



Unlocking Opportunities for Sustainable, Climate-resilient Growth in Sub-Saharan Africa

COOPERATION IN INTERNATIONAL WATERS IN AFRICA
ANNUAL REPORT 2016



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ACRONYMS AND ABBREVIATIONS

AC	Advisory Committee
AF	Additional Financing
AFD	Agence Française de Développement
AfDB	African Development Bank
BAC	Basin Advisory Committee
BSP	Basin Support Plan
BoC	Basis of Commitment
CIWA	Cooperation in International Waters in Africa
COP21	21st Conference of the Parties
CRIP	Climate Resilience Investment Plan
CSO	Civil Society Organization
CY	Calendar Year
DANIDA	Danish Development Cooperation
DFID	United Kingdom Department for International Development
DRC	Democratic Republic of Congo
DSS	Decision Support System
ECOWAS	Economic Community of West African States
ENTRO	Eastern Nile Technical Regional Office
ECOWAS WRCC	ECOWAS Water Resource Coordination Centre
ESIA	Environmental and Social Impact Assessment
EC	European Commission
FY	Fiscal Year
GEF	Global Environment Facility
GFR	Grant Funding Request
GIZ	German Development Cooperation
GMI	Groundwater Management Institute
HES	Hydroelectric Scheme
ICOLD	International Commission on Large Dams
IDA	International Development Association
IGAD	Intergovernmental Authority on Development
IW-Learn	International Water Learning Exchange and Resource Network
IWMI	International Water Management Institute
IWRM	Integrated Water Resources Management
LCBC	Lake Chad Basin Commission
LCDCRAP	Lake Chad Development and Climate Resilience Action Plan
LEAF II	Multinational Lake Edward and Albert Integrated Fisheries and Water Resources Management Project
MBA	Mono Basin Authority

MPP	Multipurpose Project
MTR	Mid-Term Review
MDTF	Multi-Donor Trust Fund
MSIOA	Multi-Sector Investment Opportunities Analysis
NBA	Niger Basin Authority
NBD	Nile Basin Discourse
NBDF	Nile Basin Development Forum
NBI	Nile Basin Initiative
NBTF	Nile Basin Trust Fund
NCORE	Nile Cooperation for Results
NEL	Nile Equatorial Lakes Region
NELSAP-CU	Nile Equatorial Lakes Subsidiary Action Program–Coordination Unit
NGO	Non-Governmental Organization
Nile-Sec	Nile Basin Initiative Secretariat
OKACOM	Permanent Okavango River Basin Water Commission
PDO	Program Development Objective
PEA	Political Economy Analysis
PMU	Program Management Unit
PPIAF	Public-Private Infrastructure Advisory Facility
RBO	River Basin Organization
REC	Regional Economic Community
SADC	Southern African Development Community
SAP	Strategic Action Program
SAPP	Southern African Power Pool
SDAP	Sustainable Development Action Plan
SDG	Sustainable Development Goals
SIWI	Stockholm International Waters Institute
UN	United Nations
UNESCO-IGRAC	UNESCO International Groundwater Resources Assessment Centre
VBA	Volta Basin Authority
VfM	Value for Money
WRCC	Water Resources Coordination Centre
WRF	Weather Research and Forecasting
WWF	World Wildlife Fund
ZAMCOM	Zambezi Watercourse Commission
ZAMWIS	Zambezi Water Information Management System
ZRA	Zambezi River Authority

FOREWORD

Having spent the last five years based in Africa, first in Addis Ababa and later in Pretoria, it gives me great pleasure to write this foreword for the Annual Report of the Cooperation in International Waters in Africa (CIWA) program. I have seen firsthand the critical importance of water to poverty reduction and economic growth, recognized just how many water challenges in Africa require transboundary cooperation, and appreciated the examples I have seen of transboundary cooperation in practice. Through supporting basin institutions, filling knowledge gaps, and helping countries design transboundary infrastructure, CIWA makes important contributions to the better management of shared waters.

As I look back over the last year of CIWA's work, and look forward to how we can make even greater impacts, I'm struck by how two of the great challenges of our times – climate change, and fragility, conflict and violence – are so critical for the way that we think about and prioritize water support.

As the Paris and Marrakech COP meetings have made clear, water is a critical link in determining vulnerability to climate change. The World Bank's 2016 report [High and Dry: Climate Change, Water and the Economy](#) conveys the far-reaching effects of climate change in Africa's economy and overall stability: water scarcity, made worse by climate change, could reduce economic growth by as much as six percent of GDP by 2050. And in a continent where 90% of the people live in shared river basins, transboundary cooperation is key to managing this risk.

Water is also embedded in many of the issues facing countries impacted by fragility, conflict, and violence. The World Bank recognizes that fragility, conflict and violence are some of the most pressing challenges to the global community and to achieving the SDGs, and has committed to double resources for vulnerable states. Water-related support will be part of this focus, contributing to inclusive growth and services so as to help countries avoid conflict as well as recover from conflict sustainably.

CIWA clients realize a multitude of cooperative benefits, including better forecasting and early warning systems to help prevent water related disaster; regional agreements on institutional frameworks for efficient and safe operation of hydraulic infrastructure; elevated professional capacity to strengthen transboundary water management; increased financial and operational sustainability of regional organizations; and stakeholder-inclusive, regionally-prioritized investment plans currently making the rounds with potential financiers. As this Annual Report outlines, CIWA has now influenced around US\$10 billion in sustainable investments of transboundary significance with potential benefits for an estimated 48 million people.

CIWA has allocated over 90% of its available funding, and current demand for support far exceeds current resources. Given the centrality of shared waters to Africa's economic, social and environmental progress, we anticipate that this demand will continue to grow. The CIWA program will therefore continue to drive for results as well as seek additional resources to scale up its support.

Sincerely,

Guangzhe Chen

Sr. Director, Water Global Practice, World Bank





SECTION 1

OUR FOOTPRINT

BARRIERS TO COOPERATIVE MANAGEMENT AND DEVELOPMENT OF TRANSBOUNDARY WATERS

In Africa, all of the major rivers and many aquifers are shared by more than one country – in some cases, as many as 9, 10 or 11 countries rely on the same water body for food, income, jobs, energy, transportation and water supply.

COOPERATION IS IMPORTANT FOR BOTH MANAGEMENT AND DEVELOPMENT OF THE SHARED RESOURCE, BUT MANY COUNTRIES PERCEIVE COOPERATION TO BE RISKY FOR A VARIETY OF REASONS INCLUDING:

Uneven distribution of resources and needs

Differences in technical and financial capacity
Historical tensions

Issues of sovereignty

Difficulty determining reasonable and equitable use

Asymmetrical political and economic power

Lack of enforceability of international water laws

EVEN WHEN COUNTRIES PERCEIVE THE BENEFITS OF COOPERATION TO OUTWEIGH THE RISKS, A NUMBER OF OBSTACLES TO COOPERATION REMAIN:

Transaction costs are high

Timelines for cooperative processes are long

Risks of conflict can cause projects to fail at any time

Environmental, technical, and financial constraints are magnified

Different stakeholders are motivated by different drivers

Large numbers of stakeholders increases fragmentation and dilutes decision making

National budgets for regional dialogue are low

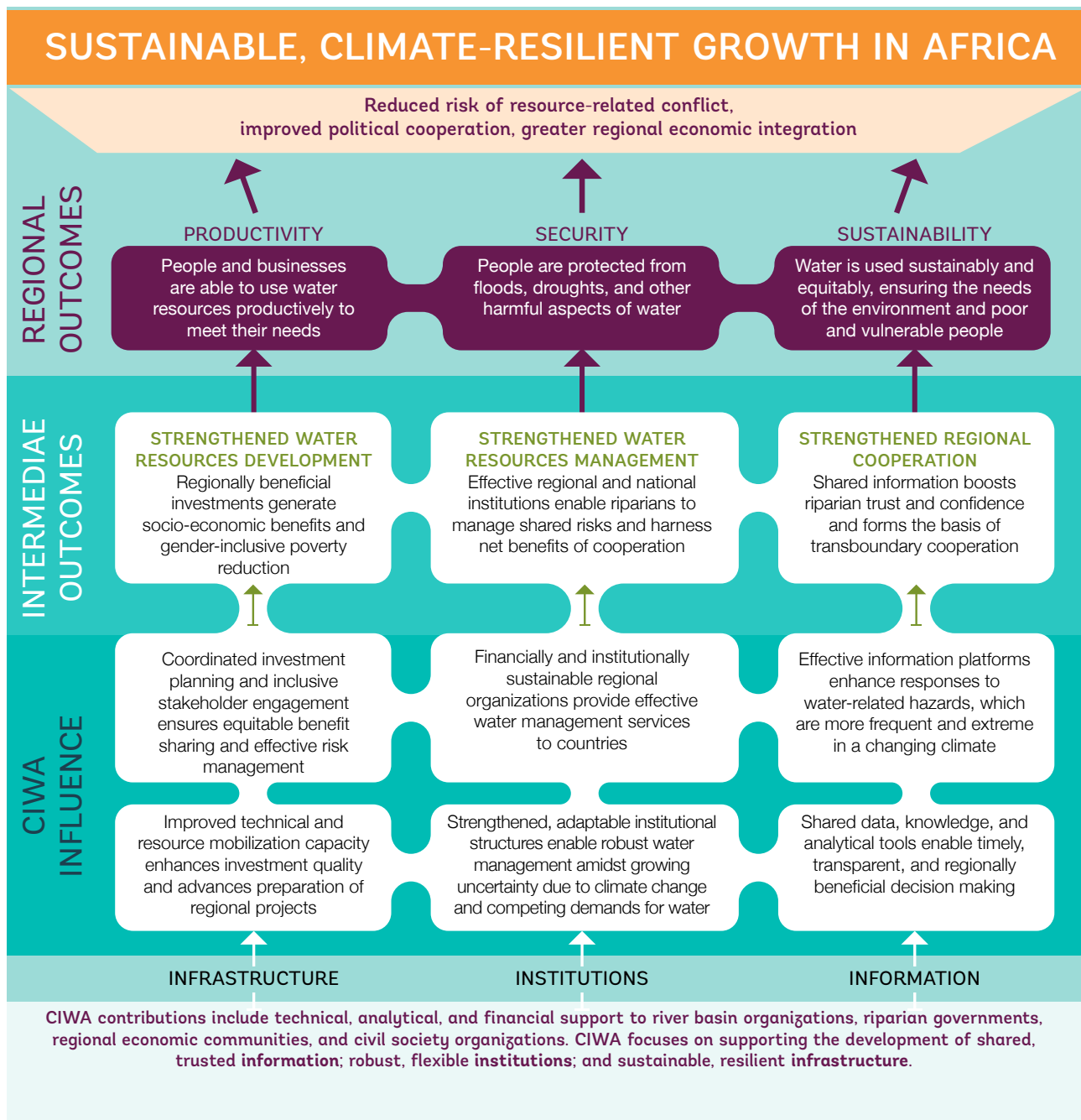
Availability or reliability of information may be imbalanced

Lack of legal and institutional coherence complicates decision making and implementation

Overcoming the barriers to transboundary water projects requires resources, time, and continued riparian commitment that starts with a foundation of shared, trusted information and inclusive dialogue.

CIWA THEORY OF CHANGE

CIWA assists riparian governments in Sub-Saharan Africa in addressing constraints to cooperative water resources management and development, with the goal of unlocking the potential for sustainable, climate-resilient growth. By supporting countries to work together to share information, strengthen institutions, and advance sustainable investments, CIWA enables countries to use their transboundary water resources productively and equitably, protect people and property from water-related shocks, and ensure sustainability of the resource base. A cooperative approach to managing shared risks and equitably sharing socio-economic benefits presents countries with opportunities to reduce resource-related conflict and strengthen regional integration, all of which contribute to sustainable economic growth, poverty reduction, and resilience to climate change.



OUTCOME HIGHLIGHTS

Nile

Technical analysis and country consultations undertaken by Nile Equatorial Lakes Subsidiary Action Programme – Coordination Unit has led to the countries approving 27 new projects of regional significance for preparation, evidencing the now-established procedural norm for countries to collaboratively consider, evaluate, and endorse transboundary projects for preparation.

Africa

The Nile Equatorial Lakes Subsidiary Action Programme – Coordination Unit has facilitated coordination meetings between Tanzania and Zambia in an effort to advance the interconnection of the East African and Southern African power pools in order to further enhance energy security, water resource efficiency, and regional integration.

Orange-Senqu

Ministers from Botswana, Lesotho, and South Africa endorsed technical options identified in the nearly-completed Lesotho Highlands-Botswana Water Transfer Study; additional studies are being formulated to advance preparation of potential investments building off this work. The investment, estimated at \$800 million, is projected to benefit two million people.

Niger

The Niger Basin Climate Resilience Investment Plan highlights investment needs related to climate change adaptation in the basin, to gather support for securing investment finance; presented at COP21 in Paris in 2015, the Plan is already attracting climate-related financing. This work has already helped to mobilize a \$450 million investment.

Zambezi

The newly established permanent ZAMCOM Secretariat is leading the development of a basin-level strategic plan, approved by its Council of Ministers, which will include a project prioritization process and policy tools to coordinate efficient management, sustainable development, and equitable utilization of the basin's shared waters.

Nile

The Eastern Nile Council of Ministers have agreed to establish a regional and individual national dam safety units following their endorsement of the Eastern Nile Technical Regional Office's (ENTRO) regional dam safety guidelines. 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 basis of an international working paper by ICOLD.

ECOWAS

A near-final study on sustainable financing mechanisms for the Mono Basin Authority is informing institutional structure of this new river basin organization; the Economic Community of West African States is primed to share lessons with other basins in the region.

Okavango

As the Okavango Multi-Sector Investment Opportunity Analysis nears completion, stakeholders identified three regionally-relevant investments (>\$400 million) that balance the economic, social justice, environmental, and climate resilience priorities as reflected in the vision for the basin.

Nile

The Nile Basin Discourse's (NBD) partnerships with governments and regional development organizations are ensuring that social concerns shape water, power, and commodity investments in eastern Africa. For example, the NBD ensured stakeholder interests and concerns informed the design and implementation of the US\$21 million Multinational Lake Edward and Albert Integrated Fisheries and Water Resources Management Project (LEAF II).

Lake Chad

The Lake Chad Basin Commission and its six Member States developed an Action Plan to turn Lake Chad into a pole of regional rural development. Priority actions were identified to improve the resilience of Lake Chad livelihoods and ecosystems under current population growth pressures, hydrological variability and climate uncertainty. The plan comprises 173 activities estimated at \$1 billion.

Nile

A basin-wide hydromet network designed by the Nile Basin Institute Secretariat and the Nile countries has ministerial-level approval from countries. When operational, the system will accurately and effectively provide people with monitoring and forecasting services, to help with real-time decision making for flood early warning, river and reservoir operations, and to build a shared information base that can inform evaluation of tradeoffs related to hydropower, agriculture, and flood control at basin-scale.

ECOWAS

Economic Community of West African States is advancing the Fouta Djallon Atlas to help fill existing knowledge gaps on West Africa's water resources pertaining to the Guinean highlands.

Zambezi

Engineering Studies for Batoka Gorge Hydro Electric Scheme are nearing completion, pending an additional set of geotechnical investigations to allow an improved design can improve operational efficiency and reduce environmental costs; resource mobilization activities are underway for this \$2.6 billion investment that is estimated to benefit three million people.

Africa

The CIWA program supported development of 16 analyses that contribute to building the evidence base for cooperation and improving quality of water resources investments.

SADC

Institutional arrangements for the Southern African Development Community Groundwater Management Institute, planned as a regional center of excellence in groundwater management and development, were established and key staff hired to initiate project activities.

Niger

Capacity building activities and technical assistance provided to numerous ministries in the nine Niger Basin countries have improved technical capacity for climate resilience and adaptation.

Nile

Thanks to the Eastern Nile Technical Regional Office's continuous improvement of the Eastern Nile Flood Early Warning System, approximately 350,000 people across the region receive early warning messages during flood season and daily alerts in flood prone areas. An additional 1.7 million people across the region benefit indirectly from these alerts and messages.

Africa

The CIWA program has influenced 31 investments in Africa.

Figure 1: CIWA Advances Investments Across Africa



Figure 2: CIWA Strengthens Cooperation



Map 1: Balanced Support in Priority Basins



CIWA balances support for institutional development and information systems with assistance to help riparian governments improve the quality of investments in four key basins: the Nile, Zambezi, Niger, and Volta.

CIWA provides support for turnkey projects, including analysis of water resources management and development opportunities in the Okavango Basin, Lake Chad Basin, and the Orange-Senqu Basin. It also supports innovative approaches to water resources management in the Southern Africa Development Community (SADC) and Economic Community of Western African States (ECOWAS).

CIWA responds to demand for knowledge management and technical assistance. Several CIWA-funded analyses concluded in FY15, including the Political Economy Analysis (PEA) and the Economic Rationale for Cooperation in Transboundary Basins in Africa. These analyses inform CIWA activities and create shared understanding that can facilitate cooperative development and management of international waters. See Feature 1, page --.

Map 2: Highly Targeted Opportunistic Support in Select Regions



In Fiscal Year 2016 (FY16), the CIWA program supported 11 organizations responsible for transboundary water management and development across Africa. The entire portfolio is under implementation, with 32 percent of funds disbursed. This is nearly double the amount in FY15. Figures 3, 4, 5 and 6 outline the types of funding provided.

OVERVIEW OF FUNDING ALLOCATIONS IN THE CIWA PORTFOLIO

Figure 3: Total Funding Allocation by Basin

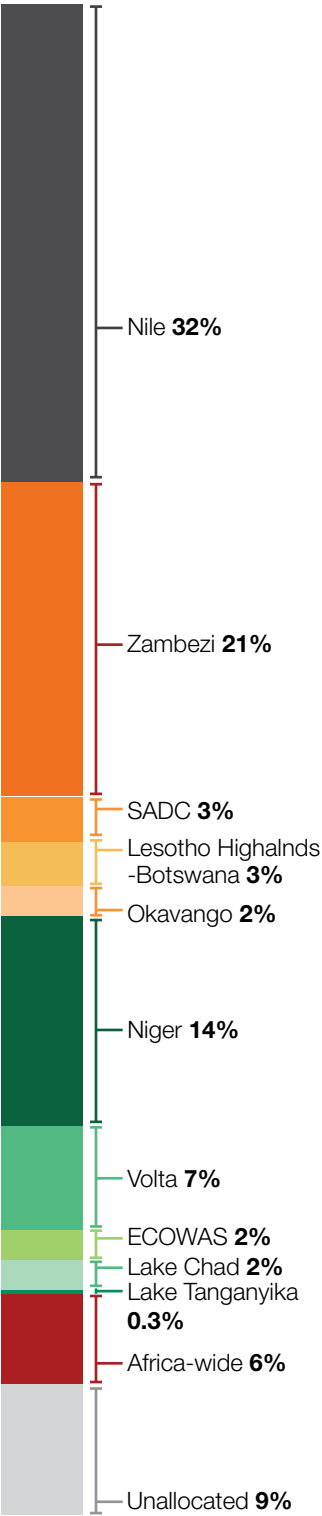


Figure 4: Total Funding Allocation by Partner Type

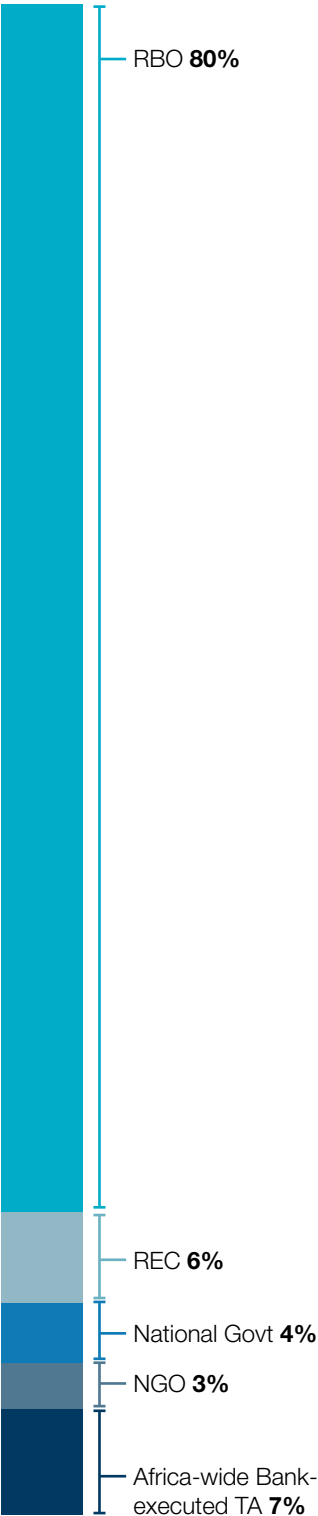
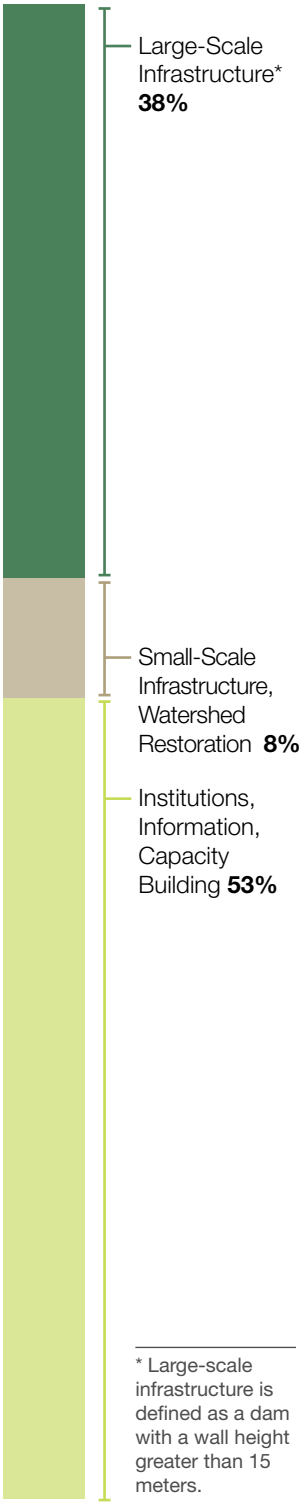


Figure 5: Total Funding Allocation by Grant Type



Figure 6: Total Funding Allocation by Primary Outcome



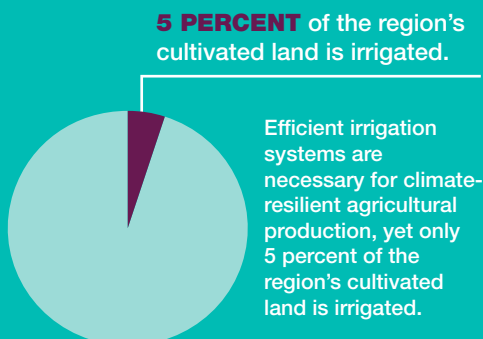


REGIONAL SNAPSHOT

The United Nations' (UN) Sustainable Development Goals (SDG) initiative sets the global development agenda until 2030. Several of the 17 aspirational global goals are advanced by CIWA work in transboundary waters. A regional snapshot of Africa with the Sustainable Development Goals as a reference highlights the dire need for improved water management and development.

SDG 2: END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE

In the Niger basin, only **8 PERCENT** of the potential **2,816,510** hectares (ha) is under irrigation.



Sub-Saharan Africa is the only region of the world where hunger is projected to worsen over the next two decades unless drastic measures are taken to ensure peace, improve governance and advance economic development.

The entire region remains susceptible to frequent food crises and famines, which are easily triggered by droughts, floods, pests, economic downturns, or conflicts.

SDG 6: ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL



Africa accounts for 40 percent of the global population without access to safe drinking water.



Women and girls are disproportionately impacted by the rampant scarcities of clean water and adequate sanitation.

Coverage of improved sanitation facilities increased by a mere 4 percentage points during the period 1990–2010, and stark disparities between urban and rural areas persist.¹

Lack of clean water, poor sanitation and hygiene are leading causes of child mortality; over 2,000 children die daily from diarrheal diseases.

While the average water availability per person per year in the Volta Basin is over 2000 cubic meters (m³), most of the northern part of the basin suffers physical water scarcity with less than

1,000 M³/CAPITA PER YEAR. The world standard is set at **1,700 M³/CAPITA/YEAR** (World Resources Institute, 2000).





1. Data from UN Economic Commission on Africa, Africa Regional Report on the Sustainable Development Goals

SDG 7: ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL



Over **75 PERCENT** of Africa's population has no electricity;

 40 percent of urban areas are without electricity.

 86 percent of rural areas are without electricity.

Currently, there is just enough electricity generated to power one light bulb per person for three hours per day.

More than 30 Sub-Saharan African countries faced power shortages in the past five to 10 years, affecting various facets of development through load shedding and inadequate supply.

The Zambezi River Basin has the potential to produce **16,000 MW OF HYDROPOWER**, with installed capacity at **30 PERCENT** of the potential and planned capacity reaching **61 PERCENT**.



The population without access to electricity is projected to increase to 655 million by 2030 out of an estimated population of 1.5 billion.



Those without clean cooking facilities will rise to 883 million out of an estimated population of 1.5 billion.

SDG 13: TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS

The average damage from flooding to rural settlements in the Nile Basin is over

US\$25 MILLION PER YEAR.

For example, in 2006, floods across Ethiopia resulted in 700 deaths and displaced 242,000 people.



According to the UN Environment Programme, the African continent will suffer the greatest impact of ongoing climate change.

Agricultural production is projected to be severely compromised. This would further adversely affect food security and exacerbate malnutrition.



50%
RAIN-FED AGRICULTURE IN SOME COUNTRIES COULD DECLINE

By 2020, yields from rain-fed agriculture in some countries could decline by as much as 50 percent.



75–250
MILLION PEOPLE

By 2020, between 75 and 250 million people in Africa are projected to suffer increased water stress due to climate change.



A photograph of a city skyline at sunset. The sky is a warm, hazy orange. In the foreground, several multi-story apartment buildings are visible, mostly in silhouette. A tall, slender antenna tower stands out against the sky on the right side. An orange rectangular box is overlaid on the right side of the image, containing the text 'SECTION 2' and 'OUR RESULTS' in white.

SECTION 2

OUR RESULTS

The following section provides both quantitative program results in line with CIWA's results framework (see Appendix A), as well as qualitative results from each project. Additional details regarding investments influenced by the program are included in Appendix 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.²

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 Appendix B.

2. Mobilized refers to all planned and actual investment financing that is incorporated into a formal and public or verifiable financial planning process. Examples might include inclusion in the pipeline of multilateral institutions such as the World Bank Group, African Development Bank, other regional development banks, national government financing plans, and bilateral financing instruments. (Source: CIWA Results Framework)

Table 1: Potential Investments Influenced by CIWA

Potential Investments	Estimated Potential Investment Value (US\$)	Estimated Number of Potential Direct Beneficiaries	Anticipated Benefits
Fomi Dam	1.3 billion	30.8 million	Increased power generation, irrigation development, enhanced fisheries, job creation
Lesotho Highlands – Botswana Water Transfer	800 million	2 million	Increased water supply, additional revenues
Nile Basin Investments	3 billion	4.2 million	Increased water supply, increased power generation, improved watershed management, irrigation development
Lukuga Barrage – Lake Tanganyika	65 million	Not yet available	Improved navigation and port access
Okavango MSIOA 1. Livelihoods Development Program 2. Tourism Investment Program 3. Mucundi Joint Multi-Purpose Dam	> 400 million	Not yet available	Livelihood development, private sector leverage
TOTAL	5.6 billion	37 million	



Table 2: Mobilized Investments Influenced by CIWA

Mobilized Investments	Estimated Current Investment Value (US\$)	Estimated Number of Direct Beneficiaries	Benefits
Kandadji Dam	1 billion ³	1 million	Increased power generation, irrigation development, job creation
Kariba Dam	294 million ⁴	3 million ⁵	Consolidated power generation Reduced risk and avoided disaster
Batoka Gorge HES	2.6 billion	6 million	Increased power generation
Volta Basin	6.9 million ⁶	50,000	Irrigation development, enhanced fisheries, improved pastoral activities, job creation
Niger Basin Climate Resilience Investment Project	300 million	Not yet available	Rural livelihoods, early warning and climate-information systems, climate resilience
Lake Chad Development and Climate Resilience Action Plan	100 million	Not yet available	Rural livelihoods, climate resilience
Eastern Nile Flood Early Warning System	Not applicable	350,000	Receiving timely flood notifications and daily updates
The Multinational Lakes Edward & Albert Integrated Fisheries & Water Resources Management Project	21 million	400,000	Rural livelihoods, fisheries, ecosystem management
TOTAL	4.3 billion	10.8 million	

3. 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/WDSPContentServer/WDSP/IB/2014/03/17/000414397_20140318113602/Rendered/PDF/Kandadji0AF0PID000P14897200AF0Cleared.pdf

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

5. Figure updated based on latest calculations and World Bank Project Documentation; Dam-break analysis will further refine this estimation.

6. 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/WDSPContentServer/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

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



FY16 Target: US\$8 billion in potential projects influenced by CIWA

FY16 Achievement: US\$5.6 billion in potential investments influenced by CIWA; US\$4.6 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



FY16 Target: 10 million potential beneficiaries of projects influenced by CIWA

FY16 Achievement: 37 million potential beneficiaries of projects influenced by CIWA; 10.8 million direct beneficiaries of mobilized investments influenced by CIWA

Intermediate Result 1. Regional cooperation and integration strengthened.

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



FY16 Target: Six relevant institutions with projects or activities in operation

FY16 Achievement: 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 and integration

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



FY16 Target: Five strategic analyses conducted

FY16 Achievement: 16 strategic studies completed

The following strategic analyses relevant to all of Africa were finalized in FY16: the *Political Economy of Cooperation in International Waters in Africa*; the *Economic Rationale for Cooperation in International Waters in Africa*; and *An Institutional Assessment of Transboundary Watercourses in Africa*. The 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.

Basin or region-specific analyses completed this year include: the *Climate Change Assessment of the Energy-Water Nexus* for the Zambezi basin; the assessment of the first phase of the Kandadji resettlement program; the diagnostic study included in the Lake Chad Development and Climate Resilience Action Plan; and the Priority Needs for Lake Chad Basin Information Systems report. In the Nile basin, two flagship reports – *Nile Cooperation: Opportunities and Challenges* and *Nile Cooperation: Lessons for the World and Lessons from the World for the Nile Basin* – and 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, and quantification of benefits in transboundary water cooperation were completed this year. 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?*”

Previous reporting described the completion and use of the study titled: “Institutional Assessment of the Zambezi River Authority.”

Intermediate Result 2. Water resources management strengthened

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



FY16 Target: Five relevant institutions with projects in operation that improve water and climate risk management and/or investment operation coordination

FY16 Achievement: Seven relevant institutions have projects in operation that contribute to strengthening water resources management

ECOWAS, LCBC, NBA, NBI, SADC, VBA, and ZAMCOM (seven basin institutions, three basins, two RECs) have projects in operation that contribute to strengthening water resources management. The dam break analysis with ZRA was removed from the CIWA project and is therefore no-longer contributing to this indicator

Intermediate Result 3. Water resources development strengthened

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



FY16 Target: Six investment opportunities with regional benefits influenced by projects in operation

FY16 Achievement: 31 investment projects are being advanced by projects in operation

NBA, NBI, VBA, ZRA, OKACOM, LCBC and the governments of Botswana, Tanzania and DRC have projects in operation that contribute to advancing 31 investment opportunities See Figure 1

Indicator 2: Number of relevant transboundary institutions with an improved approach to sustainable investment planning and bankable investment preparation⁷



FY16 Target: Four institutions with projects in operation that improve the approach to sustainable investment planning and bankable investment preparation

FY16 Achievement: 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

⁷ Sustainable investment preparation includes consideration of poverty, gender, long-term climate change among other social and environmental considerations

Intermediate Result 4. Stakeholder engagement and coordination strengthened

Indicator 1: Number of basins with improved engagement of civil society, private sector and academia; percentage of basins with improved engagement of organizations representing the interests of women and/or the poor



FY16 Target: Four basins with projects or activities in operation, 50 percent of which include organizations representing the interests of women and/or the poor

FY16 Achievement: Partially achieved

NBA, NBI, NBD, OKACOM, SADC, VBA, and ZAMCOM (six basin institutions in five basins plus one REC) have projects in operation that contribute to strengthening stakeholder engagement and coordination; 20 percent of basins with CIWA support to strengthen stakeholder engagement, including organizations explicitly representing the interests of women and/or the poor

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



FY16 Target: Three basins with increased information in the public domain

FY16 Achievement: 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

Feature 1: CIWA Addresses Gaps in Knowledge

In Sub-Saharan Africa, cooperation over transboundary waters is stifled by gaps in technical knowledge, shortcomings in institutions and policies, knowledge gaps regarding economic opportunities, socio-political difficulties, and lack of capacity. CIWA analyses and outreach serve to generate, share, and manage knowledge that can:

- Facilitate cooperative development and management of international waters;
- Explore potentially high-impact collaborative investment opportunities in defined basins and regions; and
- Create shared understanding of the opportunities, risks, costs, and benefits of cooperative development and management of international waters among stakeholders.

In FY16, CIWA completed four projects providing analytical and advisory services. Reports and related outputs are on the CIWA website.

Overview of Institutions in International Waters in Africa – This assessment provides a compilation of national and transboundary legal and policy instruments regarding transboundary waters in Africa. The study improves understanding of the principles and mechanisms employed in the creation and formalization of water resources institutions across Africa. It provides insights for current and future water management, fostering cooperation in international waters that is consistent with key national and international policy objectives.

Improving Public Access to Basin Data – This project resulted in the development of a highly interactive web-based mapping portal for all major international basins in Africa. The portal improves public access to water resources information and facilitates collaboration and decision-making for transboundary basins. It provides a modern spatial tool to help organize and visualize a wide variety of useful spatial and other information in an informative, interactive setting.

The tool is intended to serve a variety of audiences, including CIWA teams, broader World Bank teams, basin organizations, and other development organizations. For example, mapping datasets of rainfall and vegetation over time can help a team understand a basin's water balance, which enables more informed development decisions. The tool and the datasets are available through a variety of modes, including an app, e-books, and online, and will be continuously updated as new data is made available.

Practical Guidance: Political Economy Analysis for Transboundary Water Resources Management in Africa – The note developed under this project provides practical advice for water resource management specialists who wish to carry out strong, operationally relevant, political economy analysis. The overall objective of this note is to contribute to the development effectiveness of programming by assisting task teams to develop a nuanced understanding of the political-institutional realities on the ground in the countries with which they engage. The note explores some of the key political economy concepts and variables teams may want to consider, provides advice about setting a manageable scope for the analysis, and explores strategies for applying key findings to the design of operational engagements. The note is primarily focused on the use of political economy analysis to inform operational preparation and supervision, though it is also expected to be of value to other development actors as they seek to understand and shape their own engagements in international waters.

Economic Rationale for Cooperation in Transboundary Basins in Africa - This report provides a review of the challenges to transboundary water cooperation, pathways for overcoming those challenges, and the role of economics in facilitating the discovery of those pathways. The study strengthens the economic rationale for cooperation in African basins and enhances collaborative investments and the quality of cooperation dialogue and decision-making process.

QUALITATIVE RESULTS

CIWA support contributes to several of the SDGs. The section below includes indicators for how each result contributes to ending poverty, fighting inequalities, and tackling climate change, while ensuring that no one is left behind.



i INFORMATION

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

1. EFFECTIVE INFORMATION PLATFORMS ENHANCE RESPONSES TO WATER-RELATED HAZARDS, WHICH ARE MORE FREQUENT AND EXTREME IN A CHANGING CLIMATE

NILE

A basin-wide hydromet network designed by the NBI Secretariat (Nile-SEC) in collaboration with the Nile countries is now complete and has ministerial-level approval from countries.

Nile-SEC is currently in discussion with national-level water resource management programs to ensure the new hydromet stations identified under the Regional Hydromet Network Assessment are harmonized with national level plans. Through its support for national-level hydromet projects, the World Bank is encouraging alignment with this regional plan. Harmonization of data from both existing and planned stations across national borders is critical to be able to accurately and effectively provide people with monitoring and forecasting services, to help with real-time decision making for flood early warning, river and reservoir operations, and to build a shared information base that can inform evaluation of tradeoffs related to hydropower, agriculture, and flood control at basin-scale. Nile-SEC is actively seeking funding for implementation of the hydromet system and is in advanced stages of negotiation with the EU for financing of a subset of regional hydromet stations.



Eastern Nile Technical Regional Office (ENTRO) continues to improve and scale-up flood preparedness and early warning activities in the Eastern Nile.

ENTRO's rainfall forecasting models were enhanced to configure the Weather Research and Forecasting (WRF) models and to better serve the needs of National Flood Forecast Centers. Flood forecasting was extended to include flood prone areas of the Baro-Akobo-Sobat sub-basin, including the highly exposed Gambella floodplains, which regularly experience seasonal flooding in rural and urban areas. An analysis of flash floods was carried out for vulnerable areas in Sudan. 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. Seasonal and weekly flood forecasts, which were provided in 2016 for the sixth consecutive year, help plan cropping for the season, reduce property damage, and minimize disruption of productive activities, and daily flood forecasts 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, email, and direct mobile phone messaging. During peak flood season, a growing number of institutions at sub-national, national, and regional levels, including UN agencies, rely on daily forecasts generated by ENTRO to provide timely relief assistance. 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.



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 is monitoring, national level media for events and articles related to climate, livelihoods, environment, water resources, and harvesting and sharing of relevant information. NBD is working to revamp its website to include user-generated content towards its goal of serving as a platform for communication and information dissemination among member organizations. Meanwhile, NBD has used existing social media and event platforms to steadily expanded outreach and connections among civil society members in a relatively short period. These strengthened horizontal communication channels to 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.





VOLTA

A CIWA-supported diagnostic of Volta Basin Authority's (VBA) communications is currently underway to inform development of the Communications Strategy and Plan.

With support from CIWA, the VBA aims to strengthen its overall communications. It is developing a Communications Strategy that establishes guidelines for a platform for exchanging information and harmonized data among stakeholders, to create a shared understanding of the basin's needs, resources, and trends under a changing climate. A Communications Plan will operationalize the strategy and define the key messages, channels and tools to be used across stakeholders. Improved communications aim to enable enhanced forecasting and disaster risk reduction in the short term and improve water resource management and development in the longer term.

2. SHARED DATA, KNOWLEDGE, AND ANALYTICAL TOOLS ENABLE TIMELY, TRANSPARENT, AND REGIONALLY BENEFICIAL DECISION MAKING



NILE

The Nile Basin Decision Support System (DSS) was expanded to include two new modeling tools related to climate change and tradeoff analysis, enabling more comprehensive climate-resilient development planning; training and support was provided to countries for application of these features.

National DSS focal points reported increasing types and number of national-level use of the DSS. Entrants to the "Best DSS Application Awards" organized by the Nile-SEC demonstrates its wide-ranging application. 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. 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 Nile Basin Initiative (NBI) Centers, the establishment of a DSS user community and online help desk to support users troubleshoot technical issues and provide a platform to foster collaboration, and the provision of an online modeling portal where the public can access modeling outputs. Collectively, these actions help to 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.

Building on the basin-wide hydrological modeling groundwork laid by the DSS, an official baseline for water use across the Nile Basin has been established following endorsement by the Nile Council of Ministers and Technical Advisory Committee.

The Ministers reviewed the results of the strategic hydrological analysis undertaken by the NBI (with German Development Cooperation (GIZ) support, augmented with funds from Nile Cooperation for Results (NCORE), and using tools developed under the Nile Basin Trust Fund (NBTF) and with CIWA support), which established an agreed hydrological baseline for the basin, and projected future demands of each country. 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 that carefully considers inter-sectoral tradeoffs 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. The Council of Ministers approved the second phase of strategic analysis, which includes investigating new options for enhancing basin water yield and conservation in the basin, the scope for conjunctive use of ground water and surface water, and optimal management of dams, among 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.



Nile Equatorial Lakes Subsidiary Action Program–Coordination Unit (NELSAP-CU) continues to strengthen its suite of hydrological and water-use simulation models, for instance by incorporating enhanced economic models to allow the evaluation of technical and economic dimensions of projects and enable more holistic investment project planning.

Under the auspices of the Multi-Sector Investment Opportunities Analysis (MSIOA), 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. NELSAP-CU is training on water allocation modeling and analysis in countries that request it, including Tanzania and Rwanda. NELSAP-CU has provided support to Rwanda's inter-ministerial water resources committee, and trained the Ministry of Water to provide technical analysis for policymakers in Integrated Water Resources Management (IWRM) issues. National level institutions' use of a common set of comprehensive planning tools, with 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.





NILE

All three NBI centers prepare knowledge products on pertinent basin-wide and sub-basin issues and disseminate them to key stakeholders.

Knowledge products developed by Nile-SEC that build upon CIWA-supported analytical work continue to inform ongoing dialogue on Nile cooperation around sustainable transboundary water management. These products include two flagship reports – *Nile Cooperation: Opportunities and Challenges* and *Nile Cooperation: Lessons for the World and Lessons from the World for the Nile Basin* – and four briefing papers on Nile cooperation 2024 scenarios, assessments of instruments and practices for conserving ecosystem services, good practices in gender mainstreaming in NBI, and quantification of benefits in transboundary water cooperation. ENTRO has published and disseminated a number of knowledge products pertaining to cooperative watershed management and regional dam safety, including a watershed management field guide, *What have we brought back from China?*, a report summarizing lessons on rehabilitation of degraded watersheds from a study visit to the Loess Plateau of China; and three documents on dam safety: Eastern Nile Dam Safety Guidelines, Small Dam Safety Guidelines, and Dam Safety Training Module. NELSAP-CU has also prepared strategic analyses that demonstrate the need for coordination among countries such as a Nile Equatorial Lakes region (NEL) soil erosion map and a sediment loading manual, which have been disseminated to riparian countries and project staff for preparation of transboundary projects. Other shared information management systems and tools developed by NELSAP to enhance decision making include a NEL water resources database, an online document management and sharing system, and a web-based MSIOA tool.



NILE

NBI and 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 (CSOs) 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 among governments, regional and national organizations, and civil society; to strengthen the NBI-NBD working partnership; and to ensure that investments prepared and advance by NBI are sustainable, regionally beneficial, and relevant to stakeholder needs.

VOLTA

The VBA is strengthening knowledge generation and dissemination in the Volta Basin.

For example, by facilitating staff participation in Global Environment Facility (GEF) International Water Learning Exchange and Resource Network (IW-Learn) activities; sharing of studies and knowledge products ranging from regional planning documents to more technical studies on water resources management, climate risks, water economic infrastructure in the region, both through the VBA website and through direct interactions and participation in international workshops.



ZAMBEZI

CIWA is helping to strengthen the operationalization of the Zambezi Water Information Management System (ZAMWIS) to provide an effective DSS for the Zambezi River Basin amidst increasing climate variability, decreasing resource predictability, and increasing demand from competing water users.

An improved ZAMWIS will facilitate timely and informed water management decisions in the short term through forecasting and early warning systems, and in the long term through application of integrated basin models and information management systems in the planning and management of the basin's water resources. Zambezi Watercourse Commission (ZAMCOM) will employ forecasting and analysis from ZAMWIS, informed by national data and development plans, in laying out its basin-wide strategic plan for countries to cooperatively manage and develop shared water resources. The first phase of the ZAMWIS database was developed with parallel support from Danish Development Cooperation (DANIDA), constituting geolocated hydrologic and economic data. ZAMCOM is now facilitating country consultations around draft rules and procedures for data sharing. CIWA support builds on that of a multi-donor initiative to strengthen information sharing in the Zambezi Basin. DANIDA supported the development of a draft data sharing protocol.



ECOWAS

ECOWAS, with CIWA support, is advancing knowledge by elaborating the first Fouta Djallon Atlas.

The Atlas will help fill existing knowledge gaps pertaining to the Guinean highlands. As the source of 12 transboundary rivers, Guinea is known as the "water tower of West Africa." It is therefore critical to develop and strengthen the knowledge around its water resources to enable the appropriate watershed protection mechanisms and inform national and regional planning. A kickoff workshop organized by ECOWAS Water Resource Coordination Centre (ECOWAS WRCC) in September 2015 determined the format and content of the Atlas. A preliminary version of this knowledge piece is expected in the fourth quarter of CY 2016, and a final version will be delivered in early of 2017.





LAKE CHAD

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 Lake size were also linked with socioeconomic data to describe how water-use and precipitation changes will impact the socioeconomic and productive systems in the region. A series of publications, events and consultations with policymakers highlighted these findings and is fostering dialogue towards an improved and regionally beneficial approach in decision-making.



SADC

The SADC Groundwater Monitoring Institute (GMI) will support national institutions and River Basin Organizations (RBOs) in conducting multidisciplinary analyses in selected transboundary aquifers through Transboundary Diagnosis Analysis and Strategic Action Plans.

This will consist of setting up systems for data collection, data sharing, and monitoring networks to find solutions for joint management and development in these aquifers. This activity is included in the GMI's annual work plan and will build on recent and ongoing efforts in the region on transboundary aquifer management. For example, the GMI has invited International Water Management Institute (IWMI)-Pretoria to the September 2016 project-launch workshop to learn from ongoing efforts to coordinate projects on the transboundary management of the Stampriet (Namibia, South-Africa and Botswana) and Ramotswa (South-Africa and Botswana) aquifers and to collaboratively identify other priorities in the region for intervention. The GMI will identify a research plan through dialogue with SADC members states to address critical groundwater management challenges. Research findings will be disseminated to inform decision-making and behavioral change. They will promote and strengthen analytical tools for water management and support capacity building to expand and revitalize groundwater data collection, management and sharing in Southern Africa, which will ultimately inform decision making.

Feature 2: Prioritizing Groundwater in the South African Region

In the member states of the South African Development Community (SADC), it's estimated over 70% of the 250 million people living in the region rely on groundwater as their primary source of water. Although the dependency on groundwater varies across SADC countries, groundwater often provides a critical buffer between dry and rainy seasons. It also plays a key role in economic growth – groundwater is the primary source of water meeting demand from expanding factories and growing urban populations, and it accounts for 12% of water used by the agricultural sector. Poverty alleviation through improved human wellbeing, livelihoods, food production, ecosystems, industries, and growing cities in the SADC region all rely on the availability and quality of groundwater.

As a result of increased climate variability and growing demand, the region is experiencing increasing dependency on groundwater for both domestic and commercial water needs. At the same time, availability and quality of groundwater is at risk. The expansion of commercial farming and industries draws down the aquifer levels, and pollution of the aquifers from agriculture and mining industries is a growing concern. In response to a growing dependency, some SADC member states are actively integrating groundwater into their water resource management policies and laws. Overall, however, institutional frameworks to manage water at both national and regional levels still do not adequately incorporate groundwater. Information systems to manage groundwater are disparate throughout the region, and institutions to manage the resource have limited capacity and operate within an environment of scarce financial and human resources.

Through the CIWA-supported Sustainable Groundwater Management in SADC Member States project, a new regional center of excellence for the sustainable management of groundwater was established in early FY16. The Groundwater Management Institute (GMI) will facilitate regional cooperation around groundwater development and transboundary aquifer management and support implementation of country-level and regional activities envisaged under the SADC Groundwater Management Program.

Throughout the project, the GMI will work to strengthen national and transboundary institutional management of groundwater, advance scientific research on groundwater challenges, and promote infrastructure solutions for the development of groundwater resources. The project includes resources for technical capacity-building within and for Member States, mobilization of long-term finances for GMI, and the building of ownership and engagement at national level through focal groups, networks, internships, and pilot-grants. The GMI has already prepared a position paper mapping the status and capacity of groundwater management in the SADC member states and undertaken a review of small-scale investments made under a previous regional project on drought management. The review will examine the socio-economic benefits at the community level and, more specifically, the benefits for women and the poor.



INSTITUTIONS

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

1. STRENGTHENED, ADAPTABLE INSTITUTIONAL STRUCTURES ENABLE ROBUST WATER MANAGEMENT AMIDST GROWING UNCERTAINTY DUE TO CLIMATE CHANGE AND COMPETING DEMANDS FOR WATER



NIGER

The Niger Basin Authority (NBA) is holding consultations to finalize and adopt Water Charter Appendixes that will enable more robust and coordinated water management decision making.

CIWA support will assist the NBA Member States and the NBA as they finalize and adopt Appendix 2 of the Niger Basin Water Charter, which is the institutional provision for enhanced coordination of transboundary water infrastructure in the basin, including potential new dams. Appendix 2 of the Water Charter, which was approved by NBA member countries in 2008 but has not yet been adopted, is the legal instrument for the coordinated management and optimization of large infrastructure. It includes water release rules, dispute resolution, and arbitration enforcement. A strong legal framework to coordinate operation of infrastructure is underpins transboundary decision making among the countries as they increase their use of the scarce water resources for hydropower generation and irrigation while maintaining environmental flows amidst increased aridity and variability that is expected with climate change.



NIGER

Support for the Basin's Panel of Experts for Dam Safety will help to establish procedural norms for water management and development that will improve the quality of infrastructure developed.

CIWA support for the Basin's Panel of Experts helps the NBA and its member states fill a crucial institutional gap. The panel will provide oversight in the technical design and construction of large transboundary dams, and it is expected that this panel will be called upon during the preparation and construction of new dams coming online in the basin.



In August 2015, the Eastern Nile Council of Ministers agreed to establish regional and national dam safety units following their endorsement of ENTRO's regional dam safety guidelines.

ENTRO disseminated the guidelines widely at international, regional, and national levels and through non-governmental organizations (NGOs) and Civil Society Organizations (CSOs), and has trained professionals in the basin to implement dam safety practices. 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. ENTRO is now looking for funding to develop regional standards on spillway design, recognizing the need for coordination in the building and operation of dams in cascade along the river. ENTRO is also developing a roadmap that countries could follow to reach agreement on the coordination of dams, helping them to lay important groundwork for safe, economically optimal, environmentally sustainable, and regionally favorable operation and design of large storage structures in the Eastern Nile.





VOLTA

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 CIWA support includes drafting, collaborative evaluation, and ratification of the Charter and includes strategic communication to integrate the Charter's principles and directives into existing water management practices at national and community levels. While the basin-wide legal framework provided by the Charter will define 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.

The first step in the development of the Charter is an in-depth diagnostic study comprising of 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 local, national and basin levels. The diagnostic study will inform the drafting of the Charter, which will involve an extensive, multidisciplinary consultation process to facilitate Charter endorsement by basin stakeholders, by national ministers, and where relevant, adoption by national parliaments. Support will be provided to the VBA in raising awareness, sharing relevant information, and conducting advocacy activities to enhance the understanding, ownership and operationalization of the Charter's principles and shared rules, and to speed up its entry into force, including the ratification by heads of state.

Procurement of the consultant to lead the process is underway, with activities expected to start in 2017. The program unit within the VBA has attended trainings to strengthen capacity on legal aspects of shared waters and has had several exchanges with other River Basin Organizations (RBOs) to build understanding around water charters.



ZAMBEZI

A concept note for preparation of the Zambezi Strategic Plan has been approved by the ZAMCOM's Council of Ministers.

The Strategic Plan is envisaged 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, reasonable and equitable utilization of the basin's water resources across both sectors and national borders. ZAMCOM is finalizing procurement of expert services to develop the Strategic Plan as per the concept note.

ZAMBEZI

Development of the Zambezi Strategic Plan is underpinned by improved knowledge and advanced analytics, as well as a facilitating inter-country dialogue, which deepens the shared understanding of issues across the Zambezi 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 tradeoffs between irrigation and hydropower in the basin under projected climatic conditions, and will be one among a series of tools that riparian states can use to better understand the impacts associated with increased hydro-variability, to inform options for investment planning, and to guide potential infrastructure development in the sector within the agreed framework provided by the Strategic Plan.



LAKE CHAD

The Lake Chad Basin's Water Charter is the member states binding framework for promoting sustainable development through integrated, equitable and coordinated natural resource management.

This year, with CIWA support, the Bank team held consultations with relevant stakeholders, including LCBC, LCBC Members States, and development partners, to identify member states' and RBO's capacity gaps to comply with LCBC Water Charter. Based on these consultations, the team and the clients elaborated on specific investments and interventions needed to comply with the Water Charter. These interventions are geared to strengthen the understanding about the links between water and 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.



ORANGE-SENQU

The nearly completed Lesotho Highlands-Botswana Water Transfer Study considers two potentially transformative development options for the transfer of water from the Lesotho Highlands to Botswana and/or from the Zambezi River to Botswana (see below under water resources development outcomes).

The three riparian states of Botswana, Lesotho and South Africa established a Joint Study Management Committee to oversee the study in accordance with the Memorandum of Understanding between the three countries. This strategic analysis covers technical, institutional and legal elements of 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.





Feature 3: Batoka Gorge Studies Complete, Search for Financing to Begin

The Zambezi River Basin Development project is focused on advancing the Batoka Gorge Hydro-Electric Scheme. Preparatory work for the US\$2.6 billion investment is near completion. Given the lack of energy generation capacity and increasing demand in the region – the basin population is expected to grow from 40 million in 2010 to 70 million in 2040 – this new 1600 MW hydroelectric scheme (HES) is estimated to provide sufficient energy for more than 1.2 million households, substantially contributing to safeguarding development gains and supporting further economic growth.

First identified decades ago as part of a cascade on the Zambezi River between Zambia and Zimbabwe, development of the Batoka Gorge HES was delayed due to an unresolved impasse between Zambia and Zimbabwe dating back to 1987. This delay was estimated to have resulted in over US\$7 billion in foregone revenues from direct electricity sales and an economic loss of over US\$45

billion in the cost of unserved electricity. Acknowledging these costs and the urgent need for additional generation capacity, CIWA facilitated an agreement between the two countries that opened the way for advancing project preparation.

With CIWA's support, the Zambezi River Authority (ZRA) is completing engineering studies to assess, update, and develop a bankable feasibility study that includes tender design and documentation for the development of Batoka Gorge HES and associated transmission lines to evacuate the power. Additionally, the environmental and social impact study for the Batoka Gorge HES is under consultation, and technical and transaction advisory services are aiding the governments of Zambia and Zimbabwe in evaluating and identifying an optimal financial partnership option and transaction structure. The ZRA expects to begin seeking financing for the investment in FY17.

2. FINANCIALLY AND INSTITUTIONALLY SUSTAINABLE REGIONAL ORGANIZATIONS PROVIDE EFFECTIVE WATER MANAGEMENT SERVICES TO COUNTRIES

NIGER

Sustainable financing is an essential ingredient for an institution to sustainably and effectively carry out water management functions.

To enable the NBA to improve its financial stability, CIWA will support analysis and operationalization of select financing mechanisms meant to develop a sustainable income stream for the NBA. This is expected to contribute to overall performance of the NBA, allowing it to more consistently and independently carry out its core mandate of Basin level IWRM, enforcement of the Water Charter, and knowledge.



NILE

In response to country requests that emerged during the Eastern Nile MSIOA consultations, ENTRO is now undertaking work to develop a roadmap for the countries to follow, if they wish to agree on a mechanism for coordinated operation of water resource infrastructure and an assessment of projects promoting water use efficiency that countries may be willing to cooperatively pursue.

This increased focus on sustainability of built and natural infrastructure is advancing an integrated approach to water resources management and development in the Eastern Nile.



NILE

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 NBI centers. CIWA worked closely with GIZ and Stockholm International Water Institute (SIWI) to help NBI in planning its 2016 Strategic Dialogue which involved consultations with all Nile countries and donors on the NBI's progress, its inclusiveness and its financial sustainability, and identification of key areas for NBI focus 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 NBI's and NBD's progress under CIWA, with many countries requesting further CIWA support for the NBI's programming.





VOLTA

Bank-executed institutional assessment of the VBA will identify institutional and capacity gaps in VBA, and will define a roadmap to strengthen the VBA institutional structure and operational capacity.

It will enable VBA to facilitate more effectively the cooperative water resources management and development in the basin, including the implementation of the Water Charter. An inception report for the assessment was presented during the CIWA-GEF-funded project launch in February 2016. A draft interim report will be discussed by the Steering Committee in October 2016, and is expected to include five main components: (i) a political economy analysis of the context in which VBA was created and is operating; (ii) an organizational analysis of VBA; (iii) a comparative analysis of policies and legal instruments on water resources; (iv) an assessment of the internal procedures; and (v) an analysis of consultation tools and communication VBA.

Additional early measures to strengthen the VBA's institutional structure include actions to train the VBA's National Focal Points and the fortification of national structures that interact with the VBA to build trust among people and institutional structures in different countries and forge a common understanding of VBA needs. These institutional strengthening measures will help form the political and financial support needed for transboundary coordination.



VOLTA

With CIWA support, 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 AFD on autonomous financing mechanisms to operationalize the much needed improvement in national contributions from Member States to cover VBA operating expenses. In line with the 2015-19 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, while in the longer term to establish National Focal Structures and ensure their effective functioning. Recruitment of the consultant conducting the study is expected by the end of 2016.



ZAMBEZI

The permanent ZAMCOM Secretariat, hosted by Zimbabwe, was established in 2014 and is financed largely through member state contributions.

While ZAMCOM's Council of Ministers has endorsed the definition and costing of its minimum functionality, its request for further assessments of institutional sustainability demonstrates the value that the Secretariat already provides to Member States.

With CIWA support, an equivalence assessment of national water laws among member states is underway.

A compendium of water-related policy and legal instruments from member states has been compiled and guidelines to harmonize these instruments are being developed. Regional and national level stakeholder workshops will be conducted to discuss findings and interim results to ensure that current national-level practices around shared waters can be reconciled and that the guidelines for harmonization can be effectively translated into cooperative management and development of shared waters.



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 will be part of a public information program that creates awareness at 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 alignment of objectives with ZAMCOM.



A CIWA-supported study by the Water Resources Coordination Centre of ECOWAS on sustainable financing mechanisms for the Mono Basin Authority (MBA) is near completion.

A workshop will be held in October 2016 to validate the results. The report, which proposes short-, medium-, and long-term financing mechanisms for the MBA, 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). Laying out its financial strategy is the first step for the MBA to become an independent and sustainable institution. One of the key proposals discussed at the constitutive meeting was the development of a Strategic Action Plan for the MBA. One of the principle dimensions under discussion relates to the match between the resources that have been identified and the scope of the institution as defined by its Strategic Plan.





OKAVANGO

During the MSIOA process, member states and partners held substantive discussions around strengthening the Permanent Okavango River Basin Water Commission (OKACOM) to deliver on the vision for the basin.

The Commission has defined an ambitious Sustainable and Equitable Climate Resilient Investment Program that would address underlying drivers of poverty in order 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 in helping the member states advance investments in the basin. These transformative discussions represent an important step toward enhancing the OKACOM's ability to achieve better outcomes through cooperative development and promote more efficient use of available water resources.



SADC

Institutional arrangements for the SADC Groundwater Management Institute, planned as a regional center of excellence in groundwater management and development, were established and key staff hired to initiate project activities.

The project oversight team hired an interim-director to speed up project launching. The administrative processes for hiring the permanent Director have also been initiated following the pertinent selection process. Moreover, SADC-GMI offices were created at the University of Bloemfontein, South-Africa and the GMI then prepared an inception report, a short-term work plan and budget.

In order to establish partnerships and institutional linkages, and strengthen institutions, GMI staff attended the SADC Ministerial Workshop on Energy and Water Crisis in Gaborone in June 2016 and initiated engagement with national partners. Building on this momentum, the GMI held a Project Launch Workshop in Johannesburg in September 2016, where representatives of the 15 member countries discussed GMI's work plan. This work plan aims to strengthen regional cooperation by working collaboratively and sharing results on a range of project activities structured around core themes, such as mitigation of impacts of climate variability, groundwater and extractives. The GMI is also advancing partnerships with relevant international partners, including IWMI, SIWI-Pretoria, and UNESCO-IGRAC, in order to assess complementarity among their respective programs and identify opportunities where SADC-GMI, as a key player in the topic, can facilitate cooperation and information sharing. These two steps, establishing the Groundwater Management Institute and building partnerships with member states and relevant national and international institutions to strengthen key networks comprise the pillars of an institutionally sustainable organization that delivers effective services to SADC member countries.



Feature 4: Gender Mainstreaming Strategy and Results

CIWA recognizes women and girls' unequal access to water resources, unequal participation in water management processes, and unequal impact caused by water-related development and climate challenges. The gender inequality in water resource management and water security results from a number of underlying socio-economic barriers that limit women's equal participation and access: women are more likely to be extremely poor; they are highly dependent on natural resources for their livelihoods; they often bear the family responsibility for tilling land, gathering firewood and fodder, taking care of livestock, and transporting water; and they often have less access and rights to natural resources because of traditional customs and inheritance laws that often favor men. According to the UNDP's 2016 Africa Human Development Report, gender inequality is costing Sub-Saharan Africa on average US\$95 billion a year.

Building on the World Bank Group's Gender Mainstreaming Strategy (2016 – 2023) and the CIWA Gender Mainstreaming Strategy (2015), CIWA incorporates gender considerations into its project planning, implementation, monitoring and evaluation. First, recognizing the central role that women play in community-based integrated water management institutions and local water tenure arrangements, CIWA facilitates the inclusion of NGOs, CSOs and other organizations representing the interests and concerns of women in CIWA-supported stakeholder advisory groups, dialogues with civil society, and stakeholder research, and makes strong efforts to improve bottom-up and horizontal communication among

civil society organizations in networks where possible. Second, communications materials, information portals, and knowledge partnerships developed with CIWA support are informed by the gender-differentiated reality of climate risks and vulnerability that men and women face and the leadership roles women play in building climate change resilience. Third, gender considerations in increasing competition among water users and sectors in transboundary contexts are taken into account in planning and implementation of development processes to ensure equitable benefit sharing. To this end, CIWA-supported work with water commissions, water juries, irrigation cooperatives, and women's organizations plays an important role in helping resolve water-related disputes among local stakeholders.

Examples of gender-specific interventions and results from 2015-2016 include:

- **Engaging women in community-based water management decision-making.** Across the Nile Basin countries, where women's leadership and participation in water resources management is weaker, Nile Basin Discourse works with civil society to empower women to exercise leadership within their communities and explores context-specific channels to help draw women's voices into development processes. Recognizing the need to represent the voices and concerns of women in integrated water resources management, including local water tenure arrangements, community-based watershed

Engaging and representing women in the Multinational Lakes Edward and Albert Integrated Fisheries and Water Resources Management Project (LEAF II)

LEAF II provides an exemplary case of integrating women in project planning, implementation, monitoring and influencing policy impact. Prepared by NELSAP-CU with community stakeholder engagement facilitated by the Nile Basin Discourse, LEAF II integrates fisheries and water resource management in Uganda and the Democratic Republic of Congo (DRC) for improved food security. During the pilot phase, women were identified as key beneficiaries because of their role in securing household food needs through reliance on the lakes. Women fisherfolk were trained and their capacity built to better enable them to monitor the water quality and fish stocks, as well as improve their fishing practices and processing efficiency. This helps the women get better products to market and improve their livelihoods in a sustainable way. As part of the scale-up in LEAF II, CIWA is supporting continued NBD-led stakeholder engagement that mainstreams gender across the project activities. At the policy level, gender issues will be considered in the harmonization of fisheries regulations, ensuring a legislative framework that supports gender equity. At the operational level, the project will ensure equity in resource management processes: while the fishing is largely undertaken by men, postharvest activities of processing and trading is largely managed by women so women need to be involved in decisions about the resource. For many of these women, income from the fish business can make a real difference to their lives. It is often their only source of cash income in a society where men typically control the cash generation activities of households.

management, and water-related livelihood activities such as livestock rearing and fishing, a CIWA-supported stakeholder mapping in the NBD scoped out women-centered CSOs and NGOs across 10 countries in the Nile Basin. The CSOs' water-related areas of focus and their roles in improving women's engagement in climate resilience and cooperation on the Nile were identified. Engagement with organizations that represent women's interests has enabled NBD to bring women's voices to the discourse on water resources management and development, to ensure that women's differential needs and concerns are addressed and that they share equitably in benefits.

- **Capacity building tailored to gender reality.** Acknowledging that gender-differentiated roles of women and men result in facing different climate risks and vulnerabilities, CIWA supported NBD in training CSOs and NGOs across 10 Nile countries on ways that men and women, in their respective roles and different needs, can contribute to greater climate resilience of their families and communities.
- **Gender-responsive investment planning and implementation.** To guide project management units, development practitioners, partners, and consultants on

how to integrate gender considerations throughout the investment project cycle, NELSAP-CU has developed sector-specific gender-mainstreaming guidelines and checklists based on typical priorities and challenges likely to be faced in NELSAP-CU-implemented projects in water supply, irrigation and drainage, fisheries, hydro power, regional power pools, watershed management, wetlands management, flood management, riverine navigation. While NELSAP-CU provides trainings on the application of these guidelines, it undertakes monitoring and evaluation of project performance and outcomes using gender sensitive indicators across its CIWA-supported and wider portfolio. NELSAP-CU also reviews the incorporation of gender in key documents such as Transboundary Cooperative Frameworks for sub-basin projects, stakeholder management guidelines, feasibility studies, and communications materials. Importantly, NELSAP-CU coordinates with the Nile Basin Discourse (NBD) to reach out to women's community based organizations to increase their participation.

- **Promoting gender equity in household and community decision making through equitable resettlement compensation.** Mainstreaming gender in safeguards is an important priority. NELSAP-CU reviews terms of reference for Social Impact

Ensuring gender-equitable resettlement compensation

The Resettlement Action Plan for the Rusumo Falls Hydroelectric Scheme, prepared and currently under implementation by NELSAP, recognizes contextual relationships across genders and ensures equitable resettlement compensation by requiring that: “Compensation agreements shall be signed off by both spouses of affected households. For households where partners are not officially married or for polygamous partnerships, the project will request the head of household to sign the agreement together with all partners, so that all partners can document their entitlement to compensation.”

Assessments and Resettlement Action Plans to ensure that gender roles, access to resources, and biases are assessed by specialists with gender expertise and inform mitigation measures, livelihood restoration, enhancement measures, and local area development plans. Examples of good practice that NELSAP-CU uses to foster gender equality in safeguards include: inclusion of women in land transactions whether or not they hold a title to the land, recognizing they have usufruct rights under customary law; inclusion of socio-cultural costs of displacement, such as women's loss of social support networks, in compensation packages; assistance packages for women; gender capacity building for institutions and structures that deal with displacement, resettlement, and rehabilitation; gender-sensitive and inclusive stakeholder communication, consultation, and disclosure processes; and gender parity in quotas for decision-making structures such as resettlement committees, grievance committees, local area development committees.

- **Increasing gender accountability through gender responsive budgeting and audit.** Gender-Responsive Budgets analyze policies, taxation, revenues, expenditures, and deficits from a gender perspective. They are important tools for ensuring accountability and political will towards gender mainstreaming. CIWA is supporting NELSAP-CU to initiate the process of developing gender-sensitive budgets across its projects. Funds thus allocated were tracked to show how a project is contributing to gender equality. NELSAP-CU set aside an allocation of 0.14 percent of its social development budget for gender-related activities. In addition, NELSAP-CU undertook a gender audit to analyze gender considerations in IWRM planning, budgets, the institutional capacity

of NELSAP-CU to implement gender-mainstreaming strategies, and the links between gender and strategies to meet NELSAP-CU's development targets. The audit identified specific ways in which gender issues are, or are not, addressed, and provided concrete recommendations on how to better integrate gender in NELSAP-CU interventions, resulting in the development of project-level gender action plans across NELSAP-CU's projects.

- **Gender-informed evaluation of ecosystem services.** In the Niger Basin, CIWA-supported modeling and benefit sharing support is considering how the ecosystems services of the Niger Inner Delta benefit women and men differently. A gender-focal point embedded in the Niger Basin Authority (NBA) is closely engaged in the development and application of the modeling to ensure that gender mainstreaming continues through the NBA's project implementation.
- **Reducing poverty through sustainable, gender-inclusive management of groundwater.** CIWA is supporting the establishment of the SADC Groundwater Management Institute (SADC GMI), a regional center of excellence in groundwater management and development that will support Member States in planning for appropriate and sustainable groundwater infrastructure solutions in priority areas including rehabilitation, operation and maintenance, modernization or scaling up existing infrastructure. To incorporate lessons from recent experiences, the GMI is undertaking a review of small-scale investments made under a previous World Bank supported regional project on drought management, specifically evaluating resulting community-level socio-economic benefits for women and the poor.

INVESTMENTS

Regionally beneficial investments generate socio-economic benefits and gender-inclusive poverty reduction

1. IMPROVED TECHNICAL AND RESOURCE MOBILIZATION CAPACITY ENHANCES INVESTMENT QUALITY AND ADVANCES PREPARATION OF REGIONAL PROJECTS



NIGER

Capacity building events and technical assistance provided to the nine Niger Basin countries have improved technical capacity for climate resilience and adaptation.

CIWA supported an array of workshops, consultations, and technical assistance 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, as well as 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 avoiding the effects of maladaptation. The training also helped participants to better understand the climate financing landscape and the policies and mechanisms specific to different entities. The NBA and its members worked with actual projects and proposals to package investments targeted at specific funding sources, including the private sector. Thus, 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 a resource mobilization conference where the countries and the NBA will showcase their climate-resilience investment needs under the CRIP to targeted donor partners and financiers.



NIGER

Analysis of lessons learned and emerging best practices for large-scale resettlement associated with the construction of large-scale transboundary infrastructure in fragile states will contribute to improving quality of investments in the region.

The assessment of the first phase of the Kandadji resettlement program generated a number of key lessons learned 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: (i) increased attention to the needs of women, youth, and vulnerable groups; (ii) additional support to improve

housing quality and basic services at resettlement sites; (iii) implementation of complementary and/or additional livelihood restoration activities; and (iv) the 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 good practice analysis will be used to inform and strengthen investment throughout the region.

NIGER

NBA is facilitating a process with Guinea and Mali to design and implement a project preparation roadmap that marks clear decision-making points and encourages strong stakeholder engagement in order to support an inclusive evidence-based decision-making process for the Fomi Dam Multipurpose Project in Guinea.

Procurement for CIWA-supported technical assistance for this decision-making process advanced this year and will help the NBA to support the countries through the preparation and consideration of options for design, operation, and implementation of the Fomi project. In parallel, the support will include a study intended to inform the design of a robust institutional framework for financing, preparation, asset management, and operation of Fomi. CIWA's contribution will not only assist in advancing preparation of the Fomi project, but will improve technical and resource mobilization capacity of the NBA and its member states by guiding them through the process and reinforcing efforts to advance quality regional projects.



NIGER

Advanced modeling of ecosystem services in the Niger Inner Delta will inform up-stream development and investment choices.

With CIWA support, the NBA will develop an improved model of the Niger Inner Delta to help decision makers understand ecosystem services available in the Delta under different flow regimes, as influenced by Fomi Dam operations, upstream water abstractions, and different climate change scenarios. Combined with details such as sediment transport patterns of the river, groundwater recharge patterns, and the overall wetland hydrology, the modeling exercise will seek to estimate socioeconomic impacts on livelihoods and ecosystem services so stakeholders can devise a range of possible mitigation measures in accordance with acceptable levels of risk. This model will inform and improve the quality of a number of investments in the Upper Niger Basin by allowing decision makers to more fully understand impacts of development options and evaluate trade-offs in a transboundary context.





NILE

NELSAP-CU held an investor conference in June 2016 to mobilize resources for its pipeline of investments, many of which were prepared with CIWA support.

The NELSAP pipeline includes the 27 new regionally-significant investment projects approved by countries for preparation. The investor conference was funded by SIDA and AWF, and showcased to financiers the series of bankable projects prepared with CIWA support with an emphasis on technical robustness, equitable sharing of benefits, environmental and social suitability.



NILE

NELSAP-CU was awarded support from the Bank's Public-Private Infrastructure Advisory Facility (PPIAF) to screen NELSAP-CU's pipeline projects and identify possible candidates for private investment.

The analysis, which began in September 2016, is advancing with coordinated assistance from CIWA and the World Bank's Cross-Cutting Solutions Group on Public Private Partnerships. It is a concrete step in enabling NELSAP-CU to expand the sources of financing for transboundary projects, and introduce integration of a sustainable, transboundary approach to private sector-led development.



Four watershed management projects in Sudan and Ethiopia prepared by ENTRO with CIWA-support have been handed over to the countries and have been well received by the Eastern Nile Council of Ministers, which issued a policy directive for countries to implement the projects.

The countries are presenting the projects to prospective financiers, with Sudan's Ministry of Environment exploring potential support from GEF. Ethiopia has included the projects in the national budget for implementation in the coming year. 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 amidst a fragile political context.



Engineering studies for Batoka Gorge HES are nearing completion, pending an additional set of geotechnical investigations.

Based on recommendations emerging from the inception phase of the study, the governments of Zambia and Zimbabwe are exploring the feasibility of situating the scheme's two power stations above ground, instead of underground, for improved efficiency and reduced environmental costs. Detailed geotechnical investigations, pending additional financing, will more comprehensively inform the design process and enable the two countries to advance preparation of this critical investment to a bankable stage.



In addition, an Environmental and Social Impact Assessment (ESIA) for the Batoka Gorge HES is undergoing consultations. No physical relocation is anticipated as a result of the dam or reservoir. While there may be some resettlement and relocation impacts associated with the construction camp and operational facilities, these can be managed to minimize potential negative impacts and enhance development opportunities. Instruments being supported under the project will provide a robust framework for facilitating investment and enhancing development opportunities. A capacity building program around the Hydropower Sustainability Assessment Protocol is being implemented in parallel to help strengthen the investment framework for the project.



ZAMBEZI

With CIWA support, the Zambezi River Authority (ZRA) is 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).

ZRA has presented the technical and financial structuring options for the project to potential investors, including multilaterals. Based on this, a US\$600 million project for planning of the Batoka Gorge dam is proposed to be included in the International Development Association (IDA) pipeline. This can be leveraged to grow private sector confidence for financing of the two power stations.



ZAMBEZI

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.



LAKE TANGANYIKA

An options analysis on Lake Tanganyika will improve and advance investments needed to improve navigation on the Lake.

The governments of DRC and Tanzania jointly approached the CIWA program for support in restoring port access in Lake Tanganyika. A 2013 study showed that re-building the Lukuga Barrage, an estimated US\$65 million investment, would improve port access. However, questions on the technical design and sustainability of the investment remain. In response to the countries' request, CIWA is supporting an options analysis that will help them better understand the trends and constraints on lake water levels and drivers of increased sedimentation and will identify potential solutions to overcome navigation challenges. This work will help countries ensure that investment resources are strategically used and enable them to work cooperatively to improve connectivity.

The Lesotho Highlands - Botswana Water Transfer Study is delving into the viability of water resource development options for regional water supply in southern Africa.

The analysis considers the extent and timing of Botswana accessing water from the Lesotho Highlands, the institutional framework under which such a project could be implemented, and possible financial mechanisms for storage and transfer of water. The study team is also conducting an assessment of regional water supply options. A report assessing engineering, costing, social, environmental, economic and financial information related to the water transfer was 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. The report identifies a number of potential options and will further detail the possible institutional and financial arrangements to help move the project forward. The three riparian states plan to discuss the findings to identify preferred agreed options to be carried forward. By evaluating the regional tradeoffs of potential water transfers in the region, the study will help to delineate options for future investments, thereby diminishing risks and improving opportunities for the best shared return on investments.



2. COORDINATED INVESTMENT PLANNING AND INCLUSIVE STAKEHOLDER ENGAGEMENT ENSURES EQUITABLE BENEFIT SHARING AND EFFECTIVE RISK MANAGEMENT



NIGER

The Niger Basin Climate Resilience Investment Plan 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 the 21st United Nations Framework Convention on Climate Change Conference of the Parties (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. The selected investments bolster resilience through a variety of ways, for instance:

- Providing climate insurance for farmers in Burkina Faso
- Adapting farming calendars and crop types to the climate context in Benin
- Adapting the national gender policy to respond to climate considerations in Cameroon
- Adopting anti-erosion and anti-silting measures to protect cultivable lands in Mali
- Restoring fallow land and promoting agroforestry in Niger
- Rehabilitating water storage structures in Nigeria

Each investment included in the Plan was examined and vetted by member states through a comprehensive consultative process with multi-sectoral 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 Investment Plan.



NIGER

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 weakness of citizen engagement mechanisms in the basin in order to strategically support them in future projects in the Niger Basin. Stakeholder organizations are actively involved in the development and roll-out of the Climate Resilience Investment Plan, and in other investments in the basin. An analysis is underway that closely examines the details of regional processes with respect to capacity, functionality, and utility of various organizations. This deeper understanding of citizen engagement in the basin 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.

A web-based stakeholder mapping and visualization tool to manage benefit sharing for transboundary infrastructure is under development with the NBA to help ensure equitable benefit sharing.

With support from CIWA and the University of Bern, the NBA and relevant national governments are developing an innovative tool that maps high-resolution socioeconomic and operational data for long-term monitoring and management of benefit sharing around Kandadji and, as it becomes relevant, the Fomi multipurpose project. This tool builds on a pilot implemented for the Nam Theun II Multipurpose Dam in Laos, where it was used successfully to improve equity in benefit sharing and to inform decision making. Lessons learned in development of this cutting-edge tool will be shared with other stakeholders in the region to expand its benefits.



The NBD's partnerships with governments and regional development organizations is ensuring that social concerns shape water, power, and commodity investments.

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 African Development Bank (AfDB). The stakeholder engagement emphasizes ecosystem sustainability and reducing poverty through post-conflict livelihood rehabilitation. 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 participate in the national-level steering committee for the Nyimur-Aswa project alongside ministries of water and agriculture; at local levels, a similar structure is replicated where NBD-affiliated civil society and non-governmental organizations are working with local governments as part of the project's local implementation steering committee. Further, through national-level civil society organizations in the DRC, 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 Governments of DRC and Uganda with AfDB and GEF financing.





NILE

Through the CIWA-supported NCORE Project, 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 Ngono Irrigation and Watershed Management Projects in the Mara Basin, and the Sio-Songo Irrigation Project in the Sio-Malaba-Malakisi Basin.

The Ruvyironza Irrigation and Watershed Management Project in the Kagera basin has been put on hold due to the security situation in Burundi. Consultants to conduct the feasibility studies and ESIs for the four projects are active. NELSAP-CU has put into 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. These projects target underserved border areas with otherwise largely neglected, vulnerable populations characterized by high poverty levels. The Feasibility Studies and ESIs both contain provisions for analysis of vulnerability characteristics and causes to be factored in project design. 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.

Building on this success, technical analysis and country consultations undertaken by NELSAP-CU has led to the countries approving 27 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.



NILE

As part of an MSIOA process for the Eastern Nile, ENTRO has completed a situational analysis which includes an evaluation of the current hydrological, social and environmental, and sectoral context in the region.

Responding to requests from active member countries to identify a next round of investment projects of transboundary significance, ENTRO analyzed risks and opportunities for cooperative development, exploring possibilities for turning risks into opportunities and potential roles for ENTRO to play in facilitating countries to evaluate tradeoffs around shared and competing uses of water a sub-basin scale, negotiate mutually beneficial arrangements for water use, and jointly prioritize investments to prepare.



NILE

NELSAP-CU has facilitated coordination meetings between Tanzania and Zambia in an effort to advance the interconnection of the East African and Southern African power pools in order to further enhance energy security, water resource efficiency, and regional integration.

Farsighted planning for power pool interconnections is a timely adaptive action given that countries in East and Southern Africa are looking to harness their untapped hydropower potential to meet the needs of their increasing populations, intensifying urbanization, and growing industrialization, all amidst reduced water resources reliability due to a changing climate and increasing pressure on the water resource base from competing sectors.



NILE

Through civil society organizations, community leaders, elders, and coalitions, the Nile Basin Discourse (NBD) mapped out linkages 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.





NILE

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 trained 286 men and 136 women 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, equips communities to initiate adaptive actions, and informs larger scale development projects about climate-related issues.



VOLTA

CIWA is supporting the VBA's implementation of demonstrative subprojects (US\$1.1 million each 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, flows, and will contribute to community livelihood improvement. They build upon strategic priorities identified in the strategic action program (SAP) to preserve and restore critical soil and water ecosystem functions in select hotspots, 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.



Innovative mechanisms are planned for constructing, operating and maintaining the investments to ensure their sustainability. Both preparation and implementation will build on a participatory process that involves citizens in the construction, operation and maintenance of said investments and socio-economic benefits they will provide. Subproject committees involving participants from riparian countries will be established to demonstrate the benefit of shared information and dialogue to plan and manage transboundary investments.

The PCU and national focal points are conducting field missions in each of the subprojects areas to raise awareness and inform local stakeholders, including citizens, authorities, civil society organizations, etc. Procurement of consultants to prepare feasibility studies is underway, and implementation is expected to begin in 2017.



VOLTA

In its 2015-2019 Strategic Plan, VBA envisions the development of a Water Master Plan to help riparian states evaluate tradeoffs, negotiate mutually beneficial arrangements for water allocation and use, and prioritize investments optimizing benefits.

Current CIWA support to the VBA could contribute, with additional financing, 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

CIWA is facilitating coordination between engineering design and ESIA teams to advance the two studies in a harmonized manner.

In this way, tradeoffs 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.

**ZAMBEZI**

CIWA-supported Technical Assistance and Transaction Advisory Services for Batoka Gorge HES have helped ZRA evaluate options for structuring ownership and finance of the Batoka Gorge infrastructure and plan for required resource mobilization.

Under close collaboration among ZRA and two governments, transaction advisors are facilitating the evaluation of options for the dam and two power plants based on finance-ability, risk management, costing over lifetime, innovation capacity, economies of scale, and competitive tension.



To clearly delineate the institutional structures for implementing the scheme, a process is underway to consult within governance structures of the ZRA. Consultations will include the Board, Council of Ministers, and the respective stakeholders within the two countries and throughout the basin. Specifically, ZRA's potential role in the management of the dam's watershed, which would provide the benefit of coordination between upstream livelihoods and land use practices and downstream reservoir and dam operation, is being investigated.

ZAMBEZI

CIWA-supported work in the Zambezi Basin provides the underpinnings for a tentative US\$10 million proposal to the GEF, to be administered by the World Bank and executed by ZAMCOM and the World Wildlife Fund (WWF), for an environmental stewardship program that brings together 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.

**LAKE CHAD**

The Lake Chad Development and Climate Resilience Action Plan (LCDCRAP) highlights cross-cutting investment needs in the Lake area, which will be used as a framework to leverage funding.

CIWA supported the LCBC and its six member states to develop an action plan to turn Lake Chad into a pole of regional rural development. Priority actions were identified to improve the resilience of Lake Chad livelihoods and ecosystems under current population growth pressures, hydrological variability and climate uncertainty. A total of 173 activities estimated in US\$1 billion were grouped according to the following priority themes:



- 1: Supporting producers and their value chains
- 2: Securing access to natural resources and managing conflicts
- 3: Improving living conditions through public investments
- 4: Facilitating transport and trade
- 5: Preserving the environmental capital of the lake and its basin
- 6: Better managing the water resources of the basin
- 7: Disseminating information, improving knowledge, and monitoring of the environment

Each of these investments were examined and vetted by the LCBC member states through a comprehensive consultation process with multi-sectoral participation that resulted in regional and national beneficial investment planning. The proposed sustainable investments aim to enhance the livelihoods and reduce the vulnerability of lake's resource dependent population.

While preparing the LCDAP, CIWA supported the development of a report titled *Priority Needs for Lake Chad Basin Information Systems*. This report unveils the studies, systems and organizational infrastructure needed to modernize the regional water-related information systems in the Lake Chad basin. The report focuses on opportunities where geospatial data would add value to management functions dictated by the Water Charter. The findings and priorities identified in the report were essential for initiating the dialogue among member states to bolster national and regional water information systems.



OKAVANGO

The Okavango Multi-Sector Investment Opportunity Analysis (MSIOA), which nears completion, includes stakeholder consultations and national reports that identify implementable, prioritized, national and cooperative actions to address underlying issues of poverty in the basin, and to preserve the unique ecological status of the basin and its Delta.

Poverty is widespread in the Okavango basin, and survival strategies often threaten land and water quality and the region's biodiversity. The Okavango MSIOA considers various investment scenarios, which include economic development projects that could benefit people in the basin, the member states and the broader SADC region, and help to preserve the environmental integrity of the delta. Through an iterative facilitated process, the MSIOA has identified a series of potential investment programs to advance sustainable development within the basin. The scenario analysis provides the tools to explore ways to achieve cooperative benefits which exceed the benefits of inward-looking approaches in each country by assessing the costs and benefits of cooperative and joint investments compared with unilateral development within and beyond the Okavango 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 draft findings have been presented to the three countries in a series of national stakeholder workshops.

To date, Okavango stakeholders identified three regionally-relevant investments that balance the economic, social justice, environment and climate resilience priorities as reflected in the vision for the basin.

The first is a Climate-Resilient Livelihoods Investment Program that will address the chronic poverty of people living in the basin by means of conservation agriculture, tourism, and social programs. This community-focused investment will benefit the entire basin by reducing catchment degradation derived from survival strategies of the poorest. The OKACOM is preparing a request for project preparation financing to be submitted for consideration to the Green Climate Facility. A second investment package focusing on tourism will benefit both the delta itself and beyond by promoting sustainable utilization of the river. Finally, the Mucundi Dam was highlighted as a potential investment with transboundary benefits for all three member states.



Complimentary to the MSIOA and the Benefits Assessment, a collaborative Stakeholder Mapping is underway that aims to help the constituency better understand options for advancing basin projects that deliver regional benefits to the basin.

The team employed the Net Map tool, which helps stakeholders understand, visualize, discuss and improve situations in which many different actors influence outcomes. The exercise is helping to clarify linkages and levels of influence of various actors and institutions in the region, which should allow stakeholders to be more strategic about how they advance water management and development priorities.



SADC GMI develops a Work Plan to promote regional investments that generate socio-economic benefits resulting in gender-inclusive poverty reduction.

GMI will support member states in planning for appropriate and sustainable groundwater infrastructure solutions in priority areas, to include rehabilitation, operation and maintenance, modernization or scaling up existing infrastructure. These investments will be prioritized based on stakeholder participation. To learn from recent experiences, the GMI is reviewing small-scale investments made under a previous World Bank-supported regional project on drought management. The review will evaluate these projects' socio-economic benefits, with a particular focus on women and the poor. GMI's new work plan also includes supporting member states' ability to mobilize resources by informing constituents about potential funding source for infrastructure developments, and supporting member states' efforts to secure funding from domestic budgets.



Feature 5: Scaling Up Results in the Nile Basin

Eastern Nile Dam Safety

The Nile Basin Initiative's Eastern Nile Technical Regional Office (ENTRO) works with Eastern Nile countries to build technical capacity and establish national and regional dam safety norms. The consequences of dam failure can be severe; flooding affects river bank settlements, fisheries, power generation, agriculture, the environment, and the regional economy. Given the large existing and upcoming storage structures on the Eastern Nile rivers, appropriate dam safety practices – which include all stages of design, operation, monitoring, and maintenance – can help avert potential disasters in the region.

With CIWA support, ENTRO has prepared an Eastern Nile Dam Safety Regulatory Framework so countries can standardize dam safety management, safeguarding against such threats as dam breaches that put at risk a Nile Basin population that may grow to 394.2 million in 2040. In addition, dam safety policy guidelines were developed for big and small transboundary dams to enhance existing dam planning and operation. Social, environmental, and evolving economic considerations in these guidelines improve the productive lifetime and sustainability of dams. Flexibility in design options and operating rules help ensure that the guidelines' safety recommendations are able to handle more frequent and extreme rains and dry periods due to climate change.

ENTRO has disseminated the transboundary dam safety guidelines widely at international, regional, and national levels and through NGOs and CSOs. The ENTRO work has been featured at the International Commission on Large Dams (ICOLD) conference as an example of best practice, and is being used as the subject of an international working paper by ICOLD.

ENTRO has provided on-the-job training to dam operators and worked with them to develop technical field guides on dam safety. To date, 195 dam operators, regulators, government officials, academics, and civil groups have been trained in integrating risk management into planning, construction, and operation of dams as well as in emergency preparedness planning. To continue to build long-term professional dam safety capacity, ENTRO has



developed a dam safety training module for Eastern Nile universities to build capacity of technical personnel. More timely and informed decisions can boost infrastructure sustainability and reduce catastrophe threats in an area where over 240 million residents live.

Governments of Ethiopia, Sudan, and South Sudan affirmed their commitment to regional dam safety by establishing national dam safety units in each country to implement the proposed guidelines and ensure that neighboring countries coordinate in dam planning, operation, and maintenance.

Eastern Nile Flood Early Warning System

Most of the annual runoff from the Eastern Nile (comprising three river systems: Abbay-Blue- Nile, Tekeze-Setit-Atbara, and Baro-Akobo-Sobat), which flows west from the Ethiopian highlands into Southern Sudan and contributes around 85 percent of the Main Nile's flow, occurs between the months of July and September. Negligible flood storage in the upper part of the basin and low capacity for national and regional flood management result in serious seasonal flooding in the plains of Western Ethiopia, South Sudan, and Sudan. Areas around Lake Tana in Ethiopia also experience widespread seasonal flooding every year.

It should be noted that floods are a necessary annual occurrence for subsistence farmers and pastoralists in these areas, and communities have knowledge to cope with and benefit from them. However, as rainfall becomes more extreme and its timing less predictable due to climate change, the flood risk is exceeding their ability to cope. Major floods result in loss of livelihoods, particularly for the poor who frequently inhabit the vulnerable floodplain areas; floods can cause significant economic damages due to loss of crops and livestock, riverbank erosion, loss of property, displacement of communities, and epidemics of water-related diseases. Average annual flooding damages are estimated to be around US\$25 million in rural riparian settlements along the Blue Nile and Main Nile.

With funds from CIWA, ENTRO has expanded the Eastern Nile Flood Early Warning System established with NBTf support, and has configured an improved, integrated, and cooperative forecasting system. The new system is automated to download datasets from the Global Forecasting System, enabling it to provide daily, weekly, and seasonal forecasts. ENTRO has continuously expanded the geographic reach of their flood warning and management capabilities, conducting flood risk mapping studies and providing forecasts to communities, governments and relief agencies. ENTRO developed a user guide for the forecasting system and conducts basic training for flood teams to strengthen their management and forecasting capacity. A growing number of institutions at sub-national, national, and international levels, including UN agencies, rely on daily forecasts generated by ENTRO and National Flood Forecast Centers during peak flood season.

Transboundary investments prepared in NEL region by NELSAP

With CIWA support, the NELSAP-CU is advancing feasibility studies as well as environmental and social impact analyses for four multipurpose projects (MPPs) of regional significance. It is also assisting countries to mobilize resources for these investments. These investments emerged from the NEL-MSIOA as priority projects to advance efficient, equitable, and sustainable development in some of the poorest communities in the basin. NELSAP-CU closely consulted with civil society and other stakeholders to ensure their needs and concerns helped shape project preparation.

CIWA facilitated dialogue between the riparian countries, allowing them to prioritize interests and evaluate tradeoffs at the sub-basin scale. The investments received endorsement of NEL Council of Ministers before beginning preparation and, as a result, reduced the risk of unilateral action that would foreclose optimal development options or generates negative externalities.

Combined, the four projects would help irrigate 28,010 hectares of land and provide 5.75 MW of hydropower. Each project would also extend or develop domestic and livestock water supply, restore and rehabilitate degraded upstream catchment areas, regulate flow for drought and flood control, and most would create the opportunity for fish farming. NELSAP-CU has put into place many measures to ensure the quality of implementation, including the use of a dam safety quality enhancement panel, and capacity building for country counterparts.

Kabuyanda MPP in the Kagera Basin

4,200 ha irrigation
0.1 MW hydropower
Fish farming
Potable and livestock water supply
Upstream catchment rehabilitation

Mara Valley Irrigation Project

8,340 ha irrigation in 13 villages
3 MW hydropower
Domestic and livestock water supply
Fish farming
Flood control to community living

Ngono Irrigation and Watershed Management Projects in the Mara Basin

13,680 ha irrigation
2.5 MW hydropower
Fish farming
Potable and livestock water supply
Upstream catchment rehabilitation

Sio-Sango Irrigation Project

1,790 ha irrigation
0.15 MW hydropower
Flow regulation for drought and flood control functions
Upstream catchment rehabilitation





SECTION 3

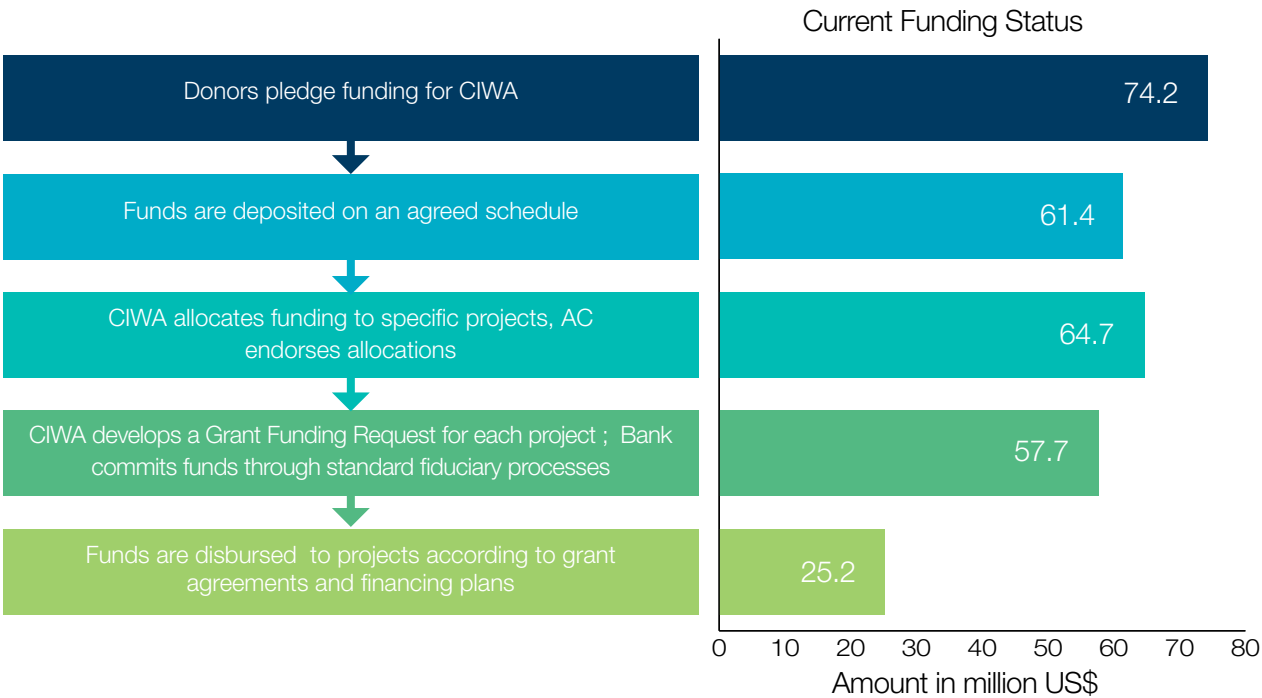
OUR FINANCES

This section provides financial information on the CIWA program for FY16, from July 2015 to June 2016. Unless otherwise noted, the financial information presented in this report, including exchange rates, reflects the status as of June 30, 2016.

The CIWA program is supported by a Multi-Donor Trust Fund (MDTF) and administered by the World Bank on behalf of contributing development partners. This specific type of MDTF is known as a “Programmatic 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\$74.2 million) and funds are deposited on an agreed schedule (current deposits total US\$61.4 million). Then, in accordance with CIWA’s strategic planning efforts, funding is allocated to specific projects (current allocations are US\$64.7 million) and allocations are endorsed by the CIWA Advisory Committee (AC). Following endorsement, CIWA works with clients to develop Grant Funding Requests (GFRs) and related project documentation. The Bank then follows technical, legal and fiduciary procedures to approve projects and commits funds through its standard fiduciary processes (current commitments total US\$57.7 million). Funds are then disbursed according to the grant agreements and financing plans (disbursements thus far are US\$25.2 million). CIWA’s funding process is depicted in Figure 7. Additional details on pledges, deposits, allocations, commitments, and disbursements are presented below.

Figure 7: CIWA’s Funding Process





DONOR PLEDGES, DEPOSITS, AND ALLOCATIONS

Table 3 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 3: Overview of Donor Pledges and Deposits

Contributing Partners	Pledges			Deposits	Outstanding Balance (US\$)
	Currency	Amount (in Donor Currency)	Amount (US\$)	Amount Received (US\$)	
Denmark (DANIDA)	DKK	18,700,000	3,398,597	3,398,597	0
European Commission	Euro	4,950,000	5,459,355	2,687,850	2,771,505
The Netherlands	USD		26,052,581	16,052,581	10,000,000
Norway (NORAD)	USD		882,746	882,746	0
Sweden (SIDA)	SEK	170,000,000	22,381,553	22,381,553	0
United Kingdom (DFID)	GBP	10,000,000	15,980,200	15,980,200	0
TOTAL			74,155,033	61,383,528	12,771,505

Table 4: Overview of Availability and Allocation of Funding

Allocation of Funding	US\$
Pledges in signed Administration Agreements	74,155,033
Plus current investment interest income	459,148
Less administrative cost recovery fee	-1,569,412
Funds available for project/activities	73,044,768
Less contingency for currency fluctuation (unallocated, 15% of donor receivables, US\$23.5M)	-1,915,726
Funds available for allocation	71,129,043
Less allocation to projects/activities	64,694,302
Unallocated Funds	6,434,741
% Allocated	91%

As of June 30, 2016, US\$64.7 million has been allocated to CIWA projects and activities. CIWA has assigned most of the available funding (91 percent) to activities under preparation or implementation. Table 4 presents an overview of the availability and allocation of funding.

The majority of available funds (US\$48.4 million, or 75 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 also pre-allocates funding for follow-up work on current projects, based on project and organizational performance and riparian states' commitment. In the current envelope, US\$3 million is pre-allocated for support in the Nile Basin subject to demonstrated commitment of the riparian states. Additional financing of US\$2.2 million is also pre-allocated for the Zambezi River Basin Development Project implemented by the ZRA. In order to complement the basin programs and broaden CIWA's impact beyond the water sector, US\$3.5 million is allocated for projects with RECs, comprising a US\$1.2 million Bank-executed engagement with ECOWAS and US\$2.3 million for the SADC Groundwater Management Program. In addition, US\$2.2 million is allocated to the Lesotho Highlands–Water Transfer Study executed by the government of Botswana. Finally, an allocation of US\$7.4 million is allocated to the Catalytic Sub-Program, of which US\$3.3 million supports opportunistic projects that contribute to the program's objectives in the ECOWAS, Lake Chad, and Okavango regions, and US\$4.2 million supports Africa-wide activities on knowledge management, economic sector work, and technical assistance to generate and share knowledge and to build capacity. Appendix C describes the details of all CIWA projects and shows the financial results of projects for which grants have been established.

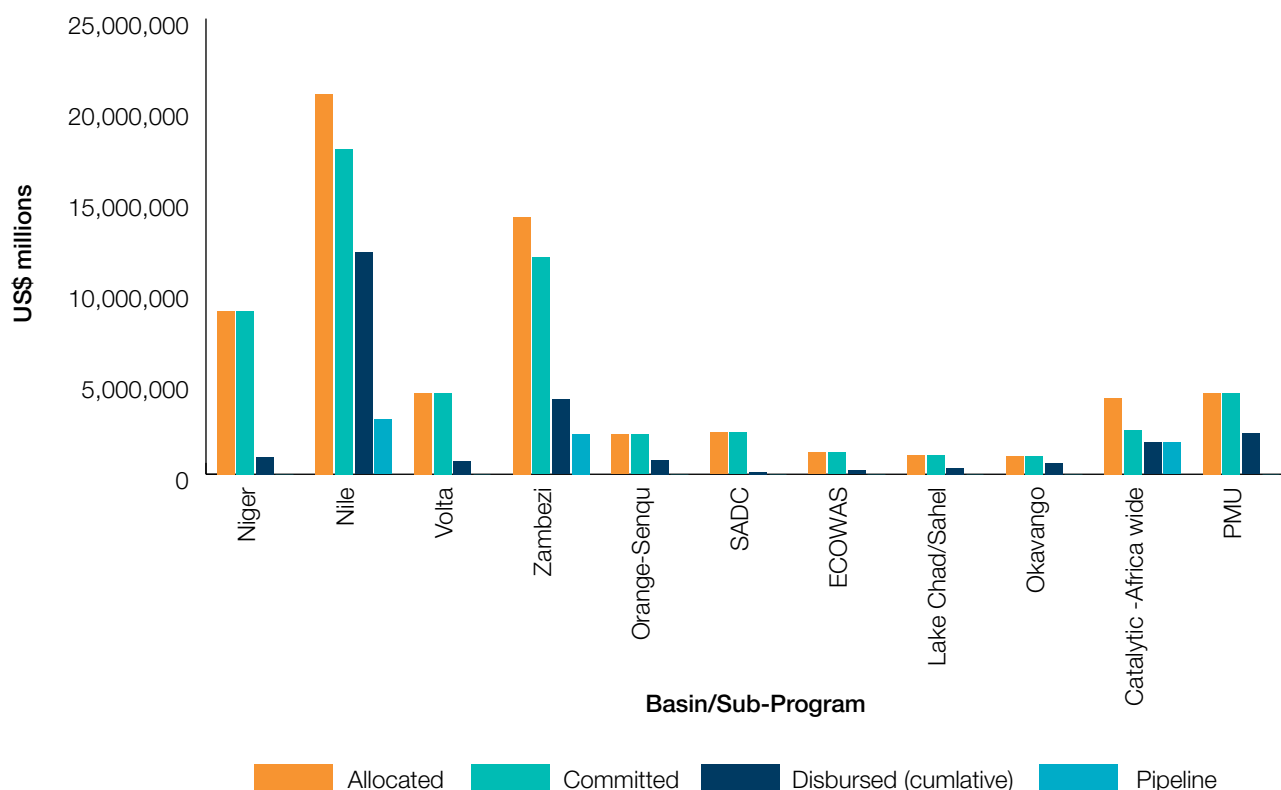
COMMITMENT, DISBURSEMENT, AND FUNDING BALANCE

By the end of FY16, the program had committed a cumulative US\$57.7 million in grants, of which US\$24 million was disbursed by projects and activities. The pace of disbursement had continued to accelerate in FY16 to nearly double the amount in FY15. Table 5 and Figure 8 provide a summary of the overall cumulative allocations, commitments, disbursements, commitment balance, and current pipeline activity amounts.

Table 5: Allocated, Committed, Disbursed, and Pipeline Amounts (US\$)

Basin/Sub-Program	Allocation	Commitment	Disbursement (cumulative)	Commitment Balance	Pipeline
Niger	8,950,000	8,950,000	947,340	8,002,660	0
Nile	20,850,000	17,850,000	12,166,204	5,683,796	3,000,000
Volta	4,450,000	4,450,000	721,394	3,728,606	0
Zambezi	14,100,000	11,900,000	4,094,791	7,805,209	2,200,000
Orange-Senqu	2,175,000	2,175,000	776,813	1,398,187	0
SADC	2,300,000	2,300,000	124,097	2,175,903	0
ECOWAS	1,200,000	1,200,000	196,334	1,003,666	0
Lake Chad/Sahel	1,049,867	1,049,867	352,363	697,504	0
Okavango	1,000,000	1,000,000	606,205	393,795	0
Catalytic -Africa wide	4,170,133	2,415,558	1,747,688	667,870	1,754,575
PMU	4,449,302	4,449,302	2,236,195	2,213,107	0
Total	64,694,302	57,739,727	23,969,424	33,770,303	6,954,575

Figure 8: Allocated, Committed, Disbursed, and Pipeline Activity Amounts per Basin/Sub-Program



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.

By the end of FY16, CIWA had a cumulative inflow of US\$61.8 million, including US\$61.4 million in donor payments and US\$0.4 million in investment income from the CIWA account. Cumulative disbursements were US\$25.2 million, including US\$24 million in projects and US\$1.2 million in administrative fees. The balance of grant commitments totaled US\$33.8 million. Table 6 presents the balance available in the CIWA account, which is approximately US\$36.7 million, or a balance of US\$2.9 million when the balance of current commitments is taken into account.

Table 6: Fund Balance

Fund Income vs Disbursement & Commitment and Balance	US\$
Total Deposits	61,383,528
Plus current investment interest income	459,148
Total Income	61,842,676
Less disbursements (CIWA projects/activities)	-23,969,424
Less administrative fee accrual of 2% of deposits	-1,206,618
Balance	36,666,634
Less commitments balance	-33,770,303
Total Balance (when including commitments balance)	2,896,330

FINANCIAL SUMMARY OF PROGRAM MANAGEMENT

CIWA management costs include expenses incurred by the Program Management Unit (PMU) and the 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, 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 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.





SECTION 4

OUR PLANS

IMPLEMENTATION OF RECOMMENDATIONS FROM CIWA'S MID-TERM REVIEW

CIWA completed its Mid-Term Review (MTR) in 2015. The MTR aims to assess the degree to which CIWA is on track for meeting its development objectives and to assess the relevance of these objectives under current circumstances. The Mid-Term Review was carried out by an independent organization (Pegasys Consulting, Ltd. based in South Africa) through documentation review, field visits and a series of interviews with clients, donors, Bank staff, CIWA program team, continental actors, and international experts. MTR findings and related recommendations were vetted, considered and enhanced in two in-person meetings of the World Bank, the Advisory Committee and the Review team. The MTR focused primarily on the following key topics:

- Program relevance, portfolio review and progress
- Program management structure
- Results framework and the monitoring and evaluation system
- Risk management and mitigation measures
- Value for money (VfM)



The review found CIWA to be highly relevant to development needs across the African continent and well aligned with national and regional objectives. It reported that the program is balanced in its geographical spread and in its emphasis on institutional strengthening and advancing investment. The comparative advantage of the partnership with the World Bank was highlighted, including benefits accrued from experience of Bank staff, both in technical issues and in working in transboundary contexts, geographic presence of the Bank across the continent, and the benefits of pooled action through the Multi-Donor Trust Fund. Findings underpinned the contribution of the program's knowledge-building aspect to the global knowledge base, and its importance for identifying program interventions and mitigating risk. The review found the program to be fit for purpose.

The report also noted that working in transboundary contexts is complex and time-consuming. This theme underscores many of the findings related to performance, pace of implementation, the need for additional resources, and the importance of long-term engagement of development partners.

The review included several recommendations intended to enhance program implementation, including the need to enhance the program's visibility, ramp-up resource mobilization to meet continental demand, realign the governance structure and ensure a more strategic role for partnership, strengthen monitoring and reporting, and increase staffing for program management and implementation. Throughout the last year, the program and its partners have been working to address the MTR's recommendations in order to strengthen the program's implementation to expand results and ensure sustainability. A Mid-Term Review Implementation Action Plan is underway and expected to conclude in FY17. Key actions delivered this year that will pave CIWA's way forward include:

- Development of the program's Theory of Change and Results Chain, which articulate how program-supported outputs translate to water security and development outcomes
- Mainstreaming the program's strategic intent narrative in its communications
- Advancement of analytical work that describes evidence and opportunities for transboundary cooperation to build climate resilience in Sub-Saharan Africa
- Strategic discussions with partners on realignment of governance structures
- Development and initiation of a resource mobilization plan
- Augmentation of both basin-team and program management unit staff

PRIORITY AREAS FOR SCALING UP CIWA SUPPORT, FUTURE FUNDING REQUIREMENTS AND RESOURCE MOBILIZATION

CIWA regularly examines its existing portfolio and plans pipeline investments to achieve results across Africa. Lessons learned from implementation are integrated into planning of future engagements, alongside application of risk management tools detailed in Appendix E. Technical teams work with clients to identify joint priorities and sketch out strategic areas where future CIWA support could build on or unlock new opportunities for cooperative development. Key clients—including regional organizations in the Nile, Zambezi, and Niger basins—have voiced the need for additional support to comprehensively advance the achievements of the first phase of CIWA support towards development outcomes. In the Nile Basin, the establishment of an official baseline for water use across the basin is a keystone achievement that widens the opportunity for countries to take an inclusive approach to jointly evaluating, prioritizing, and planning projects. In the Eastern Nile, agreement on a set of regional dam safety guidelines has led countries to seek regional standards on spillway design, recognizing the need for coordination in the building and operation of dams in cascade along the river. In the Zambezi, CIWA support has been critical in consolidating and advancing various commitments in a large investment portfolio that includes significant financing from the national budgets, the World Bank Group and other development partners, including AfDB, GEF, the European Commission, and Sweden. Countries in the Zambezi Basin have requested further CIWA support to initiate priority cooperative activities being outlined in the basin-wide strategic plan by the newly established permanent Zambezi Water Commission, as well as to advance the next regional energy-water nexus investment. As the countries look to further harness the Zambezi's untapped power potential, CIWA could play a transformative role as a neutral facilitator that emphasizes high technical quality, assurance of environmental flows, and equitable sharing of socioeconomic benefits. In the Niger, countries have outlined an urgent need to strengthen capacity as they seek to mobilize US\$3.1 billion in resilience-building investments prioritized jointly in a basin-wide climate investment plan. Accompanying this is a need to strengthen citizen engagement at both the regional and national levels.

Bank-led analyses of needs in Lake Chad and Okavango basins and others also revealed catalytic opportunities to advance cooperative development. An emerging priority in the Lake Chad Basin directly related to CIWA's objectives is collaborative information gathering and sharing among countries to enforce the Basin's water charter, and increase sustainable use in and around the Lake. The interventions identified with CIWA support are vital for principled

regional decision making around measures that reduce environmental and climatic pressures driving displacement and migration in the region, and can lay foundational steps for reduced vulnerability and improved regional stability. In the Okavango Basin, countries seek support for operationalizing an innovative Endowment Fund for delta conservation measures that would safeguard the ecology of the basin while also addressing poverty reduction. This initiative is motivated in part by the finding that environmental integrity of the Okavango is threatened by endemic poverty in the basin, and highlights the important link between raising people's living standards and environmental protection.

Alongside basin-specific approaches, advancing policy dialogue through continued engagement with the RECs such as SADC, ECOWAS, and new clients such as the Intergovernmental Authority on Development (IGAD) and others, will be a key component towards ensuring that water-related decision making is anchored in the broader economic dialogue and complementing the results achieved through river-basin organizations. Knowledge management activities continue to drive high-quality results, build the evidence base for cooperation, and identify new needs.

As part of the strategic planning process and through dialogue with clients, several new key thematic areas are emerging for future funding. The core focus of the program will remain rooted in supporting information services, strengthening institutions and advancing quality regional investment. In addition, emerging themes such as advancing informed, regional approaches to groundwater management and development, solutions for enhancing basin water yield and conservation, strengthened citizen engagement in regional climate resilience activities, building the evidence base for retention or rehabilitation of natural infrastructure for climate resilience, and a focus on the value of environmental services are all key components of the program's planned pipeline.

As this report demonstrates, CIWA has a robust portfolio of engagements and projects across Africa. The majority of CIWA's funding envelope is allocated and committed. All CIWA projects are in the process of being implemented and are beginning to demonstrate results. Disbursements are on the rise and are expected to continue to increase in FY17.

In FY16, CIWA worked closely with DFID to secure a strategic pledge for additional resources. The program anticipates approval of additional DFID resources in early FY17. It will advance allocation, commitment and implementation of pipeline activities with the new funds swiftly. The program is gearing up to actively reach out to new donors interested in delivering development and climate resilience results at scale in Africa.

APPENDICES

APPENDIX A: CIWA'S RESULTS FRAMEWORK AND MONITORING (UPDATED SEPTEMBER 2016)⁸

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
<i>Program Development Objective:</i> To strengthen cooperative management and development of international waters in Sub-Saharan Africa to aid sustainable climate resilient growth.								
i) US\$ investment finance for cooperative management and development of international water resources projects influenced by CIWA ⁹	\$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)	\$10 billion investment finance for cooperative management and development of international waters projects influenced by CIWA
Baseline: \$0 billion (value of projects influenced by 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				
			\$1.3 billion mobilized investments influenced	\$4.3 billion mobilized investments influenced				

8. 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.

9. Note that values may fluctuate as potential investments are mobilized or as additional project specifications become available.

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
i) Number of people who will directly benefiting from improved water resources management and development in target basins through projects supported by CIWA	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 will directly benefit from improved water resources management and development projects influenced by CIWA
Baseline: 0 people directly benefiting	FY13 Achievement: 13.2 million potential direct beneficiaries	FY14 Achievement: 46 million potential direct beneficiaries	FY15 Achievement: 43 million potential direct beneficiaries 5.6 million direct beneficiaries of mobilized investments influenced	FY15 Achievement: 37 million potential direct beneficiaries 10.8 million direct beneficiaries of mobilized investments influenced				

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
<i>Intermediate Result 1. Regional cooperation and integration strengthened</i>								
i) Number of relevant transboundary institutions strengthened to improve regional cooperation	3 basin institutions with projects in operation that contribute to strengthening regional cooperation and integration	5 relevant institutions with projects or activities in operation	6 relevant institutions with projects or activities in operation	6 relevant institutions with projects or activities in operation	8 relevant institutions with projects or activities 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
Baseline: 0 institutions strengthened	FY13 Achievement: 3 basin institutions have contributing projects in operation	FY14 Achievement: 5 relevant institutions with projects in operation	FY15 Achievement: 7 relevant institutions with projects in operation	FY16 Achievement: 8 relevant institutions with projects in operation				
ii) Number of strategic analyses and knowledge products used to illustrate the evidence base for cooperation, needs, and challenges		3 strategic analyses conducted	4 strategic analyses conducted	5 strategic analyses conducted	18 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
Baseline: 0 strategic analyses conducted by CIWA		FY14 target partially met: Many strategic analyses are underway, one is complete.	FY15 target partially met: Many strategic analyses are underway, two are complete.	FY16 Achievement: 16 strategic analyses conducted				

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
<i>Intermediate Result 2. Water resources management strengthened</i>								
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	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 analytic tools, knowledge products, data, forecasting, and/or capacity for improved water and climate risk management or investment operation coordination
Baseline: 0 institutions using tools, data and capacity improved with CIWA support	Achievement: 3 basin institutions have contributing projects in operation	FY14 Achievement: 5 relevant institutions have projects in operation that contribute to strengthening water resources management	FY15 Achievement: 5 relevant institutions have projects in operation that contribute to strengthening water resources management	FY16 Achievement: 7 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
Intermediate Result 3. Water resources development strengthened								
i) Number of investment opportunities with regional benefits that have been advanced through CIWA support Baseline: 0 investment opportunities with regional benefits advanced by CIWA	2 investment opportunities with regional benefits influenced by projects in operation FY14 Achievement: Multiple investment projects are being advanced by projects in operation.	4 investment opportunities with regional benefits influenced by projects in operation FY15 Achievement: 22 investment projects are being advanced by projects in operation.	6 investment opportunities with regional benefits influenced by projects in operation. FY16 Achievement: 31 investment projects are being advanced by projects in operation.	31 investment opportunities with regional benefits influenced by projects in operation.	35 investment opportunities with regional benefits influenced by projects in operation.	35 investment opportunities with regional benefits influenced by projects in operation.	35 investment opportunities with regional benefits influenced by projects in operation.	35* investment opportunities with regional benefits that have been advanced through CIWA support
ii) Number of relevant transboundary institutions with an improved approach to sustainable investment planning and bankable investment preparation ¹⁰ Baseline: 0 basins supported by CIWA	2 institutions with projects in operation that improve the approach to sustainable investment planning and bankable investment preparation FY14 Achievement: 2 institutions have relevant projects in operation	3 institutions with projects in operation that improve the approach to sustainable investment planning and bankable investment preparation FY15 Achievement: 3 institutions have relevant projects in operation	4 institutions with projects in operation that improve the approach to sustainable investment planning and bankable investment preparation FY16 Achievement: 5 institutions have relevant projects in operation	5 institutions with projects in operation that improve the approach to sustainable investment planning and bankable investment preparation	5 institutions with projects in operation that improve the approach to sustainable investment planning and bankable investment preparation	5 institutions with projects in operation that improve the approach to sustainable investment planning and bankable investment preparation	5 institutions with projects in operation that improve the approach to sustainable investment planning and bankable investment preparation	5 relevant transboundary institutions with an improved approach to sustainable investment planning and bankable investment preparation

10. Sustainable investment preparation includes consideration of poverty, gender, long-term climate change among other social and environmental considerations

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
Intermediate Result 4. Stakeholder engagement and coordination strengthened								
i) 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	3 basin institutions with projects in operation that contribute to strengthening stakeholder engagement and coordination	3 basins with projects or activities in operation; 30 percent of which include organizations representing interests of women and/or the poor	4 basins organizations representing interests of women and/or the poor 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	5 basins with projects or activities in operation; 50 percent of which include organizations representing interests of women and/or the poor 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	5 basins with projects or activities in operation; 50 percent of which include organizations representing interests of women and/or the poor	5 basins with projects or activities in operation; 50 percent of which include organizations representing interests of women and/or the poor	5 basins with projects or activities in operation; 50 percent of which include organizations representing interests of women and/or the poor	5 basins with improved engagement with civil society, private sector and academia; 60 percent with improved engagement of women and/or the poor
Baseline: 0 basins with improved engagement	FY13 Achievement: 3 basin institutions have contributing projects in operation	FY14 with projects or activities in operation; 50 percent of which include 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						

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
i) Number of basins with increased water resources management and development information in the public domain		1 basin with increased information in the public domain	2 basins with increased information in the public domain	3 basins with increased information in the public domain	4 basins with increased information in the public domain	4 basins with increased information in the public domain	5 basins with increased information in the public domain	5 basins with increased information in the public domain
Baseline: 0 basins		FY14 Achievement: 1 basin has increased information in the public domain	FY15 Achievement: 1 basin has increased information in the public domain	FY16 Achievement: 4 basins have increased information in the public domain				

APPENDIX B: DESCRIPTION OF INVESTMENTS INFLUENCED BY CIWA

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 NBA to improve water resources management and development in the Niger River Basin, CIWA is facilitating informed regional dialogue and decision-making in the preparation of the potential project. Based on a 1999 Feasibility Study and 2010 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 improved river 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.

Nile Basin Investments

CIWA supports the 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 NCORE project in particular 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.

Lake Tanganyika

The governments of DRC 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 is supporting an options analysis that will help the countries better understand the trends and constraints on lake water levels and drivers of increased sedimentation and will identify potential solutions to overcome navigation challenges.

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 ZRA to commission new engineering studies and an ESIA for the proposed Batoka Gorge HES and other support that will help ZRA to 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.¹¹

11. 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.

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 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 one million people through improved electricity services from 130 MW of installed hydropower capacity, and the development of 45,000 hectares of irrigated land.¹² 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 conducting two 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 towards 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.
- Development of a visualization tool for monitoring and evaluating socioeconomic benefits from the Kandadji project is underway. Lessons learned in development of this cutting-edge tool will be shared with other stakeholders in the region to expand its benefits.

Kariba Dam¹²

Operated by the ZRA, the Kariba Dam provides more than 50 percent of Zambia 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 European Commission (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 are at risk.

12. World Bank. 2012. *Niger - First Part of the Second Phase of the Niger Basin Water Resources Development Program Project*. Washington, DC: World Bank. <http://documents.worldbank.org/curated/en/2012/08/16732231/niger-first-part-second-phase-niger-basin-water-resources-development-program-project>
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.

Volta Basin¹³

CIWA leverages direct investment in water resources management through a US\$10.94 million grant to the VBA which is co-funded by the GEF. The third component of the project – “Implementation of Strategic Action Programme Priority Actions” – constituting US\$6.9 million, will support direct investments that lead to improvements in water quality, flows, and ecosystem services. It is expected that 50,000 people in the Volta River Basin will benefit from irrigation development, enhanced fisheries, improved pastoral activities, and job creation, with 20 percent of those beneficiaries being women.

Niger Basin Climate Resilience Investment Plan and Project

Building on the long-standing cooperation facilitated by the NBA, the countries have also developed a coherent approach to tackling climate change related challenges through the Niger Basin Climate Resilience Investment Plan (CRIP).¹⁴ A US\$3.1 billion investment plan developed through iterative technical and political consultations, the CRIP is a coherent set of measures and concrete investments. It is planned over the coming 10 years and designed to strengthen resilience of the people in the basin to water-resources related impacts of climate change. The CRIP was launched at COP21 in Paris and has received endorsement of the NBA's Ministerial Council and Heads of States and Governments Council. The World Bank has included US\$300 million in its pipeline in support of investments in the CRIP with Board Approval anticipated in FY18.

Lake Chad Development and Climate Resilience Investment Project

The Action Plan was developed by the LCBC and its Member states, with CIWA's support, with the idea of turning Lake Chad into a rural hub for regional development in parallel to the restoration of peace and security in the region. Investments in the Plan intend to contribute significantly to food security, employment, and the social inclusion of the youth by improving, in a sustainable way, the living conditions of populations settled on the Lake's banks and islands as well as the resilience of a system characterized by a strong demographic growth, high hydrological variability, and climate uncertainty. The Plan estimates €916 million (around US\$1 billion) in investment is required, US\$100 million of which was included in the World Bank's operational pipeline with Board approval anticipated in FY18.

13. For more information, see “Project Appraisal Document on Proposed Grants to the VBA,” April 30, 2015, http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2015/05/05/090224b082e409d4/2_0/Rendered/PDF/Africa000Volta0plementation0Project.pdf
 14. <http://www.worldbank.org/en/programs/cooperation-in-international-waters-in-africa#4>

Multinational Lakes Edward & Albert Integrated Fisheries and Water Resources Management Project (LEAF II)

Through its support for the Nile Basin Discourse, CIWA is enabling improved stakeholder engagement and coordination for the LEAF II project. This project supports communities in catchments of Lake Edward and Lake Albert Basin, which are among a series of Rift Valley lakes shared between the Democratic Republic of Congo and Republic of Uganda. The LEAF II project aims to reduce poverty and improve sustainable livelihoods for local fishing communities through joint monitoring and management of the water and fisheries resources in the two lakes, which are characterized by over exploitation of main fisheries species and deforestation, with insecurity and climate change compounding poverty levels in the area. LEAF II is a scale-up of the pilot LEAF I project completed in 2009, and focuses on creation of alternative income opportunities, as well as fostering an enabling environment by strengthening the legal, policy, and institutional setup for sustainable management of natural resources and environmental protection in the basin. The project emphasizes bilateral management, planning, and M&E practices through the Lakes Edward and Albert Basin Organization.

The NBD played a prominent role in preparing the LEAF II project through facilitation of community-level stakeholder consultations conducted by its DRC National Development Forum members. The US\$21 million investment is financed through a combination of contributions from the Governments of Uganda and DRC through Africa Development Fund allocations and AfDB regional window, a GEF grant, and counterpart contribution from NELSAP-CU. The project will benefit 400,000 people in the riparian communities of the two lakes, the majority of whom are living in poverty, by improving incomes, food security, and providing access to basic social and economic infrastructure. In addition to job creation for local communities in the Lakes' regions (5000 jobs estimated to be directly created while another 20,000 indirectly with 50 percent of these benefiting the women), the project will also improve regional and local consultation/cooperation for integrated natural resources management and intra-regional trade in fish product as well as address the social dimensions of resilience, which will in the long run reduce potential sources of local conflict. In the drive to reduce the factors of fragility, LEAF II will be implemented according to a "participatory" and "conflict-sensitive" approach, which allows for continued consultation and coordination with the various stakeholders during the implementation of the activities.

APPENDIX C: FINANCIAL DETAILS OF PROJECTS FUNDED BY CIWA

Basin/ Sub- program	Executed by	Fund Name	TF#	Project #	Grant Amount in US\$	Total Disbursement
NIGER	NBA	Niger River Basin Management Project	TF018539	P149714	7,500,000	0
	WB	Niger Basin Support Program	TF018616	P148889	1,000,000	694,946
	WB	Enhanced Supervision (NBA)	TF016609	P149714	450,000	252,394
		Niger Total			8,950,000	947,340
NILE	NBI (incl NEL, EN)	Nile Cooperation for Results (NCORE) + AF I	TF013767	P130694	14,500,000	10,326,553
	NBD	Engaging Civil Society for Social and Climate Resilience in the Nile Basin (NBD)	TF015834	P132448	1,500,000	1,326,993
	NBI (incl NEL, EN)	Nile Basin Engagement incl. LVBC (subject to contingency of NBI financial strategy)	tbd	P156765	3,000,000	0
	WB	Nile Basin Support Program	TF0A0526	P156765	1,000,000	187,079
	WB	Enhanced Supervision (NBD)	TF014064	P132448	400,000	185,518
	WB	Enhanced Supervision (NCORE AF)	TF0A2051	P130694	450,000	140,061
		Nile Total			20,850,000	12,166,204
VOLTA	VBA	Volta River Basin Institutional Support Project	TF016611	P147202/ -P149969	3,500,000	249,875
	WB	Volta Basin Support Program	TF015556	P132564	500,000	169,584
		Enhanced Supervision (Volta)	TF015557	P147202/ P149969	450,000	301,935
		Volta Total			4,450,000	721,394
ZAMBEZI	ZAMCOM	Zambezi River Basin Management Project (ZAMCOM)	TF018921	P143546	4,000,000	500,000
	ZRA	Zambezi River Basin Development Project (ZRA)	TF016238	P133380	6,000,000	2,096,030
	ZRA	AF - Zambezi River Basin Development Project (ZRA)	tbd	P143546	2,200,000	0
	WB	Zambezi River Basin Support Program	TF011577	P129683	1,000,000	895,968
	WB	Enhanced Supervision (ZAMCOM)	TF014926	P143546	450,000	368,962
	WB	Enhanced Supervision (ZRA)	TF014927	P133380	450,000	233,831
		Zambezi Total			14,100,000	4,094,791

Basin/ Sub- program	Executed by	Fund Name	TF#	Project #	Grant Amount in US\$	Total Disbursement
ORANGE- SENQU	Botswana	Lesotho Highlands - Botswana Water Transfer	TF016233	P144228	2,000,000	607,428
	WB	Enhanced Supervision (LH-B)	TF016038	P144228	175,000	169,385
		OS Total			2,175,000	776,813
SADC	SADC	Sustainable Groundwater Management in SADC Member States	TF016748	P127086	2,000,000	
	WB	Enhanced preparation (SADC)	TF015336	P127086	300,000	124,097
		SADC Total			2,300,000	124,097
CATALYTIC PROGRAM	Opportunistic Engagement by WB	P2: WRM in West Africa (ECOWAS)	TF016610	P150210	1,200,000	196,334
		P2: Lake Chad Policy Dialogue	TF015878/ TF17506/ TF0A1005	P124018/ P149275	1,049,867	352,363
		P2: Okavango Multi-Sector Investment Opportunities Analysis	TF0A0105	P150383	1,000,000	606,205
	Africa Wide by WB	P1: Strategic Overview of International Waters in Africa	TF011569	P129776	280,358	280,358
		P1: Economic Rational for Cooperation	TF011626	P129777	320,000	315,659
		P1: Political Economy Analysis	TF016821	P150041	520,000	517,034
		P3: Facilitating Africa Wide Hydromet Services	TF0A0106	P151921	100,000	66,588
		P3: Cooperation for Climate Resilience	TF0A1627	P156599	150,000	22,261
		P4: Capacity Building and Knowledge Exchange	TF0A0107	P149931	300,000	163,925
		P4: Improving Public Access to Basin Data	TF016747	P149868	300,000	295,076
		Pipelines (tbd)	tbd	tbd	1,754,575	0
		Peer Review / Management	TF019125	PA149048	445,200	86,787
		Catalytic Total			7,420,000	2,902,590
		Sub-total (projects)			60,245,000	21,733,228
PMU	WB	Program Management and Administration	TF011372/ 11377	P122345	4,449,302	2,236,195
		TOTAL			64,694,302	23,969,424

APPENDIX 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.¹⁵ 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

15. CIWA evaluates its Value for Money (VfM) using DFID's 3Es Framework, defined in "DFID's Approach to Value for Money," July 2011 as:

- 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.

- 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,¹⁶ 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.¹⁷ 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 procedures¹⁸ 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

16. A standard fee is applied to all contributions to World Bank trust funds based on the characteristic of the trust fund.

17. 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

18. World Bank CFPTO Trust Fund Handbook (revised July 8, 2010)

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.

Contributions to Co-financed Projects

Project	CIWA Contribution (million US\$)	Co-financier	Partner Contribution (million US\$)
Nile Cooperation for Results Project	14.5	NBTF	16.5
Southern Africa Development Community Engagement	2.0	GEF	8.2
Volta River Basin Institutional Development and Strategic Action Programme Implementation Project	3.5	GEF	7.2
CIWA contribution	20.0	Leveraged funds	31.9

Leverage ratio = 1.6, 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 1.6 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 FY16, CIWA fully met its targets for the majority of its indicators in the four intermediate results areas. It is making progress towards the remaining targets and is on track for meeting most targets when the program closes. 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 timeframe 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 FY16. In FY16, the total investment value influenced by CIWA (mobilized and potential) was US\$9.9 billion. This comprises of US\$5.6 billion in potential investments influenced and US\$4.3 billion in mobilized investments influenced, and surpasses CIWA's FY16 target of potentially mobilizing US\$8 billion. CIWA surpassed its target of 15 million potential direct beneficiaries for the same reporting period, by potentially benefitting an estimated 47.8 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:

Investment influenced ratio

$$= \frac{\Sigma \text{Value of investment influenced}}{\Sigma \text{Value of overall program in operation}}$$

Potential beneficiaries ratio

$$= \frac{\Sigma \text{Potential direct beneficiaries from investments influenced}}{\Sigma \text{Value of overall program in operation}}$$

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.¹⁹

Investment influenced ratio = 153, i.e., on average, for every dollar contributed by CIWA, the program influenced 153 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 0.74 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.

19. 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.

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."²⁰ 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 FY16, CIWA was a program of US\$74 million co-funded by the UK, Denmark, Norway, the Netherlands, Sweden, and the European Commission. The European Commission is CIWA's newest contributing development partner, with a contribution of €5 million made in FY16. This is welcome as the business case argued for CIWA is to draw in new and additional financial resources to expand overall program impact and to reduce individual partner burden share. 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 FY16 – CIWA met its intended PDO targets, and four additional CIWA influenced investments successfully mobilized financing, bringing the total number to seven; maintained Program Management & Administration Costs and Enhanced Supervision Costs under 6%; performed well in all three economy and effectiveness metrics in FY16. The CIWA program therefore demonstrated its commitment to the principles of economy, efficiency, and effectiveness and therefore strongly represents value for money.

20. OP 11.00 in the World Bank Operational Manual, available at <http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/EXTOPMANUAL/0,,contentMDK:20064773~menuPK:4564185~pagePK:64709096~piPK:64709108~theSitePK:502184,00.html>

APPENDIX 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 US\$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
POLITICAL & DEVELOPMENTAL RISKS				
1.	Challenging political context. 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)	Probability: High Impact: High	<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.²¹ 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>	Probability: Medium Impact: Medium

21. Mainstreaming PEA in CIWA Support is further elaborated in Appendix F.

	Risk description	Probability / Impact before mitigation	Mitigation applied	Probability / Impact after mitigation
2.	Insufficient basin-wide commitment. 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.	Probability: Medium Impact: Medium	<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 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>	Probability: Low Impact: Low

	Risk description	Probability / Impact before mitigation	Mitigation applied	Probability / Impact after mitigation
3.	Inadequate stakeholder voice. Stakeholders may not fully engage in the project cycle, resulting an inadequate voice in decision-making, raising the potential of public protest or civil action that could jeopardize or delay development projects.	Probability: Low Impact: Medium	<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>	Probability: Low Impact: Medium
OPERATIONAL RISKS				
4.	Inadequate coordination between participating basin organizations. If participating basin organizations have mutually inconsistent objectives, this may weaken the overall development effectiveness of CIWA's program.	Probability: Medium Impact: Medium	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.	Probability: Low Impact: Medium

	Risk description	Probability / Impact before mitigation	Mitigation applied	Probability / Impact after mitigation
5.	<p>Inadequate implementation capacity and readiness can cause short to medium-term delay.</p> <p>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</p> <p>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</p> <p>Impact: Low</p>
6.	<p>Technical complexity of transboundary water projects can lead to long-term delay.</p> <p>Transboundary water programs are inherently complex and require seasoned perspective to avoid pitfalls and errors that can seriously undermine management and can adversely affect the progress of development projects and cause long-term delays.</p>	<p>Probability: Low</p> <p>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 as needed to bolster technical capacity required for project design and implementation.</p>	<p>Probability: Low</p> <p>Impact: Low</p>

	Risk description	Probability / Impact before mitigation	Mitigation applied	Probability / Impact after mitigation
7.	Insufficient World Bank capacity to engage across an increasing number of basins.	Probability: Medium Impact: Medium	<p>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.</p> <p>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.</p>	Probability: Low Impact: Low
8.	Inadequate prioritization of Stakeholder Engagement and Coordination (Intermediate Results Area 4) and engagement with organizations that represent the interest of women and vulnerable people.	Probability: Medium Impact: Medium	<p>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 is a standard procedure in project preparation, design, and development of plans and communications tools. However, stakeholder engagement is not the higher-level outcome that is sought; rather it is directed towards attaining improved development results or strengthened water management decisions and information. This can be achieved by engaging with organizations that overtly represent the interests of women and vulnerable people, and also by influencing other organizations whose work impacts women. The program is undertaking an analysis to determine the true nature of this risk – if it is a real risk to delivery on the PDO and gender-mainstreaming strategy, or if it is a perceived risk raised by indicators that do not fit the nature of the program.</p>	Probability: Low Impact: Medium

	Risk description	Probability / Impact before mitigation	Mitigation applied	Probability / Impact after mitigation
FINANCIAL RISKS				
9.	<p>Available CIWA financing is insufficient to meet demand.</p> <p>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.</p>	<p>Probability: High</p> <p>Impact: High</p>	<p>CIWA's available funding envelope is nearly allocated. Additional demand from current and potential partners exceeds the current funding expectations.</p> <p>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.</p> <p>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.</p>	<p>Probability: High</p> <p>Impact: High</p>

	Risk description	Probability / Impact before mitigation	Mitigation applied	Probability / Impact after mitigation
10.	Fraud and funds not being used as intended	Probability: Low Impact: High	<p>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,²² the Procurement²³ and Consultant²⁴ Guidelines, and the Standard Conditions for Trust Fund Grants,²⁵ 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.</p> <p>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.</p>	Probability: Low Impact: Medium

22. Available at http://siteresources.worldbank.org/INTOFFEVASUS/Resources/WB_Anti_Corruption_Guidelines_10_2006.pdf

23. Available at http://siteresources.worldbank.org/INTPROCUREMENT/Resources/Procurement_GLS_English_Final_Jan2011_revised_July1-2014.pdf

24. Available at http://siteresources.worldbank.org/INTPROCUREMENT/Resources/Consultant_GLS_English_Final_Jan2011_Revised_July1_2014.pdf

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

	Risk description	Probability / Impact before mitigation	Mitigation applied	Probability / Impact after mitigation
SUSTAINABILITY RISK				
11.	<p>CIWA support for investments in institutions, information systems and/or infrastructure is not sustained or advanced by riparians.</p> <p>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.</p>	<p>Probability: Medium</p> <p>Impact: Medium</p>	<p>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)</p> <p>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.</p>	<p>Probability: Medium</p> <p>Impact: Medium</p>

APPENDIX F: POLITICAL ECONOMY ANALYSIS IN CIWA'S SUPPORT TO TRANSBOUNDARY BASINS

CIWA recognizes that understanding and responding to governance and political economy dynamics can be an important ingredient to improving the effectiveness of development programming. CIWA continues to advance efforts to mainstream a political economy perspective into the design of its engagements in order to strengthen the identification and mitigation of risks, as well as to deliver support to clients that is aligned with the incentives and political-institutional realities on the ground in the river basins with which it engages.

CIWA has initiated collaboration with the World Bank's Governance Global Practices' Africa region to guide strategic assessments as needed; coordinate and provide advice on basin task team analytic work; and to facilitate knowledge management and lesson learning. A practical guidance note for carrying out political economy analysis has recently been developed, and dissemination is planned for FY17. In addition, basin tasks teams have engaged in the following activities:

NIGER BASIN

The Niger Basin task team has initiated efforts to understand the non-technical factors may hinder or facilitate project preparation and implementation. Of particular interest is exploring the political economy of resource mobilization for activities in the Niger Basin Investment Plan (CRIP), as well as the underlying bottlenecks to strengthened capacity for implementation of projects and programs Niger Basin countries.

NILE BASIN

During FY16, in coordination with the Bank's Governance Global Practice, the Nile Basin task team commissioned a working paper series on the political economy of water resource management in Eastern Nile countries and held a half day workshop for the operational team and CIWA management. A working paper on the political economy of the Nile Equatorial Lakes completed in FY16 continues to inform CIWA support in the sub-basin. As countries across the basin ramp up joint identification, prioritization, and preparation of water-related projects of transboundary significance, CIWA continues to emphasize PEA and explore the use of relevant tools that might help countries chart a strategic path forward that facilitates resource mobilization and subsequent project implementation.

ZAMBEZI BASIN

A suite of analytical studies being undertaken under the Zambezi Basin Support Program are informing political economy considerations in CIWA's support to strengthening institutional structures, information systems, and infrastructure preparation and coordinated operation in the basin. These include a comparative legal analysis related to water resources management and development in the basin's countries, an institutional assessment of ZRA, and an assessment of the context of cooperation in the basin.

VOLTA BASIN

The Volta Basin task team is undertaking an institutional assessment of the Volta Basin Authority to identify institutional and capacity gaps in the VBA which includes a chapter exploring political economy dynamics that contribute toward advancing or impeding the implementation of the organizations mandate. The assessment will set out a roadmap to strengthen the VBA's ability to implement the basin's upcoming Water Charter.

OKAVANGO BASIN

A stakeholder mapping exercise was carried out during the national consultations around the CIWA-supported Multi-Sector Investment Analysis (MSIOA) in July 2016. The task team used Net-Map²⁶ as a tool to guide discussions about how national and regional actors are linked, as well as their influence and goals relate to advancing coordinated management and development of water resources in the basin. The Net-Map methodology holds considerable potential for client ownership and can provide insights to guide coalition building strategies for the client. Key findings will be used to inform the Okavango Basin task team's strategy for building on MSIOA work, and is seen as important input to understanding and responding to political economy dynamics in the basin.

LAKE CHAD

Given the significant complexities of working in the region and the highly political nature of the resource, the CIWA core team and basin task team are exploring options for deepening existing political economy analysis to inform CIWA engagements in the region.

26. <https://netmap.wordpress.com/about/>



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

