on needs identified through detailed stakeholder consultations, the LCBC is collaborating with the World Bank, the United Nations Educational, Scientific and Cultural Organization (UNESCO), and other development partners to improve groundwater-surface water modeling of the lake and institutionalize information sharing. CIWA-supported consultations undertaken by the World Bank team with relevant stakeholders, including the LCBC, LCBC Members States, and development partners, identified the need for a system of monitoring and modeling the lake to provide a decision-support mechanism that informs effective implementation of the basin's Water Charter. The Lake Chad Basin Water Charter is a binding framework for the Member States for promoting sustainable

development through integrated, equitable, and coordinated management of natural resources in and around the lake.

A CIWA-supported workshop organized jointly by the World Bank and UNESCO with the LCBC in May 2017 brought together a large number of development partners and research organizations—*Agence Française de Développement* (AFD), the specialized institution of the Permanent Interstates Committee for Drought Control in the Sahel (AGRHYMET), Federal Institute for Geosciences and Natural Resources (BGR), Geological Survey (BRGM), Economic Community of Central African States (ECCAS), Instituto Madrileño De Estudios Avanzados (IMDEA), L'Institut de recherche pour le développement (IRD), Observatoire du Sahara et du Sahel (OSS), Princeton University Climate Partnership, and Project ResEau funded by the Swiss Government—to create a working group that contributes to different aspects of updating and improving an existing groundwater model of the basin. While the model encompasses the entire basin, a higher resolution will be adopted for three focus areas based on population coverage and socioeconomic information, livelihood activities, and hydrological and ecological importance for the lake and its vicinity, the Chari-Logone watershed, and the Komadougou-Yobe watershed. The groundwater model will be linked to a separate surface water model to allow for water balance calculations, recharge estimations, indirect evapotranspiration measurements, and modeling of abstractions and consumptive uses.

Participants agreed that while data would be shared within the working group through identified focal points for each agency in the short term, the LCBC would develop a publicly accessible web-based data sharing platform to institutionalize information sharing in the longer term. The working group also agreed to develop a joint publication which will synthesize all available data and information and recommend research and analysis useful for resource management and planning. This coordinated effort of different players in conjunction with the LCBC lays the foundation to strengthen the understanding about the links between water and the lake's socioeconomic systems, develop the knowledge to support evidence-based decision making and governance instruments such as water regulations or sustainable abstraction caps, and advance and inform sound investments.

## Investments

Regionally  
beneficial  
investments  
generate  
socioeconomic  
benefits and  
gender-inclusive  
poverty reduction

*OUTCOME AREA 2. Coordinated investment planning and inclusive stakeholder engagement ensures equitable benefit sharing and effective risk management*

**Climate Resilient Investment:** With CIWA support, countries in the Lake Chad Basin developed the Lake Chad Development and Climate Resilience Action Plan (LCDCRAP) which highlights cross-cutting investment needs in the lake area. After launching the plan at the 21st United Nations Framework Convention on Climate Change Conference of the Parties (COP 21) in Paris in 2015, the World Bank has been working with countries to develop an IDA operation to address some of the important challenges in the region and harness opportunities identified. Pipeline lending will focus on priority actions identified in the plan to improve the resilience of Lake Chad livelihoods and ecosystems under current population growth pressures, hydrological variability, and climate uncertainty. The proposed sustainable investments aim to enhance the livelihoods and reduce the vulnerability of the lake's

resource-dependent population.

## Lake Tanganyika

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### Investments

Regionally beneficial investments generate socioeconomic benefits and gender-inclusive poverty reduction

*OUTCOME AREA 1. Improved technical and resource mobilization capacity enhances investment quality and advances preparation of regional projects*

**Options Analysis:** An options analysis on Lake Tanganyika has helped develop a better understanding of lake water level trends and constraints to port access and explored opportunities for sediment management and improved navigation. The governments of the Democratic Republic of Congo and Tanzania jointly approached the CIWA program for support in restoring port access in Lake Tanganyika. A 2013 study showed that rebuilding the Lukuga Barrage, an estimated US\$65 million investment, would improve port access. However, questions on the technical design and sustainability of the investment led countries to request CIWA analytical support. The analysis revealed that sediment accumulation from tributary rivers—not decreasing lake water levels as widely perceived—is the main challenge limiting port access. The study recommended a combination of sediment management techniques, including sediment removal from ports, sediment trapping in tributaries, and upstream catchment management as well as regular monitoring of water level and quality. Given the transboundary nature of Lake Tanganyika—it spans across Burundi, the Democratic Republic of Congo, Tanzania, and Zambia, and its catchment also includes Rwanda—sediment management and lake monitoring inherently require a coordinated effort in terms of investments, institutions, and information structures. This options analysis has provided a basis for countries to come together and agree on strategic investments they may undertake cooperatively to sustain the regional navigation benefits provided to them by the shared lake. Currently, the riparian countries are in the initial stages of exploring two regional programs on Lake Tanganyika related to improving navigation and enhancing environmental health to be supported by the World Bank.

## Niger

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### Institutions

Effective regional and national institutions enable riparian states to manage shared risks and harness net benefits of cooperation

*OUTCOME AREA 2. Financially and institutionally sustainable regional organizations provide effective water management services to countries*

**Donor Coordination:** With support from CIWA, the World Bank has revived the coordination of development partners financing projects or programs hosted by the Niger Basin Authority (NBA). Development partners are joining efforts with the view of establishing a concrete dialogue on ways and means for the NBA to improve its performance, notably with respect to the basin-level public goods it generates such as information on the hydrology of the basin, Observatory of the Environment activities, flow forecast, and processing of requests by countries to carry out activities with potential transboundary impacts. Another area of focus of the ongoing dialogue is the synergies between

the various projects and programs. Through this dialogue and in coordination with the pipeline Niger Basin Climate-Resilience Project, the scope and focus of institutional support for the NBA may be realigned.

## Investments

Regionally beneficial investments generate socioeconomic benefits and gender-inclusive poverty reduction

*OUTCOME AREA 1. Improved technical and resource mobilization capacity enhances investment quality and advances preparation of regional projects*

**Resilient Investments:** Capacity-building events and technical assistance provided to the nine Niger Basin countries have improved technical capacity for climate resilience and adaptation. In 2015 and 2016, CIWA supported an array of workshops, consultations, and technical assistance activities requested by the countries and the NBA. These activities served to support the effective preparation and implementation of investments to be included in the Niger Basin Climate Resilience Investment Plan (CRIP) and assist the mobilization of resources and investments for climate resilience throughout the basin. Over 100 participants from relevant line ministries (water, energy, agriculture/livestock, environment); ministries of finance and foreign affairs; and national and sub-regional river basin authorities were involved. Activities addressed specific capacity needs, including the ability to identify the additional challenges posed by climate change, new opportunities available to mitigate climate risk, and the benefits of cooperative approaches to avoid the effects of maladaptation. The training also helped participants better understand the climate financing landscape and the policies and mechanisms specific to different entities. This year, the NBA and its members continued to work with actual projects and proposals to package investments targeted at specific funding sources, including the private sector. Thus, in 2017, they advanced critical actions for the CRIP that will further serve them as they advance other programs and priorities for the basin. Next steps include preparation of a Niger Basin regional project with the World Bank as well as a resource mobilization conference during which the countries and the NBA will showcase their climate-resilience investment needs under the CRIP to targeted donor partners and financiers.

**Implementation Assessment:** Analysis of lessons learned and best practices for large-scale resettlement associated with the construction of large-scale transboundary infrastructure in fragile states contributed to improving quality of investments in the region. The assessment of the first phase of the Kandadji resettlement program was finalized this year. It generated a number of key lessons learned that were discussed in detail during a workshop in Niamey held at the end of May 2016. Assessment findings are being used by the Government of Niger to implement additional activities in support of populations resettled under Phase I and to inform the conceptualization of the second phase of the Kandadji resettlement program. Key areas of focus included (a) increased attention to the needs of women, youth, and vulnerable groups; (b) additional support to improve housing quality and basic services at resettlement sites; (c) implementation of complementary and/or additional livelihood restoration activities; and (d) enhancement of the existing grievance redress mechanism to make it more accessible at the community level. This assessment will be part of a broader analysis to identify good practices and lessons learned in the

implementation of similar resettlement interventions in weak institutional capacity environments. The analysis will be used to inform and strengthen investment throughout the region.

**Quality Assurance:** The NBA, the World Bank, and countries that share the upper Niger River Basin are in the process of redefining support for the project to improved decision making as far as investments are concerned. Using the resources of the project, the NBA has recruited a high-level expert specialized in multipurpose dam projects who will help steer the ongoing studies on the Fomi Dam and do a quality control, notably on the quality of the multicriteria analysis.

**Modeling:** Advanced modeling of ecosystem services in the Niger Inner Delta will inform upstream development and investment choices. Progress was made toward selecting the operators who will develop the improved model of the Niger Inner Delta to help decision makers understand ecosystem services available in the delta under different flow regimes. Based on a fairly accurate topography, the modeling exercise will help better correlate the natural and altered flooding pattern and the associated socioeconomic benefits.

*OUTCOME AREA 2. Coordinated investment planning and inclusive stakeholder engagement ensures equitable benefit sharing and effective risk management*

**Resilience Planning:** The Niger Basin CRIP highlights investment needs related to climate change adaptation in the basin to gather support for securing investment finance. Taking a basin-wide approach to climate resilience planning is considered best practice in the field, but the approach is not easily or widely implemented. CIWA supported the countries and the NBA as they developed, vetted, and presented the Niger Basin CRIP at COP 21 in Paris to raise the profile of their climate adaptation needs. The CRIP consists of a careful selection of resilience-building investments from key existing regional and national planning documents. It totals 246 investments, amounting to an estimated US\$3.1 billion in financing needed. Each investment included in the plan was examined and vetted by Member States through a comprehensive consultative process with multisectoral participation, strategically coupled with exercises to build local capacity. The World Bank is preparing an investment project to address some of the needs identified in the CRIP.

**Stakeholder Engagement:** Scoping work on regional stakeholder engagement will help CIWA identify where future support is needed on this topic. CIWA requires a deeper understanding of the strengths and weaknesses of citizen engagement mechanisms in the basin to strategically support them in future projects in the Niger Basin. Stakeholder organizations are actively involved in the development and rollout of the CRIP and in other investments in the basin. An analysis is under way that closely examines the details of regional processes with respect to capacity, functionality, and utility of various organizations. An initial report has helped elucidate a deeper understanding of citizen engagement in the basin that will help teams determine which mechanisms may be usefully employed by planned operations and could inform a trust-funded technical assistance or capacity-building activity to strengthen relevant organizations. This future support will be

planned in line with the pipeline Climate Resilience Project and the CIWA grant to the NBA.

**Stakeholder Mapping:** Development of the web-based stakeholder mapping and visualization tool intended to manage benefit sharing for transboundary infrastructure has been placed on hold due to capacity limitations. CIWA's support for the development of an innovative tool that maps high-resolution socioeconomic and operational data for long-term monitoring and management of benefit sharing around the Kandadji and Fomi multipurpose project was placed on hold this year. In spite of initially promising consultations around development of the tool, the program determined that clients and stakeholders did not have sufficient capacity to successfully implement this activity in light of the many competing demands for their attention.

## Nile

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### Information

Shared information boosts riparian trust and confidence and forms the basis of transboundary cooperation

*OUTCOME AREA 1. Effective information platforms enhance responses to water-related hazards, which are more frequent and extreme in a changing climate*

**Hydromet System:** The Nile Basin Initiative Secretariat (NBI-SEC) is commencing implementation of the first phase of a basin-wide hydromet network. The detailed design and implementation plan for the hydromet network was developed by the Nile-SEC in close collaboration with the countries. Following ministerial-level approval from the countries and having recently secured funding from the European Union (EU) and the German Federal Ministry for Economic Cooperation and Development (BMZ), the Nile-SEC is implementing a subset of the basin-wide hydromet network delineated in the first phase of the plan. The Nile-SEC is also continuing discussions with national-level water resource management programs to ensure that the new hydromet stations identified under the plan are harmonized with national-level plans.

**Sharing Real-time Information:** The Nile Basin Initiative (NBI) is working to expand its services to countries and provide real-time information. While the NBI is recognized as the 'go-to' regional repository for historic hydrological data on the Nile, the Nile countries' agreement to establish a regional hydromet system, based on the NBI-facilitated process and design, has expanded the NBI into a regional authority for real-time information, and the NBI centers are working to begin delivery in this new role. Leveraging their modeling capabilities and tools developed over the years, the Eastern Nile Regional Technical Office (ENTRO) and the NBI Secretariat (Nile-SEC) are jointly working to develop a short-term-to-seasonal river flow forecasting system for the whole Nile Basin. The forecasting system will rely largely on public domain climatic data, use NBI-developed analytical tools, and make forecasts for the whole basin publicly available on the NBI knowledge platform. Besides providing data and related analysis to the countries, the NBI will work with countries to establish a process for generating seasonal water availability forecasts and water balance bulletins, based on flow forecasts and the baseline for water use across the basin that countries

have agreed upon.

**Flood Forecasting:** ENTRO continues to issue regional flood forecasts and improve and scale up flood preparedness and early warning activities in the Eastern Nile. Seasonal and weekly flood forecasts were provided in 2017 for the seventh consecutive year. These forecasts are used by governmental and relief authorities and can help plan cropping for the season, reduce property damage, and minimize disruption of productive activities. Daily flood forecasts provided during the flood season help avert loss of lives and livestock. The flood reports are disseminated to the public through a range of channels, including in coordination with National Flood Forecast Centers, through the ENTRO web portal, and e-mail. During peak flood season, a growing number of institutions at the subnational, national, and regional levels, including United Nations agencies, rely on daily forecasts generated by ENTRO to provide timely relief assistance. Among those at highest risk are subsistence farmers and livestock pastoralists who are exposed to more frequent and extreme floods with the onset of climate change. Approximately 350,000 people across the region receive early warning messages during flood season and daily alerts in flood prone areas, while 1.7 million more people across the region benefit indirectly from these alerts and messages.

With Cooperation in International Waters in Africa (CIWA) support, ENTRO has been continuously enhancing its rainfall forecasting system and expanding its geographical coverage. In recent years, the system has been configured with Weather and Research Forecasting (WRF) models, links with national forecast centers of the countries have improved, and forecasting has been extended to cover flood-prone areas in the Baro-Akobo-Sobat sub-basin. An analysis of flash floods was carried out for vulnerable areas in Sudan. ENTRO will further improve calibration of its models with on-ground and satellite data and expand provision of its services into yet uncovered flood-prone regions in the basin and improve dissemination of forecasts. In conjunction with the Nile-SEC, ENTRO plans to expand its flood forecasting work into seasonal flow forecasting for the Nile Basin and will provide value beyond disaster risk management to include agricultural planning.

**Stakeholder Communication:** Following a mapping of its stakeholder network across the Nile countries, the Nile Basin Discourse (NBD) is working to strengthen its communication platforms as informed by a newly approved Communication and Outreach Strategy. Among the information services the NBD provides, its national-level civil society organization networks are monitoring national-level media for events and articles related to climate, livelihoods, environment, water resources, and harvesting and sharing of relevant information. The NBD has revamped its website to include user-generated content and hosting of online webinars toward its goal of serving as a platform for communication and information dissemination among member organizations. Meanwhile, the NBD has used existing social media and event platforms to steadily expand outreach and connections among civil society members in a relatively short period. These strengthened horizontal communication channels help build capacity of civil society organizations and citizens and enable coordination among organizations

that are working on similar and related themes across the basin, both of which contribute to increased civil society voice in informing development. The NBD continues to play a facilitation role in connecting civil society with investment planning, where tailored consultations have provided valuable inputs to ongoing projects such as the Niymur Multipurpose Water Resources Project, Baro-Akobo-Sobat Development Program, and the Lake Edward and Albert Fisheries Project financed by the African Development Bank (AfDB).

*OUTCOME AREA 2. Shared data, knowledge, and analytical tools enable timely, transparent, and regionally beneficial decision making*

**Decision Support:** Countries have continued to use the Nile Basin Decision Support System (DSS) for comprehensive climate-resilient water resources development planning. With CIWA support, the Nile-SEC has continued to provide training and support to the countries for applying modeling tools recently added to the DSS, such as those enabling climate change and trade-off analysis. The DSS has been used for developing the Lake Tana Integrated Water Resources Plan in Ethiopia, designing dams for flood control in the Sebeya River in Rwanda, exploring water management scenarios in the Nyando catchment in Kenya, and issuing water permits in Rwanda. The Nile-SEC continues to promote further mainstreaming of DSS usage in basin-scale development planning, building upon a progressive set of actions that include distribution of DSS licenses across government ministries and universities in the Nile countries, regional and national training on DSS applications by all three NBI centers, establishment of a DSS user community and online help desk to support users troubleshoot technical issues and provide a platform to foster collaboration, and provision of an online modeling portal where the public can access modeling outputs. Collectively, these actions help close the technical capacity gap across basin countries, build a shared understanding of different scenarios of development, and promote collaborative planning and implementation of investments on the shared Nile River.

**Strategic Planning:** Following establishment of an official baseline for water use across the Nile Basin, countries have agreed that the Nile-SEC will undertake a second phase of strategic analyses including options for enhancing basin water yield and conservation, conjunctive use of groundwater and surface water, optimal management of dams, and others. This agreement demonstrates a shared understanding of resource availability in the Nile Basin and the potential to strengthen the platform for technical dialogue and basin approach to planning. Funding for some of this work has been secured from the German Agency for International Cooperation (*Deutsche Gesellschaft für Internationale Zusammenarbeit*, GIZ) and the EU, with CIWA to fund aspects of modeling related to climate change.

The agreed baseline water use emerged from strategic hydrological analysis undertaken by the NBI using the Nile DSS (with GIZ support, augmented with funds from the Nile Cooperation for Results [NCORE], and using tools developed under the Nile Basin Trust Fund [NBTF] and with CIWA support). The analysis showed that while there is considerable irrigation and hydropower potential, national plans for

irrigation expansion in the long term can only be met through cooperative management of the Nile River that carefully considers intersectoral trade-offs of water use, emphasizes use of smart agriculture techniques, and includes a landscape of improved regional trade and integration. Agreement on a basin-wide water-use baseline is a substantial step forward in technical cooperation as no official figures of this type have been agreed in the past.

**Modeling:** The Nile Equatorial Lakes Subsidiary Action Program-Coordination Unit (NELSAP-CU) continues to strengthen its suite of hydrological and water-use simulation models and build capacity of countries to use them in investment planning. The NELSAP-CU has incorporated enhanced economic models to allow the evaluation of technical and economic dimensions of projects and enable more holistic investment in project planning. Under the auspices of the Multi-Sector Investment Opportunities Analysis (MSIOA), the NELSAP-CU continues to use its modeling framework to assist countries to prioritize and select regionally significant development projects and to plan regional investments in a sustainable manner that maximizes transboundary benefits and minimizes transboundary risks. The NELSAP-CU is training on water allocation modeling and analysis in countries that request it, including Tanzania and Rwanda, and will be expanding its capacity building to the other Nile Equatorial Lakes Subsidiary Action Program (NELSAP) countries. The NELSAP-CU has provided support to Rwanda's Interministerial Water Resources Committee and trained the Ministry of Water to provide technical analysis for policy makers in Integrated Water Resources Management (IWRM) issues. National-level institutions' use of a common set of comprehensive planning tools, with the NELSAP-CU providing technical support, evidences a growing level of professional capacity in the region and an increasing norm of taking a transboundary approach to investment prioritization and planning. In the coming year, the NELSAP will be applying its array of models in a new investment planning process to be funded by CIWA.

**Knowledge Portal:** The three NBI centers are working to create an integrated knowledge platform that provides a single portal through which users can access NBI knowledge resources. Over the past two decades, the centers have assembled and validated a wealth of data and have prepared a vast number of knowledge products on pertinent basin-wide and sub-basin issues and disseminated them to stakeholders. As part of the NBI's increasing focus on establishing itself as a service provider to countries for water resources knowledge services, analytical work, and investment preparation and implementation, there is an increasing need for a consolidated platform which users can identify as a 'go to' for Nile resources. The integrated knowledge platform will improve ease of access to the NBI knowledge resources, thereby enhancing usability of data and information; ensure consistent data management; and streamline workflow for data quality control, processing, and posting. The knowledge portal will make a significant amount of information available to the general public.

**Stakeholder Dialogue:** The NBI and the NBD continue to partner to foster dialogue and information exchange to promote Nile cooperation.

Platforms for information sharing include annual Nile Day celebrations and the biennial Nile Basin Development Forum (NBDF). Nile Day highlights the needs and opportunities for cooperation around Nile water. It brings together Nile water ministers, development partners, basin officials, and a large number of civil society organizations and stakeholders. The NBDF fosters dialogue among civil society leaders pertaining to issues of trust, reciprocity, common rules, norms and sanctions, connectedness, and technical innovations. These platforms aim to generate awareness on the need and opportunities for cooperative development in the Nile Basin among governments, regional and national organizations, and the civil society; to strengthen the NBI-NBD working partnership; and to ensure that investments prepared and advanced by the NBI are sustainable, regionally beneficial, and relevant to stakeholder needs.

## Institutions

Effective regional and national institutions enable riparian states to manage shared risks and harness net benefits of cooperation

*OUTCOME AREA 1. Strengthened, adaptable, institutional structures enable robust water management amidst growing uncertainty due to climate change and competing demands for water*

**Just-in-time Capabilities:** The NELSAP-CU has worked with countries to provide just-in-time analytical services in water resources management and development, including in estimating flood extents and evaluating trade-offs in water resources investments. With CIWA support, the NELSAP-CU aims to expand its just-in-time technical support and capacity-building services into emerging priority areas in the region, including dam safety, addressing climate variability, and others identified by countries.

**Dam Safety:** Following the Eastern Nile Council of Ministers' endorsement of ENTRO's regional dam safety guidelines, Eastern Nile countries have established dam safety offices. With CIWA support, ENTRO plans to focus on building capacity of the national dam safety offices and the growing regional network of dam professionals (including policy makers, operators, regulators, and academia), facilitated by a regional dam safety unit at ENTRO. ENTRO's dam safety work has been lauded as groundbreaking in the transboundary waters arena by the International Commission on Large Dams (ICOLD); it was featured at the international ICOLD conference as an example of best practice and is being used as the source of an international working paper by ICOLD.

**Study Tour:** Technical representatives from Eastern Nile countries and international water and energy experts undertook a study tour to the western United States to learn about best practices in water resources management in the United States and internationally, including specifically the Colorado, Rio Grande/Rio Bravo, and the Columbia River Basins. Water resources management comprises various competing priorities, including climate change, growing water demand, water quality hazards, environmental preservation needs, potential and actual conflicts, and economic development objectives. While the scope and scale of these priorities differ by country, addressing them effectively depends on strong institutions, which are based on collaboration, information sharing, and trust. The CIWA-supported technical study tour comprised site visits and discussions on large interstate multipurpose water projects, data and information sharing and exchange, institutional

cooperation and governance structures, sustainability and community participation, domestic communication strategies, opportunities for capacity building both within and across states, drought monitoring and forecasting, and long-term supply and demand planning in the context of adapting to climate change. In addition to learning about best practices, participants reciprocally shared lessons learned and experiences from the Nile Basin.

*OUTCOME AREA 2. Financially and institutionally sustainable regional organizations provide effective water management services to countries*

**Coordinated Planning:** ENTRO has advanced its study on a road map outlining steps the Eastern Nile countries could take for coordinated planning and implementation of dams. The draft roadmap was consulted with countries in November 2016, and countries evaluated mechanisms for coordination in the Eastern Nile context in juxtaposition with examples of coordination in other international settings as presented by the World Bank. Countries recognized the significant amount of data collection and exchange, capacity building, and technical work that would be needed to eventually coordinate dam operations and asked ENTRO to provide additional capacity building where possible. ENTRO will continue to explore mechanisms for financing of additional work and for coordination through the newly established national dam safety offices, helping countries lay important groundwork for safe, economically optimal, environmentally sustainable, and regionally favorable operation and design of large storage structures in the Eastern Nile.

**Sustainable Institutions:** CIWA's collective donor coordination has continued to deliver efficient development assistance and has strongly emphasized country ownership for the NBI, which is reflected in increased demand for water management services from the NBI centers and an increasing trend in financial contributions from countries (excepting those undergoing active conflict situations). Countries are also exploring alternate staffing plans to ensure sustainability and continuity of the NBI centers. CIWA worked closely with GIZ and Stockholm International Water Institute (SIWI) to help the NBI in planning its 2016 Strategic Dialogue which involved consultations with all Nile countries and donors on the NBI's progress, its inclusiveness and financial sustainability, and identification of key areas for the NBI to focus on moving forward, with the goal of improving the NBI's institutional sustainability while further mainstreaming its role in cooperative water resources management and development of Nile waters. The meetings also collected feedback on the NBI's and the NBD's progress under CIWA, with many countries requesting further CIWA support for the NBI's programming.

## Investments

Regionally beneficial investments generate socioeconomic benefits and gender-inclusive poverty reduction

*OUTCOME AREA 1. Improved technical and resource mobilization capacity enhances investment quality and advances preparation of regional projects*

**Resource Mobilization:** The NELSAP-CU continues to proactively mobilize resources for its pipeline of investments, many of which were prepared with CIWA support. The NELSAP pipeline includes 37 new regionally significant investment projects approved by countries for preparation. At targeted meetings with bilateral or multilateral financiers,

as well as in the regional and global fora, the NELSAP-CU has showcased to financiers the series of bankable projects prepared with CIWA support with an emphasis on technical robustness, equitable sharing of benefits, and environmental and social suitability.

**Public-Private Investment:** Supported by the World Bank's Public-Private Infrastructure Advisory Facility (PPIAF) and CIWA, the NELSAP-CU has worked with countries to screen its portfolio of projects and identify possible candidates for public-private investment. Over a workshop in November 2016, facilitated jointly by the NELSAP-CU and the PPIAF, the Nile Equatorial Lakes countries established the criteria for investments of transboundary significance to be suitable for PPPs. Based on these criteria, 15 priority water and power projects identified and prepared by the NELSAP-CU were screened and two were found to be viable in the immediate term. The screening methodology and outcomes were presented to the countries at a follow-up workshop in May 2017, to enable participants to understand the approach to structuring PPP-favorable investments. Also discussed were outcomes for each project considered and how each could be structured differently to improve PPP viability. Attended by the Permanent Secretaries for Energy from the countries and technical representatives from the Ministries of Water, Energy, and Finance, the workshop helped build country understanding of what next steps could be taken to take viable PPP projects forward for financing. As the NELSAP-CU's portfolio of transboundary projects expands and countries seek to expand the sources of financing they may tap into, this exercise has enabled a concrete step to establish the NELSAP-CU as a convener and facilitator for preparing and implementing PPP transboundary investments.

**Watershed Management:** Eastern Nile governments have prioritized four watershed management projects in Sudan and Ethiopia prepared by ENTRO for immediate delivery. Sudan and Ethiopia continue to seek funding for implementation from their national budgets and with multilateral financiers. The Council of Ministers has directed ENTRO to identify a next round of projects to prepare, demonstrating the value that countries derive from adopting a transboundary approach to sustainable investment preparation and showcasing the effective role ENTRO has played in promoting cooperative water resources management amid a fragile political context. In addition, successful watershed management actions piloted by ENTRO in the Eastern Nile countries have contributed to enhanced livelihoods, improved water quality, and reduced infrastructure maintenance costs. With CIWA support, ENTRO will undertake an evaluation of the success of various pilot livelihood-based integrated watershed management interventions to inform riparian-led scale-up of select best and most viable practices and training practitioners on lessons learned. As part of this capacity-building work, ENTRO will explore opportunities to engage active professionals and universities into a network of practice for watershed management and provide a platform for exchange of information and training on topics such as sediment management.

*OUTCOME AREA 2: Coordinated investment planning and inclusive stakeholder engagement ensures equitable benefit sharing and effective risk management*

**Mainstreaming Functions:** The NELSAP-CU is working with involved

stakeholders to formulate and agree on devolution of the duties of the Mara, Sio-Malaba-Malakisi, and Kagera River Basin Management Projects to intergovernmental coordination committees. The River Basin Management Projects have been ongoing, with support of the NBTf and CIWA, in the three priority 'hotspot' sub-basins and have prepared watershed management and restoration plans as well as feasibility studies and environmental and social assessments of small-scale multipurpose water resources development projects with water supply, food security, and livelihoods benefits to local communities. Additionally, the projects have collaborated with the country governments to prepare frameworks for transboundary management and development within the sub-basins. Mainstreaming of the projects' river basin management functions into intergovernmental coordination committees is part of the process to improve the institutional and financial sustainability of the coordination mechanisms and technical capabilities built through the projects. The NELSAP-CU has outlined the functions to be devolved, as consulted with the countries and the Lake Victoria Basin Commission (LVBC), which also supports countries in the sub-basins. It is envisioned that the NELSAP-CU and the LVBC will continue to support the coordination committees on specific functions that are to their respective comparative advantage.

**Stakeholder Engagement:** The NBD's partnerships with governments and regional development organizations is ensuring that social concerns shape water, power, and commodity investments. The NBD contributed to the finalization of the stakeholder engagement and communication plan for the Baro-Akobo-Sobat Multipurpose Project in Ethiopia and Sudan, whose preparation is being financed by the AfDB. The stakeholder engagement emphasizes ecosystem sustainability and reducing poverty through post-conflict livelihood rehabilitation. The NBD facilitated stakeholder consultations for the Nyimur-Aswa Multipurpose Project in Uganda and South Sudan to advance a preliminary project design to benefit the local community, for example, by aligning the project access road to link cross-border markets and facilitate trade. The NBD's successful role on this front has been recognized by the Government of Uganda, which requested that the NBD participates in the national-level Steering Committee for the Nyimur-Aswa project alongside Ministries of Water and Agriculture; at the local levels, a similar structure is replicated where the NBD-affiliated civil society and nongovernmental organizations (NGOs) are working with local governments as part of the project's local implementation Steering Committee. Further, through national-level civil society organizations in the Democratic Republic of Congo, the NBD enhanced the design of the US\$21 million Multinational Lake Edward and Albert Integrated Fisheries and Water Resources Management Project (LEAF II) and continues to facilitate stakeholder engagement through the project's implementation supported by the governments of the Democratic Republic of Congo and Uganda with the AfDB and GEF financing.

**Sustainable Engagements:** Through the CIWA-supported NCORE Project, the NELSAP-CU continues to advance preparation of four investment projects of regional significance in a technically robust, environmentally and socially sustainable, and regionally favorable

manner—Kabuyanda Irrigation and Watershed Management Project in the Kagera Basin, Mara Valley and Ngonzo Irrigation and Watershed Management Projects in the Mara Basin, and the Sio-Sango Irrigation Project in the Sio-Malaba-Malakisi Basin. These projects target underserved border areas with otherwise largely neglected, vulnerable populations characterized by high poverty levels. The feasibility studies and the ESAs both contain provisions for analysis of vulnerability characteristics and causes to be factored in project design. The NELSAP-CU has requested consultants to redouble their community consultation efforts in several cases, to ensure that community needs and concerns are addressed and benefits reach intended populations. The NELSAP-CU has put in place many measures to ensure high-quality preparation of the projects, including the use of a dam safety panel, and capacity building for country counterparts.

The Mara Valley and Ngonzo feasibility studies and the ESAs are proceeding in a satisfactory manner and are in advanced stages of preparation. The performance of the firm undertaking the studies for the Kabuyanda and Sio-Sango Projects, however, has not been deemed satisfactory, and the NELSAP-CU has fast-tracked the hiring of an alternate consultant. The extension of the NCORE Project until 2020 with the approval of the second additional financing in April 2017 allows time for the completion of the studies. Studies for a planned fifth investment, the Ruvyironza Irrigation and Watershed Management Project in the Kagera Basin, have been cancelled for the time being due to the security situation in Burundi, with the possibility of resuming work if the situation improves in the future. Building on this success, technical analysis and country consultations undertaken by the NELSAP-CU has led to the countries approving 37 new projects of regional significance for preparation, demonstrating the now-established procedural norm for countries to collaboratively consider, evaluate, and endorse transboundary projects for preparation.

**Investment Prioritization:** The NELSAP-CU is working with countries to prioritize a new Nile Equatorial Lakes Investment Program (NELIP) that strengthens regional intersectoral coordination and national sector-wide planning. The NELIP will be a natural extension of the NELSAP-CU's ongoing strategic planning process and leverage the Nile Equatorial Lakes MSIOA as well as NELSAP's expertise in modeling, multipurpose project preparation, and inter-country facilitation to advance various types of transboundary water resources investments. Responding to demand from its member countries, the NELSAP-CU will facilitate the NELIP process to prioritize a multisector portfolio of investment projects—including built and natural infrastructure, institutional setup, environmental protection measures, and information and monitoring systems—to be implemented by Nile countries in a coordinated manner based on a joint basin-wide investment strategy. With CIWA support, the NELSAP-CU and the countries will strengthen their strategic communication and resource mobilization of prepared projects. The NELIP process will provide valuable long-term targeted technical capacity building to countries, to help them assess critical water resources challenges in the context of region-wide opportunities, and support engagement with inter-ministerial mechanisms at the national level on these issues.

**Multi-criteria Optimization:** ENTRO has held its final consultation for the Eastern Nile MSIOA, at which countries sought ENTRO's assistance in new areas, including groundwater assessment and management and exploring opportunities for water savings. Responding to requests from active member countries to identify the next round of investment projects of transboundary significance, with support from CIWA, ENTRO facilitated the MSIOA process to analyze risks and opportunities for cooperative development, explore possibilities for turning risks into opportunities and potential roles for ENTRO to play in facilitating countries to evaluate trade-offs around shared and competing uses of water at a sub-basin scale, negotiate mutually beneficial arrangements for water use, and jointly prioritize investments to prepare. Countries agreed on the fundamental insights yielded by the MSIOA—that business as usual prioritizing only national perspectives is not sustainable and that coordinated evaluation, planning, and implementation of water resources investments and beyond are critical for economic prosperity, poverty alleviation, and stability in the region. Country participants suggested that ENTRO explores pursuing “no or low regret” cooperative actions in 10 critical areas, namely energy sharing, improved agriculture, coordinated dam operations, environmental and social measures, groundwater, watershed management, water resources data and information, and optimization of water resources development to enhance win-win opportunities. ENTRO is working with countries to prepare concept notes for regional initiatives in these 10 areas. With CIWA support, ENTRO will undertake a study to better understand the availability of groundwater in the region and assess the performance of irrigated agriculture toward providing insights to countries on ways to improve agricultural water-use efficiency.

**Stakeholder Mapping:** Through civil society organizations, community leaders, elders, and coalitions, the NBD mapped out links between communities and national and regional players in Nile Basin development. This comprehensive stakeholder map enables project designers to communicate with and understand the interests of the different types of resource users and to manage or resolve conflict. This ultimately ensures that benefits of projects of transboundary significance reach communities, particularly women and vulnerable people.

**Community Engagement:** The NBD is building the capacity of civil society organizations across the basin and fostering horizontal networking among them to link organizations working on similar themes in different parts of the basin. The NBD has trained over 500 men and 250 women from over 200 organizations across 10 Nile countries on ways to manage climate risks. Improved understanding of changing temperatures; shifting rainfall patterns, floods and droughts; and subsequent implications on lives and livelihoods equip communities to initiate adaptive actions and inform larger-scale development projects about climate-related issues.

# Okavango

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## Institutions

Effective regional and national institutions enable riparian states to manage shared risks and harness net benefits of cooperation

*OUTCOME AREA 2. Financially and institutionally sustainable regional organizations provide effective water management services to countries*

**Institutional Development:** During the MSIOA process, Member States and partners held substantive discussions around strengthening Okavango River Basin Water Commission (OKACOM) to deliver on the vision for the basin. The commission defined an ambitious Sustainable and Equitable Climate Resilient Investment Program to address underlying drivers of poverty to safeguard the unique public goods within the basin. This represents the next phase in the institutional evolution of OKACOM, following its initial foundational phase (advancing dialogue, improving communication, aligning strategies), as it assumes a more active role by helping the Member States advance investments in the basin. These transformative discussions represent an important step in enhancing OKACOM's ability to achieve better outcomes through cooperative development and promote more efficient use of available water resources.

## Investments

Regionally beneficial investments generate socioeconomic benefits and gender-inclusive poverty reduction

*OUTCOME AREA 2. Coordinated investment planning and inclusive stakeholder engagement ensures equitable benefit sharing and effective risk management*

**Investment Scenarios:** The Cubango-Okavango MSIOA, completed in FY17, included stakeholder consultations and national engagements to identify implementable, prioritized, and cooperative actions to address underlying issues of poverty in the basin while preserving the unique ecological status of the basin and its delta. Poverty is widespread in the Cubango-Okavango River Basin and survival strategies often threaten land and water quality and the region's biodiversity. The Cubango-Okavango MSIOA considered various investment scenarios, which include economic development projects that would not only benefit people in the basin, the Member States, and the broader SADC region but also help preserve the environmental integrity of the delta. Through an iterative facilitated process, the MSIOA identified a series of potential investment programs to advance sustainable development within the basin. The scenario analysis compared the costs and benefits of cooperative and/or joint investments with unilateral development, which highlighted ways to achieve cooperative benefits to exceed the benefits of independent development approaches within and beyond the Cubango-Okavango River Basin. The study also accounted for different climate change scenarios, for example, by examining the impact of projected drought and drying trends on proposed options. The findings were presented to the three Member States through a series of national stakeholder workshops.

**Investment Planning:** Three regionally relevant, joint investments have been identified that balance the economic, social justice, environmental, and climate resilience priorities as reflected in the vision for the basin. These joint actions inform the Sustainable and Equitable Climate Resilient Investment Program and are structured around three target areas: (a) Climate-Resilient Livelihoods Enhancement Program, focused on addressing the underlying drivers of poverty in the basin; (b) Enabling

Basin-Wide Ecotourism in the Cubango-Okavango River Basin Program, focused on extending the benefits of tourism throughout the basin; and (c) Cooperative Infrastructure Development Program, focused on joint development of the Mucundi Dam to provide multiple benefits in the basin. Implementation of the joint actions in the three proposed programs is estimated to be in excess of US\$900 million and will enable a series of innovative institutional reforms to reaffirm the cooperative agenda and would inform the establishment of a dedicated endowment fund. Financing options include global public funds, a framework for facilitating private sector investments, and a roadmap for joint development of large-scale infrastructure. These are intended to support long-term investments by shifting away from short-term project financing toward longer-term sustainable financing.

**Stakeholder Engagement:** To inform the MSIOA, a benefits assessment and collaborative stakeholder mapping helped better inform options and opportunities to advance the basin investment programs. These were carried out through consultative mechanisms and cooperation with a range of stakeholders within the basin and the Member States as well as development partners, including the DFID Climate Resilient Infrastructure Development Facility (CRIDF), U.S. Agency for International Development (USAID) Southern Africa Regional Environmental Program (SAREP), United Nations Development Programme (UNDP), GEF, United Nations Economic Commission for Europe (UNECE), the European Commission (EC), and Swedish International Development Cooperation Agency (SIDA). The team employed the Net Map tool, which helps stakeholders understand, visualize, discuss, and improve situations in which many different actors influence outcomes. The analysis of the numerous complex relationship pathways between various stakeholders helped inform political economy considerations to clarify links and levels of influence of various actors and institutions, identify risks, and formulate strategies for effectively advancing implementation. A scenario analysis provided the tools for exploring methods to foster more altruistic behaviors and address negative externalities to achieve cooperative benefits. The analysis assessed the costs and benefits of cooperative and joint investments compared with unilateral development within and beyond the Cubango-Okavango River Basin.

## Orange-Senqu

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### Institutions

Effective regional and national institutions enable riparian states to manage shared risks and harness net benefits of cooperation

*OUTCOME AREA 1. Strengthened, adaptable, institutional structures enable robust water management amidst growing uncertainty due to climate change and competing demands for water*

**Options Analysis:** The Lesotho Highlands-Botswana Water Transfer Study considered options to carry forward this regional investment for water security in southern Africa. Three of the riparian states in the Orange-Senqu River Basin—Botswana, Lesotho, and South Africa—established a Joint Study Management Committee to oversee the recently completed study in accordance with the Memorandum of Understanding between the three countries. This strategic analysis covered technical, institutional, and financial options to implement and operate such a transfer. The technical options have been endorsed by

the ministers from the riparian states and additional studies are being formulated to advance preparations under the auspices of the Orange-Senqu River Commission (ORASECOM).

**Financing Options:** A range of possible institutional options for the regional development of water resources have been developed in parallel to inform options that could be used to carry forward and develop the project. These are related to possible financial mechanisms linked to the various institutional models to stimulate debate and discussion among the riparian states around options for development. These transboundary models of infrastructure development are based on a typology of six models that are based on different ownership and revenue streams. An accompanying financial model has been developed to pilot the application of the models within the context of the proposed options for the transfer of water from the Highlands of Lesotho to Botswana.

## Investments

Regionally beneficial investments generate socioeconomic benefits and gender-inclusive poverty reduction

*OUTCOME AREA 1. Improved technical and resource mobilization capacity enhances investment quality and advances preparation of regional projects*

**Technical Assessment:** The Lesotho Highlands-Botswana Water Transfer Study was completed this year, confirming the viability of a range of technical options for transferring water from the Highlands of Lesotho to Botswana and South Africa. The analysis considered the extent and timing of transferring water from the Highlands of Lesotho, the institutional framework under which such a project could be implemented, and possible financial mechanisms for storage and transfer of water. The reconnaissance study assessed engineering, social, environmental, economic, and financial information related to the water transfer. The results were presented at a meeting of the Joint Steering Management Committee and Senior Officials in Gaborone in October 2015 and endorsed by the relevant ministers in November 2016. The three parties resolved to proceed to the subsequent phases of the study as envisaged in the original Memorandum of Understanding. A condition precedent to the implementation of the study's next phase is a Memorandum of Agreement (MoA) by the parties, which is pending ministerial approval with signing expected by the end of December 2017. To help inform regional water security options, an assessment of the other supply options, including transfers from the Chobe-Zambezi, are providing a comparator against which to evaluate the technical, environmental and social, institutional, financial, and geo-political considerations.

A parallel World Bank-executed activity around the development of a Water Evaluation and Planning (WEAP) model for Lesotho was used to simulate major hydrologic flows, represent demographic trends and evaluate the effects of water management responses including the proposed transfer, and confirmed the availability of sufficient water under a range of future climate scenarios. By evaluating the regional trade-offs of potential water transfers in the region, the study has helped delineate options for future investments, informed a range of institutional options among the countries, and highlighted a number of financing considerations, thereby diminishing risks and improving opportunities for the best shared return on investments.

Under the initial Memorandum of Understanding, Botswana was responsible for raising the financing and a Joint Study Management Committee established to oversee the study. In accordance with the agreements between the riparian states, the subsequent phases are to be further developed through ORASECOM. The next phase of this multiphased response includes financing from a range of partners, including the African Water Facility and the New Partnership for Africa's Development (NEPAD) Infrastructure Project Preparation Facility as part of the Climate Resilient Water Resources Investment Strategy and Multipurpose Project Preparation. This is aimed at promoting sustainable socioeconomic growth in the basin through climate resilient water resources development in the framework of basin-wide cooperation facilitated by ORASECOM.

## SADC

### Information

Shared information boosts riparian trust and confidence and forms the basis of transboundary cooperation

*OUTCOME AREA 2. Shared data, knowledge, and analytical tools enable timely, transparent, and regionally beneficial decision making*

**Groundwater Analysis:** The Southern Africa Development Community (SADC) Groundwater Management Institute (GMI) supports national institutions and River Basin Organizations (RBOs) in conducting multidisciplinary analyses in selected transboundary aquifers through Transboundary Diagnosis Analysis and Strategic Action Plans. Under the guidance of the SADC-GMI, Mozambique and Malawi have agreed to cooperate on the participatory identification of cross-border water issues requiring shared management and development of institutional mechanisms that support the achievement of equitable and sustainable resilience-strengthening water-use approaches based on conjunctive management of the Shire River and aquifer systems. This work will also document and disseminate regionally relevant principles and guidelines for promotion of transboundary conjunctive management of river/aquifer systems. The GMI has also developed, through collaboration with the United Nations' International Groundwater Assessment Center (IGRAC), an online groundwater information portal that disseminates regional groundwater information. The portal also includes a dedicated workspace and viewer for the SADC-hydrogeological map, containing detailed information for each map layer and allowing data to be used for offline processing and analyses.

Institutions

*OUTCOME AREA2. Financially and institutionally sustainable regional organizations provide effective water management services to countries*

**Groundwater Capacity Building:** Institutional arrangements for the SADC-GMI were refined and additional staff hired so that the organization can play its intended role as a regional center of excellence in groundwater management and development. Following the official project launch in September 2016, the SADC-GMI completed the hiring of all its technical and administrative staff that work out of the SADC-GMI offices established at the University of Bloemfontein, South Africa.

Among the first activities launched by the SADC-GMI is the development and implementation of a capacity-building program for groundwater data collection and management within and across the SADC Member States. IGRAC and the host institute University of the Free State Institute for Groundwater Studies (UFS-IGS) have engaged to collect data from Member States, analyze the data, and develop action plans and implement training programs for groundwater monitoring and data management for both individual Member States and the SADC regional level. An overview of the current state of data and information management is being prepared based on consultations, desk study, and field visits to Member States to undertake gap analyses and identify priority actions at the national and regional levels

## Investments

Regionally beneficial investments generate socioeconomic benefits and gender-inclusive poverty reduction

*OUTCOME AREA 2. Coordinated investment planning and inclusive stakeholder engagement ensures equitable benefit sharing and effective risk management*

**Inclusive Investment:** The SADC GMI has developed a Sub-Grant Manual to promote regional investments that generate socioeconomic benefits resulting in gender-inclusive poverty reduction. The GMI supports Member States in planning for appropriate and sustainable groundwater infrastructure solutions in priority areas, to include rehabilitation, operation and maintenance, and modernization or scaling up of existing infrastructure aimed at improved groundwater utilization, management, and protection. To learn from experiences, the GMI has reviewed small-scale investments made under a previous World Bank-supported regional project on drought management. The review evaluated socioeconomic benefits of these projects, with a focus on women and the poor. Proposed rehabilitation and improvements will be taken up under the new grant scheme.

## Volta

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### Information

Shared information boosts riparian trust and confidence and forms the basis of transboundary cooperation

*OUTCOME AREA 1. Effective information platforms enhance responses to water-related hazards, which are more frequent and extreme in a changing climate*

**Stakeholder Communication:** A CIWA-supported diagnostic of the communications of Volta Basin Authority (VBA) has laid the groundwork to inform development of its Communications Strategy and Plan. With support from CIWA, the VBA is developing a Communications Strategy that defines its key audience, messages, channels, and tools to be used across stakeholders. The strategy also establishes guidelines for a platform for exchanging information and harmonized data among stakeholders. This platform will help create a shared understanding of the basin's needs, resources, and trends under a changing climate. The VBA will also develop a Communications Plan to operationalize the strategy. Improved communications aim to enable enhanced dialogue among VBA stakeholders and improve water resource management and development in the basin in the longer term. Procurement of the consultant who will work with the VBA in developing its Communication Strategy and Plan is under way.

*OUTCOME AREA 2. Shared data, knowledge, and analytical tools enable timely, transparent, and regionally beneficial decision making*

**Knowledge Sharing:** The VBA is strengthening knowledge generation and dissemination in the Volta Basin. CIWA has facilitated staff participation in the Global Environment Facility (GEF) International Water Learning Exchange and Resource Network (IW-Learn) activities and helped disseminate a learning report at the World Water Week in Stockholm. CIWA has supported the VBA to help share studies and knowledge products ranging from regional planning documents to more technical studies on water resources management, climate risks, and water economic infrastructure in the region, both through an improved VBA website and through direct interactions and participation in other international workshops.

**Water Charter:** The VBA is developing a Water Charter through a process that ensures harmonization of regional and national legal structures. Elaboration of the Water Charter is based upon a consultative process among riparian states, across sectors, and is inclusive of all stakeholders. The consultations are informed by an in-depth diagnostic study comprising technical, legal, and institutional assessments of issues to be addressed by the Charter, including water availability and uses across the basin, constraints to water development, and regulations and legal systems in force at the local, national, and basin levels. The CIWA-GEF supported process includes drafting and collaborative evaluation and validation by stakeholders, leading to ministerial adoption of the Charter. It includes support for strategic communication to raise awareness and advocacy activities to enhance the understanding, ownership, and operationalization of the Charter's principles and shared rules. While the basin-wide legal framework provided by the Charter will define the guiding principles for improved water resources development and management in the basin and strengthen the VBA's position to carry out its mandate, the collaborative approach taken by riparian governments in preparing, drafting, and vetting the Charter will lay the foundational steps for cooperating around their shared water resources. It is envisioned that this inclusive process of developing the Water Charter will contribute to basin-wide understanding of the value of such a cooperative framework for regional water resources management, facilitating heads of state approval, and country ratification in the longer term.

The elaboration of the Water Charter was launched during a workshop held in Ouagadougou in June 2017, and the diagnostic phase is under way. The Program Implementation Unit within the VBA has attended trainings to strengthen capacity on legal aspects of shared waters and has had several exchanges with other RBOs to build understanding around transboundary water charters.

## Institutions

Effective regional and national institutions enable riparian states to manage shared risks and harness net benefits of cooperation

*OUTCOME AREA 2. Financially and institutionally sustainable regional organizations provide effective water management services to countries*

**Institutional Assessment:** The World Bank-executed institutional assessment of the VBA has identified institutional and capacity gaps in the VBA and outlined recommendations to strengthen the VBA institutional structure and operational capacity. The recommendations are tailored toward enabling the VBA to more effectively facilitate cooperative water resources management and development in the basin, including development and further implementation of the Water

Charter. The final report was delivered to the VBA in June 2017. Recommendations at both the strategic and operational levels include actions that will be carried out in the framework of the World Bank-supported Volta Strategic Action Programme Implementation Project (VSIP) (cofunded by CIWA and GEF) and others that VBA member countries and other partners may develop as a contribution to operationalize the VBA's second Strategic Plan 2015–2019.

**Institutional Development:** With joint support from CIWA and GEF, the VBA is preparing a study that will help establish national focal structures that are currently missing and will assist the organization to mobilize the political and financial support it needs to fulfil its mandate. The study will build on a 2013 study by the AFD on autonomous financing mechanisms to operationalize the much-needed improvement in national contributions from Member States to cover the VBA operating expenses. In line with the VBA's 2015–2019 Strategic Plan and recent decisions of the Council of Ministers, the study will provide operational proposals to enable the existing National Focal Points and their staff to play an immediate role in securing national financial contributions and, in the longer term, to establish national focal structures and ensure their effective functioning. The study was launched in June 2017.

## Investments

Regionally beneficial investments generate socioeconomic benefits and gender-inclusive poverty reduction

*OUTCOME AREA 2. Coordinated investment planning and inclusive stakeholder engagement ensures equitable benefit sharing and effective risk management*

**Demonstration Projects:** CIWA and GEF are jointly supporting the preparation of demonstrative subprojects (US\$1.1 million each allocated for preparation and implementation) on small-scale irrigation in Mali; riverbank restoration in Burkina Faso; and reforestation in Benin, Togo, Ivory Coast, and Ghana. These investments target transboundary impacts through improvements in water quality and flows and will contribute to community livelihood improvement. The subprojects build upon strategic priorities identified in the basin's Strategic Action Program (SAP) to preserve and restore critical soil and water ecosystem functions in select hot spots and optimize water usage among primary functions and among riparian states in a sustainable manner. They will include the promotion of income-generating activities directly benefiting local populations. The investments will have the potential for replication or scale-up in other parts of the basin. Preparation and implementation of these demonstrative subprojects will build on a participatory process that involves citizens in the construction, operation, and maintenance of the said investments and the socioeconomic benefits they will provide.

The feasibility studies for the six subprojects are under way. The project implementation unit and national focal points are conducting field missions in each of the subproject areas to raise awareness and inform local stakeholders, including citizens, authorities, and civil society organizations. The project implementation unit and national focal points also undertook a study tour in Benin in December 2016 to learn about implementation challenges and successes of a similar community livelihood project implemented by the neighboring NBA.

**Water Master Plan:** In its 2015–2019 Strategic Plan, the VBA envisions the development of a Water Master Plan to help riparian states evaluate

trade-offs, negotiate mutually beneficial arrangements for water allocation and use, and prioritize investments optimizing benefits. Should future CIWA-support become available to the VBA, progress made through current CIWA support could contribute to the preparation and implementation of such a Water Master Plan that would advance a basin approach to water resources development, including integration of issues such as climate change adaptation and environmental and social safeguards into investment planning.

## Zambezi

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### Information

Shared information boosts riparian trust and confidence and forms the basis of transboundary cooperation

*OUTCOME AREA 2. Shared data, knowledge, and analytical tools enable timely, transparent, and regionally beneficial decision making*

**Decision Support:** Phase I of the system design for Zambezi Water Information Management System (ZAMWIS), as an effective DSS for the Zambezi River Basin, is complete. This is jointly supported by Danish International Development Agency (DANIDA) and is part of the initiatives meant to operationalize the ZAMCOM agreement. The project includes Rules and Procedures for Data and Information Sharing that were adopted by the ZAMCOM Council of Ministers. These specify and clarify the roles for all stakeholders including Member States, ZAMSEC, data providers, and other relevant institutions. ZAMWIS comprises an integrated system that includes a data collection platform linked to Member States' data collection platforms and management systems, a knowledge portal and time series data, along with a platform for spatial data. The second phase, which is under way, entails the design and operationalization of the DSS, including modules for monitoring and forecasting, reservoir operations, and planning. ZAMWIS will support the Member States in improved decision making on water resources planning and operations amid increasing climate variability, decreasing resource predictability, and increasing demand from competing water users. The improved ZAMWIS is also expected to facilitate implementation of the Procedures for Notification of Planned Measures adopted by ZAMCOM. ZAMWIS is also expected to enable timely and informed water management decisions through forecasting and early warning systems, along with the longer-term planning and management of the basin's water resources through application of integrated basin models and information management systems. ZAMCOM will employ forecasting and analysis from ZAMWIS, informed by national data and development plans, in facilitating the basin-wide strategic plan for the Member States to cooperatively manage and develop shared water resources.

### Institutions

Effective regional and national institutions enable riparian states to manage shared risks and harness net benefits of cooperation

*OUTCOME AREA 1. Strengthened, adaptable, institutional structures enable robust water management amidst growing uncertainty due to climate change and competing demands for water*

**Legal Studies:** Legal equivalence studies meant to inform the process of the harmonization of laws associated with the Zambezi Watercourse States as required under the ZAMCOM agreement are under way. A compendium of water-related policy and legal instruments from the Member States has been compiled. Gap analyses, including a comparative assessment of the ZAMCOM agreement, have been

carried out to assess the degree of equivalence and identify any potential areas of conflict. Final outputs will be an Options Paper outlining key options and modalities on how to improve harmonization and equivalence of the national legal frameworks related to water resources in the basin. The legal equivalence studies will also inform the strategic policy direction of the Zambezi River Basin Strategic Plan (ZAMSTRAT) within the context of benefit sharing, as well as equitable and reasonable utilization. These studies will inform the form and character of future institutional structures associated with infrastructure development across the basin and the SADC region.

**Strategic Planning:** Preparation of ZAMSTRAT is under way after approval of the Inception Report by the Joint Steering Committee. The Strategic Plan is envisaged under the agreement as a master development plan comprising a general planning tool and process for the identification, categorization, and prioritization of projects and programs for the efficient management and sustainable development of the Zambezi Watercourse, as well as policy and planning tools to promote, support, and coordinate the efficient management, sustainable development, and reasonable and equitable utilization of the basin's water resources across both sectors and national borders. An Inception Report has been reviewed and approved by the Joint Steering Committee. A diagnostic assessment phase is now under way and key outputs will include the Situation Analysis and Strategic Direction Reports. The activity is being carried out through a consultative process that primarily relies on national and basin-wide committees established under ZAMCOM to facilitate communication and consultations. Other consultative arrangements include workshops with government officials and other representatives with legitimate interests in each of the Member States.

**Background Analysis:** Development of ZAMSTRAT is underpinned by improved knowledge and advanced analytics, as well as facilitating inter-country dialogue, which deepens the shared understanding of issues across the Zambezi River Basin and reveals options for cooperative water resources management. This work includes a set of studies on key issues pertinent to the basin through the World Bank-executed Zambezi Basin Support Program. The Climate Change Assessment of the Energy-Water Nexus in the Zambezi River Basin evaluates trade-offs between irrigation and hydropower in the basin under projected climatic conditions. This is being complemented through a series of climate risk assessments, specifically for the Batoka Gorge Hydro-Electric Scheme and natural assets in the basin. These build on the earlier foundations developed through the MSIOA and are among a series of tools that the riparian states can use to better understand the impacts associated with increased hydro-variability, inform options for investment planning, and guide potential infrastructure development in the sector within the agreed framework provided by the Strategic Plan.

*OUTCOME AREA 2. Financially and institutionally sustainable regional organizations provide effective water management services to countries*

**Financial Sustainability:** The Permanent ZAMCOM Secretariat, hosted by Zimbabwe, was established in 2014 and is making progress toward

financial sustainability. Following the 2016 endorsement by the Council of Ministers of a shared definition and cost of its minimum functionality, Member States have increased contributions from US\$25,000 in 2016 to US\$60,000 in 2017 and committed to increase these by US\$10,000 each year to US\$100,000, the agreed target. There are still challenges in ensuring financial sustainability and governments will need to honor the commitments for ZAMCOM to develop into a sustainable institution and allow for a reserve fund to allow for contingencies. The sustainability of ZAMCOM is still a work in progress but is moving in the right direction. Central to long-term financial sustainability is ensuring that ZAMCOM continues to build on the momentum toward institutional sustainability by ensuring that it realizes value for money for the Member States and delivers on the key water resource management and development issues among the Member States.

**Communication:** A Communication Strategy for ZAMCOM, which was informed by a mapping of its stakeholders and approved by the Council of Ministers, is now guiding development of targeted communication products around the principles of sustainable development and utilization, harm prevention, inter-generational equity, and cooperation, among others. The products inform part of a public information program that creates awareness at the regional and national levels as an essential basis for cooperation. ZAMCOM has advanced relationships with universities and research organizations in the basin, with the goal of institutionalizing academic partnerships to enhance the basin's knowledge base and develop long-term water resources management capacity in the basin. To facilitate this, stakeholder coordination committees have been established at both the regional and national levels. These coordination committees are now conducting dialogue with possible partner organizations based on the alignment of objectives with ZAMCOM.

## Investments

Regionally  
beneficial  
investments  
generate  
socioeconomic  
benefits and  
gender-inclusive  
poverty reduction

*OUTCOME AREA 1. Improved technical and resource mobilization capacity enhances investment quality and advances preparation of regional projects*

**Impact Assessment:** The engineering, environmental, and social studies for the Batoka Gorge HES are nearing completion. The geotechnical investigations have been completed, along with the draft Environmental and Social Impact Assessment Report (ESIA) and the draft Environmental and Social Management Plan. The panel of experts financed under the Kariba Dam Rehabilitation Project are providing support through the review and guidance of the reports. An additional 11 months has been requested to the current closing date, along with additional work, for the engineering and the ESIA to ensure a robust assessment of the technical elements and to allow for appropriate consultations with a full range of stakeholders.

**Resource Mobilization:** With CIWA support, the Zambezi River Authority (ZRA) and the countries are actively leading a process to mobilize resources for the Batoka Gorge HES, with the goal of developing the scheme in the shortest possible time to meet the power shortages in the Southern African Power Pool (SAPP). The Council of Ministers has endorsed a three-in-one development model involving (a) public financing for the dam, (b) a special purpose vehicle for the North Bank

Power Station, and (c) a special purpose vehicle for the South Bank Power Station. The ZRA, with the support of the transaction advisers, has participated in a series of consultations to assess the appetite for financing the Batoka Gorge investment. In March 2017, the governments of Zambia and Zimbabwe jointly hosted an investors conference, with facilitation support by the ZRA, where they presented the technical and financial structuring options for the project to potential investors from development institutions and the private sector. The AfDB has subsequently been appointed by the two governments as the Lead Financial Arranger and will work closely with the ZRA and the countries to further develop financial structuring for the planned investment. The transaction advisers under the CIWA financing will complete the Solicitation Strategy, Preliminary Debt Financing Strategy, and Preliminary Information Memorandum while the AfDB will be responsible for the solicitation and mobilization of financing for the dam on behalf of the two countries and the special purpose vehicles in Zambia and Zimbabwe. The World Bank's technical support and the AfDB's financial guidance can be leveraged to grow private sector confidence for financing of the two power stations.

**Investment Coordination:** Concomitant analytical studies supported by CIWA have leveraged additional support for improved implementation of investments in the Zambezi Basin. For example, additional grant financing from Sweden improves coordination among dam operators in the Zambezi Basin, ZAMCOM, national power utilities, and the Southern Africa Power Pool, primarily by cultivating understanding and application of the Hydropower Sustainability Assessment Protocol as a tool for sustainably developing hydropower in the Zambezi Basin. This will help ensure that the technical studies are completed in a robust manner, to ensure that the countries and potential investors have a technically sound and robust analysis on which to base future design and financing decisions. Under this parallel work supported by the World Bank, training, capacity building, and platform for dialogue are provided to operators in the region to strengthen their understanding of and ability to sustainably design and operate hydropower schemes. As part of this work, the ZRA is completing a self-assessment of the sustainability of the Batoka Gorge scheme and is planning to participate in a workshop on the self-assessment later in 2017.

This grant financing is also providing support to the development of a dam break analysis for the Zambezi River Basin. This has been contracted by the ZRA as part of the Kariba Dam Rehabilitation Project but is being implemented jointly by the dam operators along with the Zambezi Watercourse Commission. This builds on the detailed topographic LiDAR data acquired through a range of parallel activities, including a U.K. Department for International Development (DFID) contribution to the World Bank-financed National Water Resources Program in Mozambique, the IDA-financed Water Resources Development Program in Zambia, and additional surveys financed under the Zambezi River Basin Program.

A Macroeconomic Assessment of Public Investment Options (MAPIO) is also being carried out to estimate the impact of the proposed Batoka Gorge HES investment program on key macroeconomic variables in

Zambia and Zimbabwe. The MAPIO model assesses the impact of the program in two ways: (a) the increase in demand that occurs as a result of the program's implementation and (b) the additional impact on the economy's output as a result of the program's completion.

**Climate Resilience:** Innovative approaches to decision making under uncertainty will support the ZRA and the countries as they consider how to design and operate the Batoka Gorge HES as the climate changes. Resilience of the Batoka Gorge HES investment to climate change and other development-related factors is an important consideration during preparation of the bankable design. Additional study and support is needed in relation to this preparation, particularly related to the potential impacts of climate change on the flow in the Zambezi River and planned upstream abstractions. A new CIWA-supported analysis initiated this year will provide a detailed assessment of the effects of climate change on the daily expected inflow for the HES and the effects that change may have on robustness of the selected design and operational parameters. It will be necessary to set those changes in runoff in the context of other performance risks such as upstream land-use changes and water abstractions, energy price fluctuations, and development scenarios. Extreme flood and drought must also be considered as their likelihood increases as the climate changes. The analysis will complement CIWA support provided to both the ZRA and ZAMCOM as it will also investigate the role of the Barotse Wetlands in attenuating the hydrological variability in the Zambezi basin and will provide an initial examination of hydrological boundary conditions or trigger points for financial products that could be used to offset hydrological risk.

*OUTCOME AREA 2. Coordinated investment planning and inclusive stakeholder engagement ensures equitable benefit sharing and effective risk management*

**Design Coordination:** Through CIWA's support, the ZRA is facilitating coordination between engineering design and the ESIA teams to conclude the two studies in a harmonized manner. In this way, trade-offs can be considered under different design options to jointly achieve a 'shared design plan' that presents an agreed design solution balancing engineering, social, economic, and environmental aspects.

**Institutional Arrangements:** CIWA-supported Technical Assistance and Transaction Advisory Services for Batoka Gorge HES have helped the ZRA evaluate options for structuring ownership and finance of the Batoka Gorge infrastructure and plan for required resource mobilization. This builds on earlier World Bank-executed analytical work to explore a range of options for institutional evolution of the ZRA and alignment with the changing nature of institutions in the basin with the establishment of the Zambezi Watercourse Commission. In close collaboration with the ZRA and the two governments, transaction advisers facilitated the evaluation of options for the dam and two power plants based on finance-ability, risk management, cost over lifetime, innovation capacity, economies of scale, and competitive tension. Future work on financial structuring will be led by the AfDB, appointed by the two governments as the Lead Financial Arrangers.

**Environmental Stewardship:** CIWA-supported work in the Zambezi Basin is providing the foundations for future developments. This includes a US\$10 million proposal to GEF, to be administered by the World Bank and executed by Zambezi Watercourse Commission (ZAMCOM) and the World Wildlife Fund (WWF), for an environmental stewardship program. This program would complement parallel investments to bring together government, academia, and the private sector to conduct a series of analytical and capacity-building exercises that aim to assess needs in unregulated reaches of the basin and comprehensively assess environmental flows across the basin. The proposal has been endorsed by the Member States through the ZAMCOM Technical Committee, and the Secretariat is continuing to engage the GEF focal points to secure endorsement. In addition, a series of large-scale infrastructure investment preparations and basin-wide disaster risk management and emergency response mechanisms are being explored as part of the broader engagement for future phases.



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## Financial Overview

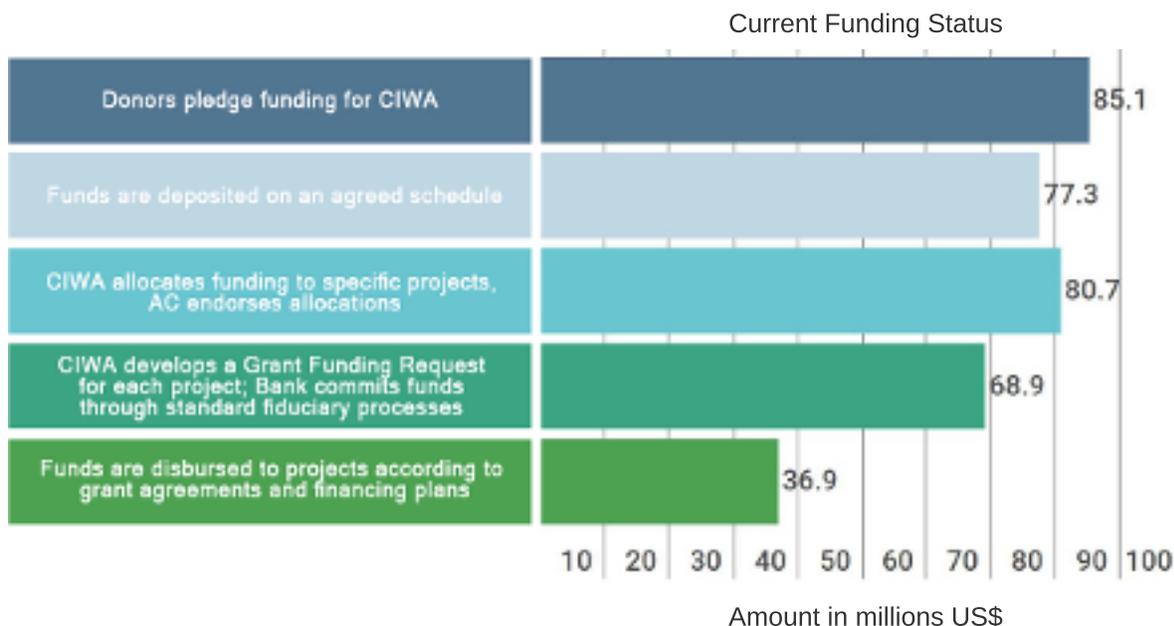
This section provides financial information on the Cooperation in International Waters in Africa (CIWA) program for FY17, from July 2016 to June 2017. Unless otherwise noted, the financial information presented in this report, including exchange rates, reflects the status as of June 30, 2017.

The CIWA program is supported by a Multi-Donor Trust Fund (MDTF) and administered by the World Bank on behalf of contributing development partners. Contributing donors to date are Denmark, the European Commission, the Netherlands, Norway, Sweden, and the United Kingdom. This specific type of MDTF is known as a 'Programmatic Multi Donor Trust Fund' to which donors commit funds designed to support a thematic framework rather than financing a specific project. Within this framework, CIWA supports projects executed by recipient organizations as well as projects directly managed by the World Bank.

Consistent with standard World Bank Trust Fund practices, donors pledge funding for CIWA (current pledges total US\$85.1 million) and funds are deposited on an agreed schedule (current deposits total US\$77.3 million). Then, in accordance with CIWA's strategic planning efforts, funding is allocated to specific programs and projects (current allocations are US\$80.7 million) around the broad themes and areas endorsed by the CIWA Advisory Committee (AC). Following allocation to specific activities, CIWA works with clients to develop Grant Funding Requests (GFRs) and related project documentation. The World Bank then follows technical, legal and fiduciary procedures to approve projects and commits funds

through its standard fiduciary processes (current commitments total US\$68.9 million). Funds are then disbursed according to the grant agreements and financing plans (disbursements thus far are US\$36.9 million). CIWA's funding process is depicted in Figure 1. Additional details on pledges, deposits, allocations, commitments, and disbursements are presented in this section.

Figure 1. CIWA's Funding Process



### Donor Pledges, Deposits, and Allocations

Table 1 shows pledges, deposits, and outstanding balances. Contributing donors to date include Denmark, European Commission, the Netherlands, Norway, Sweden, and the United Kingdom. Donors deposit funds in the CIWA MDTF account according to an agreed schedule of deposits that is detailed in the Administration Agreement or other documents exchanged between the Bank and the donors. This schedule can be revised as necessary to meet project disbursement requirements.

Table 1. Overview of Donor Pledges and Deposits

Contributing Partners	Pledges		Deposits		Outstanding Balance (US\$)
	Currency	Amount (in Donor Currency)	Amount (US\$)	Amount Received (US\$)	
<b>Denmark (DANIDA)</b>	DKK	18,700,000	3,398,597	3,398,597	0
<b>European Commission</b>	Euro	4,950,000	5,509,969	2,687,850	2,822,119
<b>The Netherlands</b>	USD		26,052,581	21,052,581	5,000,000
<b>Norway (NORAD)</b>	USD		882,746	882,746	0
<b>Sweden (SIDA)</b>	SEK	219,000,000	27,658,030	27,658,030	0
<b>United Kingdom (DFID)</b>	GBP	14,500,000	21,592,060	21,592,060	0
<b>TOTAL</b>			<b>85,093,983</b>	<b>77,271,864</b>	<b>7,822,119</b>

As of June 30, 2017, US\$80.7 million has been allocated to CIWA projects and activities. CIWA has assigned most of the available funding (98 percent) to activities under preparation or implementation. Table 2 presents an overview of the availability and allocation of funding.

Table 2. Overview of Availability and Allocation of Funding

<b>Allocation of Funding</b>	<b>US\$</b>
<b>Pledges in signed Administration Agreements</b>	<b>85,093,983</b>
Plus current investment interest income	897,011
Less administrative cost recovery fee	-2,142,346
<b>Funds available for project/activities</b>	<b>83,848,649</b>
Less contingency for currency fluctuation (unallocated, 15% of donor receivables, \$7.8M)	-1,173,318
<b>Funds available for allocation</b>	<b>82,675,331</b>
Less allocation to projects/activities	80,740,037
<b>Unallocated Funds</b>	<b>1,935,294</b>
% Allocated	98%

Note: The Basis of Commitment (BoC) of the CIWA MDTF is based on cash-plus future donor contribution receivables (that is, including amounts not yet paid in by a trust fund donor under a signed administration agreement or equivalent). Trust funds may be exposed to BoC risk if grant agreement amounts (that is, commitments) exceed the cash received from donors at the time the grant agreements are signed. The BoC risk may arise when donors provide less than agreed—or delay—funding to a trust fund, after grant commitments have already been entered into with recipients based on the expectation of future contributions from these donors. Most trust funds operate under the Bank's best practice recommendation of committing new grants only against donor contributions already received in cash. However, on an exceptional basis, some trust funds enter into grant agreements based on future donor receivables. To help avoid an over-commitment of grants against available donor funding due to currency volatility, the Bank applies an automatic discount on future donor receivables. This discount is applied on the U.S. dollar equivalent value of donor contributions in currencies other than the holding currency for a given trust fund. The regular discount percentage equals 15 percent of future donor receivables, but it can be increased by CTR in times of heightened currency volatility in the financial markets. In practice, the Bank system will only allow grant commitments of up to 85 percent of the prevailing U.S. dollar value of future donor receivables.

The majority of available funds (US\$56.5 million, or 70 percent) are allocated to CIWA's four priority basins—Nile, Niger, Volta, and Zambezi. Basin programs include recipient-executed projects and Bank-executed support programs that fund technical assistance and analytical work, which supplement the recipient-executed projects. In certain cases, CIWA has allocated funding for follow-up work on current projects, based on project and organizational performance and riparian states' commitment. In the current envelope, additional financing of US\$2.45 million is allocated for additional financing for the Zambezi River Basin Development Project implemented by the ZRA, US\$5 million is allocated to support further efforts in advancing findings of the Multi-Sector Investment Opportunity Analysis in the Okavango basin, and US\$0.5 million for Niger Basin support. Annex C describes the details of all CIWA projects and shows the financial results of projects for which grants have been established.

Table 3. Allocated, Committed, Disbursed, and Pipeline Amounts (US\$)

Basin/Sub-Program	Allocation	Commitment	Disbursement (cumulative)	Commitment Balance	Pipeline
Niger	9,450,000	8,950,000	1,249,726	7,700,274	500,000
Nile	27,900,000	27,900,000	17,200,207	10,699,793	
Volta	4,450,000	4,450,000	1,267,571	3,182,429	0
Zambezi	14,700,000	12,250,000	7,256,146	4,993,854	2,450,000
Orange-Senqu	2,175,000	2,175,000	1,535,779	639,221	0
SADC	2,300,000	2,300,000	124,097	2,175,903	0
ECOWAS	1,200,000	1,200,000	806,234	393,766	0
Lake Chad/Sahel	1,049,867	1,049,867	482,209	567,658	0
Okavango	6,000,000	1,050,000	920,432	129,568	4,950,000
Catalytic -Africa wide	5,209,531	2,515,829	2,095,108	420,721	2,693,702
Enhanced Supervision	1,200,000	0	0	0	1,200,000
PMU	5,105,639	5,105,639	2,648,404	2,457,235	0
<b>Total</b>	<b>80,740,037</b>	<b>68,946,335</b>	<b>35,585,913</b>	<b>33,360,422</b>	<b>11,793,702</b>

Note: "Allocation" refers to the endorsement of funds by the CIWA AC. "Commitment" refers to recognition by internal World Bank systems that funds have been assigned to a project or activity. Funds are therefore committed when a GFR has been approved by the World Bank trust fund management, putting in place a contractual or scheduled commitment that leads to actual expenditures in the future. "Disbursement" refers to the transfer of funds from the grant account to the client's designated account after a request for specific expenditures is cleared by the Bank. For Bank-executed grants, disbursements are payments made against a purchase order or contract. "Pipeline" activities in the basin are those for which a conditional endorsement was made or subject to approval of the World Bank trust fund management system.

### Commitment, Disbursement, and Funding Balance

By the end of FY17, the program had committed a cumulative US\$68.9 million in grants, of which US\$35.6 million (52 percent) was disbursed by projects and activities. The pace of disbursement continued to stabilize in FY17 with a slight decrease from the previous year. Table 3 provide a summary of the overall cumulative allocations, commitments, disbursements, commitment balance, and current pipeline activity amounts.

By the end of FY17, CIWA had a cumulative inflow of US\$78.2 million, including US\$77.3 million in donor payments and US\$0.9 million in investment income from the CIWA account. Cumulative disbursements were US\$36.9 million, including US\$35.6 million in projects and US\$1.3 million in administrative fees. The balance of grant commitments totaled US\$33.4 million. Table 4 presents the balance available in the CIWA account, which is approximately US\$41.3 million, or a balance of US\$7.9 million when the balance of current commitments of US\$33.4 million is taken into account.

Table 4. Fund Balance

<b>Fund Income vs Disbursement &amp; Commitment and Balance</b>	<b>US\$</b>
<b>Total Deposits</b>	<b>77,271,864</b>
Plus current investment interest income	897,011
<b>Total Income</b>	<b>78,168,875</b>
Less disbursement (CIWA projects/activities)	-35,585,914
Less administrative fee accrual of 2% of deposits	-1,306,619
<b>Balance</b>	<b>41,276,342</b>
Less commitment balance	-33,360,422
<b>Total Balance (when including commitment balance)</b>	<b>7,915,920</b>

### Financial Summary of Program Management

CIWA management costs include expenses incurred by the Program Management Unit (PMU) and the World Bank's technical experts who provide strategic advice and support. In addition to staff and consultant costs, this category encompasses costs associated with CIWA donor coordination, outreach and communications, monitoring and evaluation, mid-term review, reporting, partnership meetings, and dissemination activities including website, brochure, and publications, among others.

The CIWA Administration Agreement establishes that PMU costs should not exceed 6 percent of total donor contributions. Since the start of the program, CIWA has spent approximately 3.1 percent of the current envelope, keeping PMU expenses well within the agreed-upon range. Overall, the program has been cost efficient in its management, benefiting from the solid financial management and monitoring systems put in place at program inception.



# CIWA Moving Forward

Meeting the Sustainable Development Goals on poverty, health, energy, the environment and many others relies on managing water resources better. For the countries of Africa – the guardians of so many shared water resources – this often means working together, and as pressure on water increases, working together ever more closely. As countries look to harness untapped water potential, manage floods, droughts and declining water quality, or simply find more cost-effective ways of advancing their broader development agendas, CIWA can play a key role.

CIWA currently has a strong portfolio of projects across Africa, but need and demand from countries, river-basin organizations, regional economic communities, and other stakeholders for additional CIWA support remains high. Scaling up regional approaches to groundwater management, finding ways to enhance basin water conservation, and building the evidence base for rehabilitation of natural infrastructure for climate resilience are just some of the emerging areas CIWA has been asked to support.

CIWA has a regularly augmented and evaluated pipeline of demand-driven projects that await support, and continuing to mobilize additional resources is therefore a priority for CIWA.

If added financing is made available, CIWA will continue to support to priority basins with on-track performance. Additionally, CIWA will welcome new opportunistic engagements and opportunities to build on previous short-term engagements as well as support further knowledge generation and management to help facilitate cooperative management and development.



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# CIWA's Sustained Support in the Nile Basin:

## Where are we now?

CIWA's long-term engagement in the Nile Basin is anchored with multiple initiatives – the Nile Basin Initiative (NBI), the Nile Basin Discourse (NBD), and the World Bank Nile Basin Support Program – to support cooperative engagements between countries where agreements exist and support dialogue to create space for new agreements where agreement has not yet been reached. The CIWA grants support strengthening information systems, enhancing institutions, and improving sustainable infrastructure.

### **Significant achievements that build on past progress**

CIWA's support in the Nile Basin builds on the continuing progress made by riparian countries in advancing their cooperative agenda. With support from the NBTf between 2001-2015, the NBI focused on “establishment and confidence building,” i.e. bringing Nile countries together to build trust, capacity, and an enabling environment for investments, followed by a period of “institutional strengthening,” during which the NBI established itself as a platform for cooperative water resources management and development, while concurrently working with the countries to identify,

prepare, and support the implementation of investment projects of regional significance. Beginning 2012, through the Nile Cooperation for Results Project (NCORE), CIWA has provided US\$23 million and leveraged an additional US\$16.5 million from the NBTF. As a result, the NBI has grown into an established regional institution that provides advisory, analytical, and technical services to its member countries to advance cooperative water resources management and development. The NBI's added value results from its solid technical capabilities, a shared knowledge base and analytical tools to enable countries to understand the implications of their actions, its positioning to identify opportunities for managing risks and realizing joint benefits through on-the-ground investments, and importantly, the unique platform it provides for regional dialogue on transboundary water issues. Significantly, participating Nile countries have established the norm of jointly evaluating and approving preparation of projects of transboundary significance identified by the NBI.

**With CIWA support, the NBI has identified, prepared or facilitated regionally significant investments worth over US\$ 3.3 billion which will potentially benefit an estimated 9.9 million people. Out of these, US\$ 326 million worth of investments have begun implementation, while the NBI continues to facilitate resource mobilization to roll out its growing investment portfolio.**

Similarly, CIWA channels its support through the NBD – a basin-wide network covering over 625 local and national NGOs working on a range of issues relevant to Nile cooperation, including environmental conservation, gender equity, livelihoods, poverty reduction, and others – to promote inclusion and equity in cooperative water resources management and development, via channeling community voices in Nile Basin cooperation activities, building civil society capacity to improve understanding and participation, and providing a safe space for Nile basin dialogue and confidence building. Through the \$2.5 million Engaging Civil Society for Social and Climate Resilience in the Nile Basin Project, the NBD has mobilized partnerships with governments and regional development organizations to ensure that **social concerns shape water, power, and commodity investments of transboundary significance worth, thus far, an estimated US\$ 150 million with potential benefits to an estimated 6.5 million people.**

## **A complex transboundary context**

It should be noted that this progress in regional cooperation continues despite complicated hydro-politics outside of CIWA engagement, including issues related to disagreements over the text of the Cooperative Framework Agreement (a proposed international legal agreement that outlines principles, rights and obligations for cooperative management and development of the Nile Basin water resources) and unilateral development of multipurpose investment projects. One riparian's participation in the NBI has been frozen since 2010 because of some of these issues. These developments have intensified the need for NBI to strengthen its strategic and technical role in order to demonstrate benefits of regional cooperation, and to provide customized services to the diverse stakeholders of the institution.

## Approved in the past year – additional financing for NBI and NBD projects

Agreements among NBI member states reached under the current NCORE project have provided openings for further advancing cooperative action. Member States have identified next steps to address their water resources management and development challenges.

While the NBI has been established as a credible and capable regional organization, member states recognize that capacity gaps at the national level can limit the extent of benefits that countries harness through NBI services. An additional financing of US\$ 8.5 million to the NCORE project enables countries to work with the NBI to build capacity to mainstream regional planning and coordination services provided by the NBI Centers into their national and local planning and development processes. Strengthening regional national linkages are critical for reinforcing the sustainability of results achieved under NCORE and enabling member states to better benefit from the technical capacity of the NBI.

### *The recently approved additional financing for NCORE aims deepen development impact through the following results led by the NBI's three centers:*

	Nile-Sec	NELSAP-CU	ENTRO
	Advanced development of NBI seasonal forecasting system	Collaboration among countries to prioritize a new Nile Equatorial Lakes Investment Program (NELIP) that strengthens regional inter-sectoral coordination with national sector-wide planning	Expansion of seasonal and daily flood forecasts to governments, communities, NGOs, including potentially to South Sudan
Organizational Roles	Increased provision of real-time data and analysis, including real time hydromet and evapotranspiration	Improved capacity within NELSAP-CU and its countries for strategic communications and resource mobilization of prepared projects	Improved technical capacity in new national dam safety offices, including through strengthening the working partnership of a regional network of dam operators
	Creation of an integrated NBI-wide web portal and knowledge management system	Provision of long-term targeted technical capacity building to countries to help them assess their critical water resource challenges, and to support engagement with inter-ministerial mechanisms at the national level on these issues	Scaling up of ENTRO's young professionals program and academic partnerships to continue building a new set of leaders in the Eastern Nile, among others
	Continued provision of platforms for collaboration and dialogue	Assistance to countries in exploring a possible new regional IDA program	Evaluation of the various pilot livelihood-based integrated watershed management interventions conducted by ENTRO, to inform riparian-led scale up of select best and most viable practices, as well as training of practitioners on lessons learned

Similarly, an additional financing of US\$ 1 million to the NBD scales up the results achieved thus far with CIWA support while enabling it to strengthen its financial sustainability. The NBD will strengthen its strategic communications including multi-way communication through its revamped website, improve monitoring of engagements and facilitate increased visits to targeted communities, strengthening the service-provider role of the its National Discourse Forums (NDFs), and solidify the NBD Secretariat's role as coordinator among NDFs, with the NBI, and other relevant regional organizations and national bodies.

## **World Bank Nile Support Program as a unique platform for dialogue**

Through the Nile Basin Support Program, the World Bank continues to offer a space for dialogue and increased understanding among riparians, where it might not otherwise be possible under existing institutional structures. This includes trust and capacity building events between Nile countries, including for example, a study tour to the western United States undertaken by technical representatives from the Nile, to learn about practices in water resources management in North America.

In addition, through the Nile Basin Support Program, the World Bank can continue to bring global expertise to help the NBI and the Nile countries in areas such as pursuing Public-Private Partnerships for investment projects, in application of remote sensing for data collection, in improved environmental and social safeguards, and in other technical applications for water resources work.

## **Future directions of support in the Nile Basin**

While the current CIWA funding for the Nile Basin has been fully allocated, demand for future CIWA support still remains strong. The NBI has a robust pipeline of investments for which it is seeking additional funds for project preparation in hydropower, irrigation, navigation, watershed management, and flood preparedness. NELSAP-CU is seeking \$142 million in funding to prepare new investment projects of regional significance that have been agreed by its countries for further study. The Eastern Nile Multi Sectoral Investment Opportunity Analysis identified 10 new streams of cooperative activities for which ENTRO is seeking funds. The NBI Secretariat is seeking funds for additional hydromet and water quality monitoring stations, to improve the availability of public information on the Nile. In addition, the Secretariat is seeking funds for dialogue and information exchange on groundwater availability. These are just a few examples of the \$16 million of funding that the NBI Secretariat is seeking to implement the additional elements of the first five years of its new strategic plan for 2017 onwards.

In addition, the World Bank has requests from governments to provide capacity building for countries on water diplomacy, on dam safety, on use of remote sensing data and advanced analytics to inform water systems management, in mobilizing public and private investment funds, and in a wide-array of other strategic areas. Should new CIWA support become available, the World Bank would welcome the opportunity to work with the Nile riparians to prioritize the opportunities for engagement.



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# Enabling Public-Private Partnerships in the Nile Equatorial Lakes Region

Over the past years, the Nile Equatorial Lakes Subsidiary Action Program Coordination Unit (NELSAP-CU), as a regional investment office of the Nile Basin Initiative, has led its active member countries through modeling and analysis of regionally relevant, potential water resource investment projects. Through these joint modeling and planning exercises, work supported in part by CIWA, NELSAP-CU has helped its active member countries forge agreement on a pipeline of regionally significant investment projects. The NELSAP countries (Burundi, Democratic Republic of Congo, Egypt, Ethiopia, Kenya, Rwanda, Sudan, Tanzania, and Uganda) now face challenges in mobilizing resources for project preparation, finding ways to prepare or implement the projects given capacity constraints, and dealing with fiscal constraints in pursuing their planned investments.

To help with these challenges, CIWA and the Public-Private Infrastructure Advisory Facility (PPIAF), in cooperation with the Nile Equatorial Lakes Subsidiary Action Program (NELSAP) coordination unit, led the NELSAP countries through a Public Private Partnership (PPP) screening process to build capacity of the countries in pursuing PPP approaches. Participants in the process learned a methodology to determine which projects would

likely gain from employing a PPP approach, what would need to be improved in some projects to increase the likelihood that they could be structured as PPPs, and which projects are more suitable for traditional public-sector approaches.

The program sought to build capacity of the countries in understanding the potential benefits of a PPP approach and when PPPs are most beneficial. For instance, PPPs can be explored as a way to introduce private sector technology and innovation that can provide better public services through improved operational efficiency, incentivize the private sector to deliver projects on time and within budget, allow for budgetary certainty, facilitate certain risk transfers to the private partner, and supplement limited public-sector capacities to meet growing demand for infrastructure and services.

Through a series of workshops, the country participants learned about a methodology to screen their investment pipelines for potential PPP candidates and then followed the screening process as it was implemented. The project screening process did not seek to prioritize projects by their deemed importance, but rather to highlight those that are the most suitable for PPP implementation. The screening process grouped the projects into categories depending on their likelihood for success using a PPP approach:

- Short-term projects – Good candidates for PPP or “first-movers”
- Medium-term projects – Possible candidates where some technical or institutional elements would need to be changed for the project to be a likely PPP candidate;
- Long-term projects – Projects where not enough relevant information is available to determine the suitability of a PPP approach. The opportunity for PPP structuring should be reassessed as additional information is made available.
- Unlikely candidate for PPP – An alternative to PPP structuring should be considered for projects that fall within this category.

Through the support to NELSAP-CU, the screening tool was applied to a portfolio of 15 infrastructure projects in various sectors across eight countries, and it identified two first-mover projects that could be developed as PPPs in the near term. NELSAP-CU then led a meeting with technical leadership from three of its member countries – Rwanda, Tanzania, and Uganda – to explore their interest in pursuing the first project. The countries requested that NELSAP-CU form a joint committee of the countries to speed next steps in project implementation, including the updating of feasibility studies, and asked NELSAP-CU to commission more analysis to help them determine the most cost efficient and appropriate project structure to achieve an affordable end-user tariff. NELSAP-CU is now looking for funding to undertake this work. In addition to the success of identifying projects in the Nile Equatorial Lakes context, the tool can be used to evaluate projects for suitability as PPP in a variety of settings in a development context in the future.



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## Web Features

### Supporting Groundwater Management and Development at the Regional Level

Like rivers and lakes, underground aquifers cross national borders, making it important to look at them from a regional perspective. This is especially true in Africa's dryland regions—the Sahel, the Horn of Africa, and Southern Africa—where water security above ground relies on aquifers, or groundwater.

And, like water, people are not bound by national borders. Faced with water insecurity, they will move to places with water regardless of where these places are. People forced to leave home by drought or violence put pressure on water services and reserves in their host communities or camps. [Read full web brief.](#)

### Transboundary Cooperation for Climate Resilience

Climate change will alter hydrological regimes in different ways across Africa. Economies, livelihoods, and ecosystems are all highly water-dependent. Building up their resilience to climate change takes effective water management systems composed of strong information systems, institutions, and infrastructure, at all levels—local, national, and regional. And, when it comes to transboundary waters, resilience entails a cooperative approach. Fewer options are available if they are limited to the actions of individual countries, which run the risk of being counter-productive on a regional scale. [Read full web brief.](#)

# Annex A

## CIWA Results Framework and Monitoring<sup>1</sup> (Updated October 2017)

### IMPACT: Strengthen sustainable climate-resilient growth in Sub-Saharan Africa

Indicator	Target FY13	Target FY14	Target FY15	Target FY16	Target FY17	Target FY18	Target FY19	Target 2020
<b>Program Development Objective: To strengthen cooperative management and development of international waters in Sub-Saharan Africa to aid sustainable climate resilient growth.</b>								
<b>i) US\$ investment finance for cooperative management and development of international water resources projects influenced by CIWA<sup>1</sup></b>	\$4 billion (value of potential projects influenced by CIWA)	\$6 billion (value of potential projects influenced by CIWA)	\$8 billion (value of potential projects influenced by CIWA)	\$8 billion (value of potential projects influenced by CIWA)	\$9 billion (value of potential projects influenced by CIWA)	\$9 billion (value of potential projects influenced by CIWA)	\$10 billion (value of potential projects influenced by CIWA)	US\$10 billion investment finance cooperative management and development of international water projects influenced CIWA
	FY13 Achievement: \$4.02 billion potential investment influenced	FY14 Achievement: \$7.8 billion potential investment influenced	FY15 Achievement: \$7.6 billion potential investment influenced	FY16 Achievement: \$5.6 billion potential investment influenced	FY17 Achievement: \$7.9 billion potential investment influenced			
<b>Baseline: \$0 billion (value of projects influenced by CIWA)</b>			\$1.3 billion mobilized investments influenced	\$4.3 billion mobilized investments influenced	\$5.0 billion mobilized investments influenced			
<b>ii) Number of people who will directly benefiting from improved water resources management and development in target basins through projects supported by CIWA</b>	6 million (potential direct beneficiaries of projects influenced by CIWA)	8 million (potential direct beneficiaries of projects influenced by CIWA)	10 million (potential direct beneficiaries of projects influenced by CIWA)	15 million (potential direct beneficiaries of projects influenced by CIWA)	20 million (potential direct beneficiaries of projects influenced by CIWA)	30 million (potential direct beneficiaries of projects influenced by CIWA)	40 million (potential direct beneficiaries of projects influenced by CIWA)	50 million people who directly benefit from improved water resources management and development projects influenced by CIWA
	FY13 Achievement: 13.2 million potential direct beneficiaries	FY14 Achievement: 46 million potential direct beneficiaries	FY15 Achievement: 43 million potential direct beneficiaries	FY16 Achievement: 37 million potential direct beneficiaries	FY17 Achievement: 41.2 million potential direct beneficiaries			
<b>Baseline: 0 people directly benefiting</b>			5.6 million direct beneficiaries of mobilized investments influenced	10.8 million direct beneficiaries of mobilized investments influenced	11.5 million direct beneficiaries of mobilized investments influenced			

<sup>1</sup>For additional information regarding CIWA's Results Framework, indicators, targets, data sources and terminology used, please see the document titled "CIWA's Results Framework and Monitoring" on the CIWA website.

**IMPACT: Strengthen sustainable climate-resilient growth in Sub-Saharan Africa**

Indicator	Target FY13	Target FY14	Target FY15	Target FY16	Target FY17	Target FY18	Target FY19	Target 2020
<b>Intermediate Result 1. Regional cooperation and integration strengthened</b>								
<b>i) Number of relevant transboundary institutions strengthened to improve regional cooperation</b>	3 basin institutions with projects in operation that contribute to strengthening regional cooperation and integration	5 relevant institutions with projects or activities in operation  FY14 Achievement: 5 relevant institutions with projects in operation	6 relevant institutions with projects or activities in operation  FY15 Achievement: 7 relevant institutions with projects in operation	6 relevant institutions with projects or activities in operation  FY16 Achievement: 8 relevant institutions with projects in operation	8 relevant institutions with projects or activities in operation  FY17 Achievement: 8 relevant institutions with projects in operation	8 relevant institutions with projects or activities in operation	8 relevant institutions with projects or activities in operation	8 transboundary institutions in at least 5 basins have strengthened regional cooperation and integration
<b>Baseline: 0 Institutions strengthened</b>	<b>FY13 Achievement: 3</b> basin institutions have contributing projects in operation							
<b>ii) Number of strategic analyses and knowledge products used to illustrate the evidence base for cooperation, needs, and challenges</b>		3 strategic analyses conducted  FY14 target partially met: Many strategic analyses are underway, one is complete.	4 strategic analyses conducted  FY15 target partially met: Many strategic analyses are underway, two are complete.	5 strategic analyses conducted  FY16 Achievement: 16 strategic analyses conducted	18 strategic analyses conducted  FY17 Achievement: 23 strategic analyses conducted	20 strategic analyses conducted and used	20 strategic analyses conducted and used	20* strategic analyses used to illustrate the evidence base for cooperation
<b>Baseline: 0 strategic analyses conducted by CIWA</b>								
<b>Intermediate Result 2. Water resources management strengthened</b>								
<b>i) Number of relevant transboundary institutions using improved analytical tools, knowledge products, data, forecasting, and/or capacity for improved water and climate risk management or investment operation coordination</b>	3 basin institutions with projects in operation that contribute to strengthening water resources management	4 relevant institutions with projects in operation that improve water and climate risk management and/or investment operation coordination	5 relevant institutions with projects in operation that improve water and climate risk management and/or investment operation coordination	5 relevant institutions with projects in operation that improve water and climate risk management and/or investment operation coordination	7 relevant institutions with projects in operation that improve water and climate risk management and/or investment operation coordination	7 relevant institutions with projects in operation that improve water and climate risk management and/or investment operation coordination	7 relevant institutions with projects in operation that improve water and climate risk management and/or investment operation coordination	7* institutions in at least 4 basins using improved analytical tools, knowledge products, data, forecasting, and/or capacity for improved water and climate risk management or investment operation coordination
<b>Baseline: 0 institutions using tools, data and capacity improved with CIWA support</b>	<b>FY13 Achievement: 3</b> basin institutions have contributing projects in operation	<b>FY14 Achievement: 5</b> relevant institutions have projects in operation that contribute to strengthening water resources management	<b>FY15 Achievement: 5</b> relevant institutions have projects in operation that contribute to strengthening water resources management	<b>FY16 Achievement: 7</b> relevant institutions have projects in operation that contribute to strengthening water resources management	<b>FY17 Achievement: 8</b> relevant institutions have projects in operation that contribute to strengthening water resources management			

**IMPACT: Strengthen sustainable climate-resilient growth in Sub-Saharan Africa**

Indicator	Target FY13	Target FY14	Target FY15	Target FY16	Target FY17	Target FY18	Target FY19	Target 2020
<b>Intermediate Result 3. Water resources development strengthened</b>								
<p><b>l) Number of investment opportunities with regional benefits that have been advanced through CIWA support</b></p> <p>Baseline: 0 investment opportunities with regional benefits advanced by CIWA</p>	<p>2 basin institutions with projects in operation</p> <p>FY13 Achievement: 2 basin institutions have contributing projects in operation</p>	<p>2 investment opportunities with regional benefits influenced by projects in operation</p> <p>FY14 Achievement: Multiple investment projects are being advanced by projects in operation.</p>	<p>4 investment opportunities with regional benefits influenced by projects in operation</p> <p>FY15 Achievement: 22 investment projects are being advanced by projects in operation.</p>	<p>6 investment opportunities with regional benefits influenced by projects in operation.</p> <p>FY16 Achievement: 31 investment projects are being advanced by projects in operation.</p>	<p>31 investment opportunities with regional benefits influenced by projects in operation.</p> <p>FY17 Achievement: 32 investment projects are being advanced by projects in operation.</p>	<p>35 investment opportunities with regional benefits influenced by projects in operation.</p>	<p>35 investment opportunities with regional benefits influenced by projects in operation.</p>	<p>35* investment opportunities with regional benefits that have been advanced through CIWA support</p>
<p><b>l) Number of relevant transboundary institutions with an improved approach to sustainable investment planning and bankable investment preparation?</b></p> <p>Baseline: 0 basins supported by CIWA</p>		<p>2 institutions with projects in operation that improve the approach to sustainable investment planning and bankable investment preparation</p> <p>FY14 Achievement: 2 institutions have relevant projects in operation</p>	<p>3 institutions with projects in operation that improve the approach to sustainable investment planning and bankable investment preparation</p> <p>FY15 Achievement: 3 institutions have relevant projects in operation</p>	<p>4 institutions with projects in operation that improve the approach to sustainable investment planning and bankable investment preparation</p> <p>FY16 Achievement: 5 institutions have relevant projects in operation</p>	<p>5 institutions with projects in operation that improve the approach to sustainable investment planning and bankable investment preparation</p> <p>FY17 Achievement: 5 national governments have relevant projects in operation</p>	<p>5 institutions with projects in operation that improve the approach to sustainable investment planning and bankable investment preparation</p>	<p>5 institutions with projects in operation that improve the approach to sustainable investment planning and bankable investment preparation</p>	<p>5 relevant transboundary institutions with an improved approach to sustainable investment planning and bankable investment preparation</p>
<b>Intermediate Result 4. Stakeholder engagement and coordination strengthened</b>								
<p><b>l) Number of basins with improved engagement with civil society, private sector and academia; percentage of basins with improved engagement of organizations representing the interests of women and/or the poor</b></p> <p>Baseline: 0 basins with improved engagement</p>	<p>3 basin institutions with projects in operation that contribute to strengthening stakeholder engagement and coordination</p> <p>FY13 Achievement: 3 basin institutions have contributing projects in operation</p>	<p>3 basins with projects or activities in operation; 30 percent of which include organizations representing interests of women and/or the poor</p> <p>FY14 Achievement: 4 basin institutions have projects in operation that contribute to strengthening stakeholder engagement; only 25% of which have an explicit linkage with organizations representing the interests of women with projects or activities in operation</p>	<p>4 basins organizations representing interests of women and/or the poor</p> <p>FY15 Achievement: 5 basin institutions have projects in operation that contribute to strengthening stakeholder engagement; only 20% of which have an explicit linkage with organizations representing the interests of women</p>	<p>5 basins with projects or activities in operation; 50 percent of which include organizations representing interests of women and/or the poor</p> <p>FY16 Achievement: 5 basin institutions have projects in operation that contribute to strengthening stakeholder engagement; only 20% of which have an explicit linkage with organizations representing the interests of women</p>	<p>5 basins with projects or activities in operation; 50 percent of which include organizations representing interests of women and/or the poor</p> <p>FY17 Achievement: 7 basin institutions have projects in operation that contribute to strengthening stakeholder engagement; 50% explicitly supports incorporation of gender issues into design and implementation of the activity</p>	<p>5 basins with projects or activities in operation; 50 percent of which include organizations representing interests of women and/or the poor</p>	<p>5 basins with projects or activities in operation; 50 percent of which include organizations representing interests of women and/or the poor</p>	<p>5 basins with improved engagement with civil society, private sector and academia; 60 percent with improved engagement of women and/or the poor</p>



# Annex B

## Description of Investments Influenced

### Potential Investments

#### Fomi Dam

The proposed Fomi Dam in Guinea is one of three priority regional infrastructure investments identified by the Niger Basin riparian countries in their 2007 Shared Vision and Sustainable Development Action Plan (SDAP). In the scope of its engagement with the Nile Basin Authority (NBA) to improve water resources management and development in the Niger River Basin, Cooperation in International Waters in Africa (CIWA) is facilitating informed regional dialogue and decision making in the preparation of the potential project. Based on a 1999 feasibility study and a 2010 Environmental and Social Impact Assessment (ESIA), the proposed investment is worth approximately US\$1 billion and would potentially benefit 30.8 million people: 4.6 million through electricity generation, 25 million through increased food production from irrigated agriculture, 800,000 million through enhanced fisheries, and 500,000 through jobs created. In addition to studies supported by CIWA, it is anticipated that future studies on improve driver navigability, reduced impacts of climate variability, and increased local development could impact an even greater number of beneficiaries.

#### Lesotho Highlands – Botswana Water Transfer

In FY15, CIWA signed an agreement with the Government of Botswana (on behalf of the governments of Lesotho and South Africa) to fund an analytical study which will explore the costs and benefits of the transfer of water from the highlands of Lesotho to southern parts of Botswana and northern South Africa. CIWA's support incentivizes cooperation among the riparian states around this potential US\$800 million investment. The projected number of potential beneficiaries in Botswana, Lesotho, and South Africa is 2 million: 600,000 people in Botswana and 400,000 in South Africa would benefit through the provision of water and 1 million in Lesotho through additional revenues. Both the estimated cost and number of potential beneficiaries is based on current demographic information and previous water-transfer infrastructure investments; they will be refined upon conclusion of the study and mobilization of the investment.

#### Luapula Sub-Basin Investments

Zambia and the Democratic Republic of Congo will jointly expedite the development of hydropower on five common sites of the Luapula River: a proposed investment worth about US\$1.9 billion.<sup>1</sup> An intergovernmental Memorandum of Understanding between the two Governments was signed on July 9, 2015, in Kinshasa, and an inter-utility Memorandum of Understanding was also signed between SNEL-SA, the Democratic Republic of Congo electricity company, and ZESCO LTD, its Zambian counterpart. However, the transboundary dimensions of this collaboration need to be determined.

The two countries are in discussions to establish the Luapula River Authority (LRA) to manage shared water resources between the two countries. This process must be informed by legal and institutional frameworks before the actual development of the Luapula Hydropower Project sites. The outcome of this CIWA grant will help lay this legal and institutional foundation and, consequently, advance the investment opportunities for the development of the hydropower stations by developing a comprehensive river basin framework based on cooperative management and development. In doing so, increases in benefits provided to the basin population, due to cooperative management and the sharing of the benefits of water use, can be realized. In addition, the quality of investments will be improved through an emphasis on the sharing of benefits from water use (rather than the sharing of water itself), thereby directly benefitting an increased number of people in the basin.

### Nile Basin Investments

CIWA supports the Nile Basin Initiative (NBI) through various projects that facilitate cooperative activities; improve integrated water resources planning and management; and identify and prepare potential investments of regional significance. CIWA's Nile Cooperation for Results (NCORE) Project supports the NBI in the preparation of multi-sectoral, upstream, and cooperative regional investments, estimated to cost a total of US\$3 billion. CIWA helps advance regional investments by creating feasibility and design studies; packaging investment information for international agreement; and strengthening stakeholder participation. The NBI regional investment portfolio in the Nile Basin is projected to benefit over 4.2 million people through improved watershed management, irrigation, electricity production, and water supply. As preparation studies advance, these figures will be updated to more accurately reflect planned investments and beneficiaries in the Nile Basin.

### **Mobilized Investments**

#### Batoka Gorge HES

As part of its support for the Zambezi River Basin, CIWA was a key player in facilitating resolution of the decades-long impasse between Zambia and Zimbabwe on the Batoka Gorge HES. CIWA conducted an analysis of the financial implications of the stalled development of this long-identified major infrastructure project, and then facilitated negotiations between Zimbabwe and Zambia to review the implications of the analysis and encourage the resumption of project preparation. The grant allows the Zambezi River Authority (ZRA) to commission new engineering studies and an ESIA for the

proposed Batoka Gorge HES and other support that will help the ZRA prepare a bankable investment. The studies are revealing that the capital costs of the investment are projected to be US\$2.6 billion and the total investment is estimated at US\$4.6 billion. The projected number of potential beneficiaries of the planned energy production of the Batoka Gorge HES is 6 million.<sup>2</sup>

#### Kandadji Dam

The Kandadji Dam is one of the three priority regional infrastructure investments identified by the Niger Basin riparian countries in their 2007 Shared Vision and the SDAP. The dam is of critical importance for the Niger River Basin as a key element of basin-wide response to extreme weather and hydrological variability, which threaten the agriculture-dominated economies of the basin's nine riparian countries. When completed, it is expected that the Kandadji Project will benefit approximately 1 million people through improved electricity services from 130 MW of installed hydropower capacity, and the development of 45,000 hectares of irrigated land.<sup>3</sup> Furthermore, the infrastructure development of the basin is projected to have a transformational impact on the local economy through job creation.

CIWA influences this investment by supporting analytical studies related to the dam's implementation:

- An assessment of the first phase of resettlement related to the Kandadji Project was completed with an eye toward learning from good practice in the basin, region, and from examples around the world. This study informs the second phase of resettlement for the Kandadji Project and key lessons will be shared with other stakeholders in the basin and region as they expand development of large-scale infrastructure.

#### Kariba Dam<sup>4</sup>

Operated by the ZRA, the Kariba Dam provides more than 50 percent of Zambia's and Zimbabwe's electricity. Studies supported by CIWA provided a platform for riparian states and financiers to reopen promising discussions on the crucial rehabilitation of the Kariba Dam, which has been in operation since 1960. These discussions led to the initiation of a project to assist in improving the safety and reliability of the Kariba Dam through an investment of US\$294 million. In addition to the World Bank Group, which contributed a US\$75 million loan to Zambia, donors to the project include the ZRA (US\$19 million), the Africa Development Bank (US\$75 million), the EU (US\$100 million), and the Government of Sweden (US\$20 million). An estimated 3 million people will benefit from reduced risk of dam break and avoided disaster and an estimated US\$8 billion in assets at risk.

#### Lake Tanganyika

The governments of the Democratic Republic of Congo and Tanzania jointly approached the CIWA program for support in restoring port access in Lake Tanganyika. Study sponsored by COMESA in 2013 showed that re-building the Lukuga Barrage, an estimated US\$65 million investment, would improve port

access. In response to the request from the countries, the CIWA program has supported an options analysis that helped the countries better understand that the constraints on lake water levels were primarily associated with drivers of increased sedimentation. The support identified solutions to overcome navigation challenges and has been used to initiate a US\$200million World Bank project (Lake Tanganyika Transport Program) that aims to facilitate the sustainable movement of goods and people to and across Lake Tanganyika while strengthening the institutional framework for navigation and maritime safety. A parallel environmental management project is also anticipated in response to the findings of the CIWA supported study; however, pipeline details are forthcoming.

while strengthening the institutional framework for navigation and maritime safety. A parallel environmental management project is also anticipated in response to the findings of the CIWA supported study; however, pipeline details are forthcoming.

<sup>1</sup>From Harza Engineering Company International L.P. 2001. Feasibility Study of the Development of Hydroelectric Power in the Luapula and Northern Areas of Zambia. Volume 1: Executive Summary.

<sup>2</sup>This number is the "people-equivalent" figure derived from the mean energy production (estimated at 8,739 GWh/yr by the 1993 feasibility study) and average household consumption in Zambia (estimated 1.2 million households, assuming five people per household) of 7,200 KWh/yr.

<sup>3</sup>World Bank. 2012. *Niger - First Part of the Second Phase of the Niger Basin Water Resources Development Program Project*. Washington, DC: World Bank.

<sup>4</sup>For more information, see "Kariba Dam Rehabilitation Project," accessed August 20, 2015, [http://www.worldbank.org/projects/P146515?lang=en;beneficiaries figures updated based on latest project documentation](http://www.worldbank.org/projects/P146515?lang=en;beneficiaries%20figures%20updated%20based%20on%20latest%20project%20documentation).

# Annex C

## Financial Details of Projects Funded by CIWA

Basin/Sub-program	Executed by	Fund Name	TF#	Project #	Grant Amount	Total Disbursement
NIGER	NBA	Niger River Basin Management Project	TF018539	P149714	7,500,000	0
	NBA	Niger CRIP Support	tbd	tbd	500,000	
	WB	Niger Basin Support Program	TF018616	P148889	1,000,000	915,933
	WB	Enhanced Supervision (NBA)	TF016609	P149714	450,000	333,793
<b>Niger Total</b>					<b>9,450,000</b>	<b>1,249,726</b>
NILE	NBI (incl NGL, EN)	Nile Cooperation for Results (NCORE) + AF 1 and 2	TF013767	P130694	23,000,000	14,447,046
	NBD	Engaging Civil Society for Social and Climate Resilience in the Nile Basin (NBD) + AF 1	TF015834	P132448	2,500,000	1,735,944
	WB	Nile Basin Support Program	TF0A2051	P156765	1,500,000	457,481
	WB	Enhanced Supervision (NBD)	TF014064	P132448	400,000	234,360
	WB	Enhanced Supervision (NCORE)	TF0A0526	P130694	500,000	325,377
<b>Nile Total</b>					<b>27,900,000</b>	<b>17,200,207</b>
VOLTA	VBA	Volta River Basin Strategic Action Program Implementation Project	TF016611	P147202/- P149969	3,500,000	422,528
	WB	Volta Basin Support Program	TF015556	P132564	500,000	496,880
		Enhanced Supervision (Volta)	TF015557	P147202/P 149969	450,000	348,163
<b>Volta Total</b>					<b>4,450,000</b>	<b>1,267,571</b>
ZAMBEZI	ZAMCOM	Zambezi River Basin Management Project(ZAMCOM)	TF018921	P143546	4,000,000	1,019,895
	ZRA	Zambezi River Basin Development Project (ZRA)	TF016238	P133380	6,000,000	4,507,846
	ZRA	AF - Zambezi River Basin Development Project (ZRA)	tbd	P143546	2,450,000	0
	WB	Zambezi Basin Support Program	TF011577	P129883	1,100,000	929,809
	WB	Enhanced Supervision (ZAMCOM)	TF014926	P143546	550,000	408,430
	WB	Enhanced Supervision (ZRA)	TF014927	P133380	600,000	390,165
<b>Zambezi Total</b>					<b>14,700,000</b>	<b>7,256,146</b>

OKAVANGO	OKACOM	Okavango Resilience Livelihood Enhancement Project	tbd	tbd	4,000,000	0
	WB	Okavango Basin Support Program	tbd	tbd	500,000	0
	WB	Enhanced Supervision (OKACOM)	tbd	tbd	450,000	0
	<b>Okavango Total</b>				<b>4,950,000</b>	<b>0</b>
ORANGE-SENQU	Botswana	Lesotho Highlands - Botswana Water Transfer	TF016233	P144228	2,000,000	1,369,376
	WB	Enhanced Supervision (LH-B)	TF016038	P144228	175,000	166,402
	<b>Orange-Senqu Total</b>				<b>2,175,000</b>	<b>1,535,779</b>
SADC	SADC	Sustainable Groundwater Management in SADC Member States	TF016748	P127086	2,000,000	0
	WB	Enhanced preparation (SADC)	TF015336	P127086	300,000	124,097
	<b>SADC Total</b>				<b>2,300,000</b>	<b>124,097</b>
CATALYTIC PROGRAM	Opportunistic Engagement by WB	P2.1: Okavango Multi-Sector Investment Opportunities Analysis	TF0A0105	P150383	1,050,000	920,432
		P2.2: WRM in West Africa (ECOWAS)	TF016610	P150210	1,200,000	806,234
		P2.3: Lake Chad Policy Dialogue	TF0A1005 TF17506/ TF015878/	P144568/ P149275/ P124018/	1,049,867	482,209
		P2.4: Lake Tanganyika Navigation Analysis	tbd	P161717	200,000	
		P2.5: Luapula Water Management Scoping	tbd	P162810	300,000	
		P2.5: Groundwater Information and Investments in the Horn of Africa	tbd	P163554	1,000,000	
		Africa Wide by WB	P1: Strategic Overview of International Waters in Africa	TF011569	P129776	280,358
	P1: Economic Rational for Cooperation		TF011626	P129777	315,659	315,659
	P1: Political Economy Analysis		TF016621	P150041	517,035	517,034
	P3: Facilitating Africa Wide Hydromet Services		TF0A0106	P151921	97,136	97,136
	P3: Cooperation for Climate Resilience		TF0A1627	P156599	200,000	155,943
	P4: Capacity Building and Knowledge Exchange		TF0A0107	P149931	300,000	245,299
	P4: Improving Public Access to Basin Data		TF016747	P149868	295,077	295,077
	Pipelines (tbd)		tbd	tbd	1,193,702	0
	Peer Review / Management		TF019125	PA149048	510,564	188,604
	<b>Catalytic Total</b>				<b>8,509,398</b>	<b>4,303,965</b>
<b>Sub-total (projects)</b>				<b>74,434,398</b>	<b>32,937,510</b>	
<b>Enhanced Supervision</b>	WB	Pipelines for enhanced preparation and supervision of RE projects	tbd	tbd	1,200,000	
PMU	WB	Program Management and Administration	TF011372/1 1377	P122345	5,105,639	2,648,404
<b>TOTAL</b>				<b>80,740,037</b>	<b>35,585,914</b>	

# Annex D

## Value for Money in CIWA Program Design and Implementation

### Summary Value for Money Statement

The CIWA program design and delivery prominently incorporates Value for Money (VfM) principles.<sup>1</sup> Guided by its cost saving measures in program management and administration as well as project preparation and supervision, CIWA operates within its economy targets. CIWA has not only successfully kept costs down, it has maintained a high quality in its interventions and met the program level objective targets and has exceeded the majority of its intermediate results targets, thereby achieving a good return on the financial support provided by development partners.

CIWA's positioning within the World Bank has been crucial to achieving economy and to leveraging technical and financial support in a way that has a multiplier effect on efficiency and effectiveness. This has been accomplished in the following ways:

- By tapping into the World Bank's experience and expertise in managing trust funds, thereby streamlining administration costs
- By leveraging strong global technical expertise of Bank staff across a wide range of relevant sectors such as water, agriculture, energy, environment, governance, and poverty, as well as cross-cutting development challenges including climate change, fragility and conflict, gender, and public-private partnerships
- By drawing on the Bank's longstanding experience in international water cooperation through other programs such as the NBTf, SAWI, WPP, among others
- By tapping into the Bank's deep partnerships with global collaborators to leverage regional experience and networks
- By leveraging additional sources of financing, such as from the GEF, for CIWA-supported projects
- By leveraging multiple sources of follow-up financing such as IDA, AfDB, and other investors for projects where CIWA supports bankable project preparation

### What measures can be used to assess Value for Money for CIWA?

The following measures can be used to assess CIWA's economy, efficiency, and effectiveness, which together characterize the program's VfM:

## Economy

**Standard Bank Administrative Fee.** Set at 2% of received contributions,<sup>2</sup> this fee covers a range of general services provided by the World Bank's Central Units – treasury, accounting, disbursements, preparation of un-audited financial statements, annual audits, supervision of external audits, donor relations including negotiating framework agreements, and so forth.<sup>3</sup> By covering these essential services with one standard fee, CIWA limits transaction costs and ensures that an enabling environment is provided for the managing and disbursing units to properly perform their responsibilities for the program.

**Program Management and Administration.** Capped at 6% of contributions to the fund, this fee covers all management and administration responsibilities of the PMU including development and implementation of program-specific management tools, procedures, and systems; negotiating the replenishment and expansion of existing programs; soliciting and evaluating activity proposals and allocating programmatic funds to implementing units; work program planning; program level resource planning; budget planning and management; program monitoring and evaluation; program communications and outreach; donor visibility, donor coordination, and donor meetings; and results reporting for the program.

**Enhanced Preparation and Supervision.** To ensure high quality program delivery, World Bank policies require ensuring that implementation of trust fund activities complies with applicable Bank policies and procedures<sup>4</sup> and that all recipient-executed activities are adequately supervised and implemented in line with the terms and conditions of the Administration and Grant Agreements as well with Bank supervision standards and procedures. Estimated at 6% of contributions to the fund, this fee covers the cost of identifying and scoping possible projects, supporting preparation and undertaking supervision. As specified in the Administration Agreement, the Bank will seek the CIWA Advisory Committee's prior approval in case enhanced supervision costs of CIWA activities increase beyond the amount noted in the administration agreement, and these costs increase as a result beyond 6%.

CIWA has established certain norms to maintain Enhanced Supervision costs under 6% of contributions to the fund – one-time identification and preparation cost of US\$150,000 per project; and implementation supervision cost of US\$100,000 per year for three years over the duration of a project. The CIWA norm for enhanced supervision costs are lower than standard IDA operation costs. World Bank Africa Region data shows that the average cost to prepare an investment project is around US\$350,000 and the annual cost for supervision of a project around US\$150,000. Costs for preparation and supervision of regional projects under IDA are normally expected to be higher due to additional complexity. CIWA achieves lower costs by basing budgets for projects on a careful assessment of estimated costs as well as through effective procurement processes, cost-sharing and greater travel efficiencies, using video connection for meetings where possible, convening different CIWA meetings back-to-back where feasible and linking to other water sector-related meetings to take advantage of synergies.

**Leverage Ratio.** CIWA improves its economy by leveraging additional sources

of funding where available and appropriate to projects, thereby reducing its unit cost of inputs in relation to the overall sum of outputs it mobilizes. CIWA uses the following metric as an indicator of increased economy due to leveraging of funds from additional sources:

$$\text{Leverage ratio} = \frac{\sum \text{Funds leveraged from additional sources for CIWA projects}}{\sum \text{CIWA contributions to cofinanced projects}}$$

In terms of leveraging additional funds to improve the economy of CIWA-supported projects (by expanding overall output and thus reducing per unit cost of CIWA inputs), CIWA co-financed the NCORE project in partnership with the NBTF, and two projects – SADC Groundwater Management and Volta River Basin Strategic Action Programme Implementation – in partnership with the GEF.

Following is CIWA's leverage ratio at close of FY16, which illustrates CIWA's economy in relation to CIWA contributions.

Project	CIWA Contribution (million US\$)	Co-financier	Partner Contribution (million US\$)
Nile Cooperation for Results Project	23.5	NBTF	16.5
Southern Africa Development Community	2.0	GEF	8.2
Volta River Basin Institutional Development and Strategic Action Programme Implementation Project	3.5	GEF	7.2
<i>CIWA Contribution</i>	<i>29.0</i>	<i>Leveraged funds</i>	<i>31.9</i>

**Leverage ratio = 1.1 , i.e., on average, for every dollar that CIWA contributed to co-financed projects, CIWA was able to leverage additional funding sources to provide input of 1.1 dollars to its projects.**

## Efficiency

**Intermediate Results Areas Indicators.** CIWA focuses its project-level work in four intermediate results areas. Progress in these areas is measured using their corresponding indicators, as listed in the CIWA Results Framework in Appendix A. CIWA uses these indicators to measure its efficiency, i.e. its ability to achieve intended outputs towards its development objective. These indicators reflect the short and medium-term benefits generated by CIWA support. In FY17, CIWA fully met its targets its indicators in the four intermediate results areas. More detail on results reporting can be found in Section 2 of this report.

The indicators found in CIWA's Results Framework, however, do not fully capture secondary and tertiary benefits of CIWA support. A transboundary institution strengthened by CIWA, for example, is able to facilitate a series of subsequent regional cooperation actions. A vast number of people receive

various levels of benefits as a result of each cooperative action facilitated by the strengthened transboundary institution. These outputs are counted and reported on at the basin and project level but are too broad and distinct to aggregate at the program level, given the nature of issues supported and the time frame it takes for such benefits to manifest. In the long run therefore, CIWA's actual efficiency is greater than that quantified through the indicators in its Results Framework.

## Effectiveness

**PDO-level Indicators.** CIWA measures its effectiveness, i.e. its ability to achieve its intended program development outcomes, through its two PDO-level indicators listed in the CIWA Results Framework in Appendix A further reporting on results is included in Section 2 of this report. These indicators reflect the long-term benefits generated through CIWA support.

CIWA fully met its effectiveness targets in FY17. In FY17, the total investment value influenced by CIWA (mobilized and potential) was US\$12.9 billion. This comprises of US\$7.9 billion in potential investments influenced and US\$5.0 billion in mobilized investments influenced, and surpasses CIWA's FY17 target of potentially mobilizing US\$8 billion. CIWA surpassed its target of 20 million potential direct beneficiaries for the same reporting period, by potentially benefiting an estimated 52.7 million direct beneficiaries through potential and mobilized investments influenced by CIWA.

**Investment Influenced Ratio & Potential Beneficiaries Ratio.** CIWA further uses the following two metrics to measure its effectiveness in using its available resources to achieve development outcomes:

$$\text{Investment influenced ratio} = \frac{\sum \text{Value of investment influenced}}{\sum \text{Value of overall program in operation}}$$

$$\begin{aligned} \text{Potential beneficiaries ratio} \\ = \frac{\sum \text{Potential direct beneficiaries from investments influenced}}{\sum \text{Value of overall program in operation}} \end{aligned}$$

These metrics are based on CIWA's program development objective indicators and the size of the program in operation, or the total allocated amount of the overall program envelope.<sup>5</sup>

Investment influenced ratio = 181, i.e., on average, for every dollar contributed by CIWA, the program influenced 181 dollars of investments that promote cooperative sustainable, climate-resilient growth.

Potential beneficiaries ratio = 0.74 beneficiaries/US\$ contributed, i.e. on average, for every dollar contributed by CIWA 1.4 people benefit as a result of influenced investments, or for every 1.4 dollars contributed by CIWA, 1 person benefits as a result of influenced investments.

## Commercial Improvement and Value for Money

CIWA maintains economy in its procurement, minimizing costs and ensuring high quality, by requiring that all recipient-executed activities finance goods, works, and services in accordance with the Bank's guidelines on

"Procurement under IBRD Loans and IDA Credits" and the Bank's guidelines on the "Selection and Employment of Consultants by World Bank Borrowers," jointly referred to as the "Procurement and Consultant Guidelines."<sup>6</sup> Similarly, for all Bank-executed CIWA activities, the Bank is responsible and carries out procurement of goods as well as employment and supervision of consultants in accordance with applicable policies and procedures. Among other things, the guidelines provide specific instructions for use of Bank documents (standard bidding documents, requests for proposals, contract forms); conflict of interest; advance contracting; co-financing; mis-procurement; and fraud and corruption.

### Role of Development Partners

At the end of FY17, CIWA was a program of US\$85 million co-funded by the UK, Denmark, Norway, the Netherlands, Sweden, and the European Commission. In light of increasing client demand for CIWA support at a time when 91 percent of the program's current funding envelope is allocated, CIWA has accelerated its fundraising efforts and has advanced conversations with development partners who are considering both first-time and secondary phases of support to the MDTF.

**Does the CIWA program still represent Value for Money?** Yes. There have been no significant changes in the approach and model of implementation set out in the program's business case and, coupled with the positive results in FY17 – CIWA met its intended PDO targets, and numerous CIWA influenced investments successfully mobilized financing.; maintained Program Management & Administration Costs and Enhanced Supervision Costs under 6%; performed well in all three economy and effectiveness metrics in FY17. The CIWA program therefore demonstrated its commitment to the principles of economy, efficiency, and effectiveness and therefore strongly represents value for money.

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<sup>1</sup>CIWA evaluates its Value for Money (VfM) using DFID's 3Es Framework, defined in "*DFID's Approach to Value for Money*," July 2011as:

- Economy – Are we or our agents buying inputs of the appropriate quality at the right price? Inputs are things such as staff, consultants, raw materials, and capital that are used to produce outputs.
- Efficiency – How well do we or our agents convert inputs into outputs? Outputs are results delivered by us or our agents. We or our agents exercise significant control over the quality and quantity of outputs.
- Effectiveness – How well are the outputs from an intervention achieving the desired outcome? Note that in contrast to outputs, we or our agents do not exercise direct control over outcomes.

<sup>2</sup>A standard fee is applied to all contributions to World Bank trust funds based on the characteristic of the trust fund.

<sup>3</sup>A complete list of general services covered by the Standard Bank Administrative Fee can be found in Appendix 3 (3.1) of the Administration Agreement

<sup>4</sup>World Bank CFPTO Trust Fund Handbook (revised July 8, 2010)

<sup>5</sup>Note that the accounting for these two indicators has changed from the past years', the difference being that this year the denominator considers the value of overall program in operation (amount allocated out of the overall program envelope) instead of only the funding in operation in the CIWA-supported projects that influenced the particular investments and beneficiaries. Using program-level values in calculating these indicators provides an improved picture of program-level efficiency.

<sup>6</sup>OP 11.00 in the World Bank Operational Manual, available <http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/EXTOPMANUAL/o..contentMDK:20064773~menuPK:4564185~pagePK:64709096~piPK:64709108~theSitePK:50218.00.html>

# Annex E

## CIWA's Risk Analysis Framework

The overall risk level of CIWA is medium to high. This program level risk rating is informed by the varying levels of risk within the program.

At the impact level, the risk is high. This is a result of political risks, both regional and national, that influence the ability to sustain deep, long term cooperation and effective transboundary water management.

The risk at the outcome level is medium to high. This reflects the mix of low to medium risks at the output level, and the need for a combination of political as well as technical progress to achieve desired outcomes. Technical progress is generally low risk, but sustaining technical achievements amidst favorable political progress (for example, negotiations and effective cooperation) is higher risk. While political risks are generally outside the control of the program, the World Bank has strengthened the role of political economy analyses in the design and management of CIWA's engagement with specific basins and in diversifying its portfolio across Africa, which will increase the effectiveness of the overall program. In addition, this risk rating includes the fact that CIWA may not reach its funding envelope target of \$200 million dollars and therefore may not be able to fully reach targets originally set out in its PMF based on the target funding envelope. Importantly, CIWA's current envelope is largely allocated and there is an extensive log of client requests for support. Lack of funding to support critical follow-on activities risks foregoing opportunities to build upon the cooperative momentum advanced thus far.

This document presents a matrix with key risks identified at the program level as well as corresponding mitigation actions that have been applied. While this program level risk analysis is informed by the many risks in various basins, individual basin and project-specific risk analyses and associated mitigation measures are in basin and project-specific documentation. All Bank programs and projects require an assessment during the project approval process of operational risk and mitigation measures, along with appropriate documentation. Once a recipient-executed project is operational, the World Bank conducts significant technical and financial oversight, including consideration of how identified risks affect implementation. When a project is being evaluated for restructuring or additional financing, the project team re-considers operational risks and incorporates any new risk mitigation measures that are required. In addition, for the CIWA program, each basin program is guided by the BAC which, in its annual meetings, reviews progress

in program implementation, evaluates basin-level risks, and identifies strategic responses.

Recognizing the dynamic nature of risks and the need to actively manage them throughout the course of the program, CIWA continuously evaluates risks and mitigation measures, as well as the acceptability of residual risk, and updates the risk matrix on an annual basis.

Risk description	Probability / Impact before mitigation	Mitigation applied	Probability / Impact after mitigation
<b>POLITICAL &amp; DEVELOPMENTAL RISKS</b>			
<p><b>1. Challenging political context.</b> All work in international waters has an inherent risk that domestic or international political issues (related or unrelated to water issues) may negatively impact the context in which such projects operate, resulting in long-term delay or even failure of specific projects which could impact the success of the program. This risk is often beyond the scope or the influence of CIWA or of the partner organizations (RBO, REC, NGO, or of other regional organizations)</p>	<p>Probability: High Impact: High</p>	<p>CIWA has a diversified portfolio both geographically (programs in East, West, Central, and Southern Africa), and in types of support (focus on strengthening information, institutions, and infrastructure). While the political context may be challenging for one type of work in a particular region, it may be less so for another type in another region. Portfolio diversification helps mitigate political risks at the program level.</p> <p>In addition, political economy analysis is now mainstreamed in CIWA program planning.<sup>1</sup> Basin programs in the Nile, Zambezi, are informed by political economy analyses (PEA), which help to better understand risks, design projects within an acceptable risk appetite, and formulate mitigation strategies that enable effective program implementation. The Volta Basin program is undertaking an institutional assessment, including a PEA, with the goal of gaining similar PE insights that will help mitigate political risks and increase program effectiveness. CIWA is working in close partnership with the Bank's Governance Global Practice, through a Governance Specialist focal point, to ensure PE considerations are informing CIWA projects in the Niger and Okavango Basins. Combining World Bank experience in PEA with the CIWA-commissioned Framework for PEA of Transboundary Basins in Africa prepared by SIWI, CIWA has developed a guidance note specific to PEA for development programming in transboundary water contexts; this guidance note contributes to institutionalization of PEA in informing CIWA support as well as wider work in transboundary waters.</p>	<p>Probability: Medium Impact: Medium</p>
<p><b>2. Insufficient basin-wide commitment.</b> Some countries within a basin may not have formal membership in the participating basin organizations and/or may challenge the basin organization's engagement with CIWA.</p>	<p>Probability: Medium Impact: Medium</p>	<p>CIWA supports basin-wide confidence-building measures to ensure that progress is achieved. While it is recognized that it will not always be possible to have all riparians formally committing, CIWA provides an inclusive platform in the form of the BAC where it encourages participation of all relevant stakeholders. CIWA uses this platform to provide an open invitation to all relevant stakeholders to identify the strategic directions and long-term action plan for CIWA engagement in a way that responds to the needs of the basin and where relevant, aligns regional and national</p>	<p>Probability: Medium Impact: Medium</p>

<sup>1</sup>Mainstreaming PEA in CIWA Support is further elaborated in Appendix F.

			<p>priorities as well as other development interventions in the basin. Also, where feasible, CIWA uses cross-basin exchanges that showcase global examples of transboundary basin management, including negotiation processes and technical practices, to create opportunities for building trust and fostering commitment for cooperative actions regardless of basin organization membership.</p> <p>In addition, for all applicable projects, CIWA follows the World Bank Safeguards Policy on international waters OP 7.5 which, in the absence of appropriate agreements or arrangements for the entire waterway, or parts thereof, requires the beneficiary state to formally notify other riparians of the proposed project. The Policy lays down detailed procedures for the required notification, including the role of the Bank, period of reply, and the procedures to follow in case there is an objection by one of the riparians to the project.</p>	
3.	<p><b>Inadequate stakeholder voice.</b> Stakeholders may not fully engage in the project cycle, resulting in inadequate voice in decision-making, raising the potential of public protest or civil action that could jeopardize or delay development projects.</p>	<p>Probability: Low Impact: Medium</p>	<p>The program prioritizes the involvement of stakeholders and thorough consideration of stakeholder needs and concerns throughout the project cycle. Indeed, one of CIWA's four result areas aims to strengthen stakeholder engagement in water resources management and development. CIWA emphasizes the creation of a favorable upstream environment for development projects and in many cases facilitates bringing stakeholders into the dialogue and sharing information in the public domain, thereby mitigating risk of resistance.</p> <p>Moreover, CIWA-supported basin programs convene all relevant stakeholders in the annual meeting of the BAC, which shapes CIWA's long term strategy in the basin, and shares information and gathers feedback on project cycle details.</p>	<p>Probability: Low Impact: Medium</p>
<b>OPERATIONAL RISKS</b>				
4.	<p><b>Inadequate coordination between participating basin organizations.</b> If participating basin organizations have mutually inconsistent objectives, this may weaken the overall development effectiveness of CIWA's program.</p>	<p>Probability: Medium Impact: Medium</p>	<p>CIWA works to encourage and motivate strong cooperative working relationships. A Basin Support Plan is developed for all basins or regions in which CIWA has a long-term engagement. The BSP outlines CIWA's vision for support and change in the basin, including alignment of CIWA-supported projects with the broader objectives of each of the basin organizations, as well as potential synergies, any overlaps or gaps and ways to overcome them. A CIWA BAC comprised of basin-level membership periodically assess and provides strategic direction to all projects undertaken within the BSP.</p>	<p>Probability: Low Impact: Medium</p>
5.	<p><b>Inadequate implementation capacity and readiness can cause short to medium-term delay.</b> Some basin organizations may have insufficient capacity or experience to effectively engage in basin management and development, causing delays in project implementation which could affect the overall pace of the program achieving its objectives.</p>	<p>Probability: High Impact: Medium</p>	<p>During project preparation, Bank experts assess implementation capacity and readiness of the recipient organization and plan the magnitude and complexity of CIWA's engagement accordingly. The Bank may provide support for financial management, procurement, and project management. Project-supported capacity enhancement might also be a contingency for project approval, for example, a project may be conditioned on the hiring of an environmental and social expert to provide safeguards support. Many projects address this risk by designating an institutional support and capacity building component that addresses this risk. In addition, CIWA can employ Bank-executed programming as an initial financing modality to strengthen recipient implementation capacity and readiness.</p>	<p>Probability: Medium Impact: Low</p>
6.	<p><b>Technical complexity of transboundary water projects can lead to long-term delay.</b> Transboundary water programs are inherently complex and require seasoned perspective to avoid pitfalls and errors that can seriously undermine management and can adversely</p>	<p>Probability: Low Impact: Medium</p>	<p>CIWA taps into the global structure of the Bank and the embedded strong technical expertise of Bank staff on both sectoral and transboundary-specific fronts during project preparation and implementation. In addition, CIWA draws from external continental as well as global experience</p>	<p>Probability: Low Impact: Low</p>

	affect the progress of development projects and cause long-term delays.		as needed to bolster technical capacity required for project design and implementation.	
7.	<b>Insufficient World Bank capacity to engage across an increasing number of basins.</b>	Probability: Medium Impact: Medium	Before starting an engagement with a new basin, CIWA ensures that there is sufficiently strong technical capacity as well as regional experience to lead the engagement within the World Bank. In most cases, previous Bank engagements will already have established a deep partnership with the region, which new CIWA engagements build upon. CIWA also mitigates this risk by collaborating closely with Bank country offices as well as by drawing on local knowledge of other partners. Transparency and good information flows between the Bank and partners help ensure a strong partnership. In addition, under its current envelope, CIWA has made the strategic decision to focus the majority of its existing resources on four priority basins, thus reducing the need for increasing expansion of teams focused on basin work. Identification of any additional priority basins would be complemented by corresponding assessments and appropriate action to ensure balance between program requirements and staffing availability.	Probability: Low Impact: Low
8.	<b>Inadequate prioritization of Stakeholder Engagement and Coordination (Intermediate Results Area 4) and explicit incorporation of gender considerations.</b>	Probability: Medium Impact: Medium	When starting a new engagement in a priority basin, CIWA works with the clients to develop a balanced program with support that cuts across the four results areas. During preparation and implementation, CIWA mainstreams gender and poverty considerations into program design and actions. Stakeholder engagement and incorporation of gender considerations is a standard action in project preparation and implementation and there is little risk that relevant stakeholder or gender considerations will be accounted for. However, because of the typically "upstream" nature of many of CIWA-supported actions, gender related outcomes or direct end-user stakeholder engagement may not be within the scope of the CIWA activity. In these cases, CIWA will strive to lay the groundwork for future development good practice (including stakeholder engagement and incorporation of gender considerations) into any outcomes with recommendations for future action.	Probability: Low Impact: Medium
<b>FINANCIAL RISKS</b>				
9.	<b>Available CIWA financing is insufficient to meet demand.</b> Insufficient financing can cause risks raising expectations of potential recipient partners. Participating donors may be slow to commit resources relative to the demand for engagement by recipient basin organizations.	Probability: High Impact: High	CIWA's available funding envelope is nearly allocated. Additional demand from current and potential partners exceeds the current funding expectations.  Guided by a Resource Mobilization Plan, CIWA is actively working to mobilize additional funding and requests development partners to facilitate fund mobilization from their position. Accelerated resource mobilization efforts have been bolstered by mainstreaming of CIWA's strategic intent narrative in its communications; articulating the program's Theory of Change to describe how program-supported outputs translate to water security and development outcomes; and advancing analytical work to describe evidence and opportunities for transboundary water cooperation to build climate resilience in Africa. CIWA will continue to update required funding amounts during AC meetings, as well as in the CIWA Annual Report.  CIWA conducts regular and careful management of the pipeline of potential basin programs to match demand to available resources. As expected, there is a time lag between when a donor pledges funds and when those funds can reasonably be committed to a basin program and when that program can spend the funds.	Probability: High Impact: High

10.	Fraud and funds not being used as intended	Probability: Low Impact: High	The World Bank requires all trust fund beneficiaries and bidders to observe the highest standard of ethics in Bank-financed grants and contracts. All CIWA grants are subject to the Bank's Anti-Corruption Guidelines, <sup>2</sup> the Procurement <sup>3</sup> and Consultant <sup>4</sup> Guidelines, and the Standard Conditions for Trust Fund Grants, <sup>5</sup> which delineate standard operating procedures for any fraud issues. The Anti-Corruption Guidelines provide for certain actions to be taken by grant recipients to prevent and combat fraud and corruption and the Standard Conditions provide for suspension and/or cancellation of disbursements, as well as the refund of disbursed grant proceeds in the event that fraud and corruption does occur.	Probability: Low Impact: Medium
All recipient-executed projects are audited annually by an external auditor as specified in the grant agreement. The Bank may require less frequent audits for small grants while retaining the right to request an audit as needed. Contributing development partners agreed to amend the Administrative Agreement with the World Bank to include both a management fee and enhanced supervision which will facilitate this process. Any audits that highlight issues will be raised and discussed with the CIWA AC.				

**SUSTAINABILITY RISK**

11.	<b>CIWA support for investments in institutions, information systems and/or infrastructure is not sustained or advanced by riparians.</b> CIWA operates upstream of actual investment and has limited control over country uptake of investment plans or sustained support for institutions. This risk becomes even more relevant as financiers other than the World Bank, with more flexible preparation standards, play an increasingly prominent role in financing infrastructure in Africa. This risk builds off of other risks, (for example, insufficient political will, or inadequate country buy-in) but it is important to consider because it feeds directly into the objectives, indicators and targets by which the program will evaluate its success as delineated in its PMF.	Probability: Medium Impact: Medium	CIWA is demand driven and responds to the requests of riparians and their organizations. Cognizant of the long timelines, high transaction costs, and non-linearity of cooperative processes, CIWA carefully assesses the sustainability of potential support through in-depth consultations with the client organization and country governments and as informed by its own PEA. Sustainability measures are included in program design (e.g. capacity building for resource mobilization accompanies project preparatory activities; process for harmonization into national structures are outlined as part of formulating and endorsing regional institutions)  Acknowledging that riparian commitment to cooperation can change over time and is driven by perceptions of risks vs. opportunities for cooperation, CIWA places a strong emphasis on maintaining and strengthening the perception of opportunity (which demanded its engagement) through knowledge and information sharing, analytical evidence, and continued dialogue. However, recognizing that riparian commitment to cooperative development can accelerate or lapse around specific issues, CIWA maintains the ability to provide both long-term systematic and short-term catalytic support, as well as the flexibility of delivering support across the 3Is, allowing it to fine-tune delivery of support during program implementation.	Probability: Medium Impact: Medium
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<sup>2</sup>Available at [http://siteresources.worldbank.org/INTOFFEVASUS/Resources/WB\\_Anti\\_Corruption\\_Guidelines\\_10\\_2006.pdf](http://siteresources.worldbank.org/INTOFFEVASUS/Resources/WB_Anti_Corruption_Guidelines_10_2006.pdf)

<sup>3</sup>Available at [http://siteresources.worldbank.org/INTPROCUREMENT/Resources/Procurement\\_GLS\\_English\\_Final\\_Jan2011\\_revised\\_July1-2014.pdf](http://siteresources.worldbank.org/INTPROCUREMENT/Resources/Procurement_GLS_English_Final_Jan2011_revised_July1-2014.pdf)

<sup>4</sup>Available at [http://siteresources.worldbank.org/INTPROCUREMENT/Resources/Consultant\\_GLS\\_English\\_Final\\_Jan2011\\_Revised\\_July1-2014.pdf](http://siteresources.worldbank.org/INTPROCUREMENT/Resources/Consultant_GLS_English_Final_Jan2011_Revised_July1-2014.pdf)

<sup>5</sup>Available at <http://siteresources.worldbank.org/INTLAWJUSTICE/Resources/STDGC-English-12.pdf>



The Cooperation in International Waters in Africa (CIWA) was established in 2011 and represents a partnership between the World Bank, its African partners and the governments of Denmark, the European Commission, Norway, Sweden, the Netherlands, and the United Kingdom. CIWA supports riparian governments in Sub-Saharan Africa to unlock the potential for sustainable and inclusive growth, climate resilience, and poverty reduction by addressing constraints to cooperative management and development of international waters.

[WWW.WORLDBANK.ORG/AFRICA/CIWA](http://WWW.WORLDBANK.ORG/AFRICA/CIWA)

