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Report No: 90584-BW

PROJECT PAPER

FOR

SMALL RETF GRANT
FROM THE MULTI-DONOR TRUST FUND FOR
COOPERATION IN INTERNATIONAL WATERS IN AFRICA

IN THE AMOUNT OF
US$ 2 MILLION

TO THE

REPUBLIC OF BOTSWANA
MINISTRY OF MINERALS, ENERGY AND WATER RESOURCES

FOR A

LESOTHO HIGHLANDS - BOTSWANA WATER TRANSFER STUDY

September 30, 2014

CURRENCY EQUIVALENTS
(Exchange Rate Effective August 29, 2014)

Currency Unit	=	Pula / Loti / Rand
BW Pula 8.89	=	US$ 1
LS Loti 10.45	=	US$ 1
ZA Rand 10.45	=	US$ 1
ZA Rand / LS Loti 1.20	=	Pula 1

FISCAL YEAR
January 01 – December 31

ABBREVIATIONS AND ACRONYMS

ACP	African, Caribbean and Pacific
AICD	Africa Infrastructure Country Diagnostic
CAS	Country Assistance Strategy
CIWA	Cooperation in International Waters in Africa
CPS	Country Partnership Strategy
EU	European Union
GDP	Gross Domestic Product
GFDRR	Global Facility for Disaster Reduction and Recovery
GNP	Gross National Product
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IWRM	Integrated Water Resources Management
JSMC	Joint Study Management Committee
LHWP	Lesotho Highlands Water Project
MDTF	Multi-Donor Trust Fund
MMEWR	Ministry of Minerals, Energy and Water Resources
MoU	Memorandum of Understanding
NSC	North-South Carrier
ORASECOM	Orange Senqu River Commission
PIDA	Programme for Infrastructure Development of Africa
RIDMP	Regional Infrastructure Development Master Plan
RSAP	Regional Strategic Action Plans
SADC	Southern African Development Community
WUC	Water Utilities Corporation

Regional Vice President:	Makhtar Diop
Country Director:	Asad Alam
Senior Global Practice Director:	Junaid Ahmad
Practice Manager:	Jonathan Kamkwalala
Task Team Leader:	Marcus Wishart

COUNTRY
Project Name

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Lesotho Highlands – Botswana Water Transfer Study

Small RETF Grant Project Paper

Africa Region

GWADR

Basic Information

Date:	September 30, 2014	Sectors:	Water supply (60%), General water, sanitation and flood sector (30%), Public administration- Water, sanitation ar protection (10%)
Country Director:	Asad Alam	Themes:	Water resources management (100%)
Practice Manager/Director:	Jonathan Kamkwalala / Junaid Ahmad	EA Category:	Category C
Project ID:	P144228		
Instrument:	Multi-Donor Trust Fund for Cooperation in International Waters in Africa		
Team Leader(s):	Marcus Wishart		

Recipient Republic of Botswana

Executing Agency: Ministry of Minerals, Energy and Water Resources, Department of Water Affairs

Contact:	Boikobo Paya	Title:	Permanent Secretary
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Project Implementation Period: Start Date: September 01, 2014 End Date: March 31, 2016

Expected Effectiveness Date: September 30, 2014

Expected Closing Date: March 31, 2016

Project Financing Data(US$M)

[ ] Loan	[X] Grant	[ ] Other
[ ] Credit	[ ] Guarantee	

For Loans/Credits/Others

Total Project Cost :	US$ 2,000,000	Total Bank Financing :	US$ 2,000,000
Total Cofinancing :	0	Financing Gap :	0

.

Financing Source	Amount(US$M)
BORROWER/RECIPIENT	0.00
IBRD	0.00

IDA: New	0.00
IDA: Recommitted	0.00
CIWA MDTF	2,000,000
Financing Gap	0.00
Total	2,000,000

Expected Disbursements (in USD Million)

Fiscal Year	FY14	FY15	FY16						
Annual	0.45	1.35	0.20						
Cumulative	0.45	1.80	2.00						

Project Development Objective(s)

To determine the viability of water resource development options for Botswana to access water from the Lesotho Highlands by assessing engineering, costing, social, legal, environmental, economic and financial information.

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes [ ]	No [X]
Does the project require any exceptions from Bank policies?	Yes [ ]	No [X]
Have these been approved by Bank management?	Yes [ ]	No [ ]
Is approval for any policy exception sought from the Board?	Yes [ ]	No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X]	No [ ]

Safeguard Policies Triggered by the Project	**Yes**	**No**
Environmental Assessment OP/BP 4.01		X
Natural Habitats OP/BP 4.04		X
Forests OP/BP 4.36		X
Pest Management OP 4.09		X
Physical Cultural Resources OP/BP 4.11		X
Indigenous Peoples OP/BP 4.10		X
Involuntary Resettlement OP/BP 4.12		X
Safety of Dams OP/BP 4.37		X
Projects on International Waters OP/BP 7.50	X	
Projects in Disputed Areas OP/BP 7.60		X

Legal Covenants

Name	**Recurrent**	**Due Date**	**Frequency**

Description of Covenant

Team Composition

Bank Staff

Name	Title	Specialization	Unit	UPI
Marcus Wishart	Sr. Water Resources Specialist	Task Team Leader	AFTN2	
David Weston	Consultant	Water Supply Engineer	AFTN2	
Elisabeth Sherwood	Consultant	Financial Analyst	AFTN2	
Louise Croneborg	Water Resources Management	Water Resources	AFTN2	
Robert Robelus	Environment Specialist	Environmental Safeguards	AFTN2	
Kristine Schwebach	Social Specialist	Social Safeguards	AFTCS	
Tandile Msiwa	Financial Management Analyst	Financial Management	AFTME	
John Sikazwe	Senior Procurement Specialist	Procurement	AFTPE	
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Vidya Narasimhan	Finance Officer	Finance Officer	CTRLN	

Non Bank Staff

Name	Title	Office Phone	City

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Botswana	Orange-Senqu River Basin				
Lesotho	Orange-Senqu River Basin				
South Africa	Orange-Senqu River Basin				

I. STRATEGIC CONTEXT

A. Regional Context

1. Economic development within the Southern African Development Community (SADC) has averaged more than five percent year on year for the past decade. However, water is increasingly acknowledged as one of the most binding constraints on the potential for continued economic growth and development. With most of the region having natural precipitation below 860 mm/yr, and the 240 million people in the SADC expected to double in the next 25 years, the importance of water resources to the sustainable development of the SADC region is increasingly being recognized as a central determining factor that can only be realized through enhanced cooperation and sustainable management.

2. Recognizing the importance of water, SADC has identified it as a key resource that can contribute to the goal of fostering cooperation and mutual benefit amongst its Member States. The region has 15 major shared rivers and at least 14 major transboundary aquifer systems. The principles outlining a cooperative framework for the sustainable management of water resources and its contribution to the regional goals of economic development are articulated through "The Revised SADC Protocol on Shared Watercourse Systems". The overall objective of the Protocol, which came into force in 2003, is to foster closer cooperation for judicious, sustainable and coordinated management, protection and utilization of shared watercourses, and the advancement of the SADC agenda of regional integration, poverty eradication and economic development. These principles are supported through the Regional Water Policy and supporting Water Strategy, along with an operationalization plan updated through the Regional Strategic Action Plans (RSAP).

3. The availability of water resources across the SADC region average 8,800 m^3/capita/year. However, there is considerable variability in the temporal and spatial distribution, availability and usage of water among the SADC Member States. Challenges of inadequate infrastructure and limited storage capacity to ensure that these water resources are used for the economic and social benefit of citizens within the SADC are accentuated by a lack of congruence between the distribution of water, the location of growth centers and enabling infrastructure. As economic growth progresses and population numbers increase several of the SADC Member States are predicted to become "water stressed" by 2025.

4. The SADC Regional Infrastructure Development Master Plan (RIDMP) is intended to address these constraints by defining the minimum, regional/trans-boundary infrastructure development requirements and conditions in the water, energy, transport, tourism, meteorology and telecommunication sectors. The RIDMP is a strategic framework document, subject to updates depending on the needs of the SADC Member States, which will guide the implementation of efficient, seamless and cost-effective regional/trans-boundary infrastructure networks in an integrated manner. The objective is to advance the SADC agenda through facilitating implementation and realization of key infrastructure by year 2027 to enable the SADC region to realize its goal of an integrated regional economy on the basis of balance, equity and mutual benefit for all SADC Member States. The RIDMP also constitutes a key input to the proposed COMESA-EAC-SADC Inter-regional Infrastructure Master Plan and the continental Programme for Infrastructure Development of Africa (PIDA).

5. The countries with some of the most developed economies in the region also face the greatest levels of water stress. These include South Africa, Namibia, Botswana and Zimbabwe. All are relatively water scarce with options for water management limited by topography and weather patterns. Investing in water infrastructure and economic diversification have been important factors in building their economies and reducing their vulnerability to water related constraints to the economy. Most of the major economic and social development growth centers are located in areas where water is not naturally found in abundance. Accordingly, an extensive system of inter-basin water transfer schemes has been developed, by which water may be conveyed from areas of relative abundance to areas of need where water is relatively scarce. Beyond the mere ability to augment average supplies to water scarce regions, these schemes increase the diversity of supply to these growth centers, improving the reliability and resilience of supply systems.

6. The Lesotho Highlands Water Project (LHWP) is the largest of these transfer schemes. Situated within the Orange-Senqu River basin, the scheme is used to secure water for more than 12 million people in the Gauteng Region of South Africa, which generates more than 40 percent of South Africa's GNP. This is one of a number of schemes within the Orange-Senqu River basin and capitalizes on the high quality water and high altitude areas of Lesotho to provide the least cost solution for securing water for South Africa's economic hub. This scheme has established Lesotho as the regional water tower of southern Africa. With limited options for augmenting existing water supplies, Botswana has also approached Lesotho to explore the possibilities for investigating potential development options for the further transfer of water from the Highlands of Lesotho. This would consolidate Lesotho's position as the water tower of southern Africa and allow for the potential development of additional, sustainable revenue streams for Lesotho based on renewable water resources.

7. The transfer of water under the first two phases of the Lesotho Highlands Water Project makes a significant, long-term, and sustainable contribution to the overall GDP of one of the world's poorest countries. The GDP per capita income in Lesotho is US$851 with a poverty rate of 56.3 percent. The Human Development Index value of 0.450 for 2011 situates it in the low human development category, positioning the country at 160 out of 187 globally. While being surrounded by the Republic of South Africa accentuates the development challenges typically faced by many countries, the combination of high altitude, abundance of water and geographic proximity to major demand centers in southern Africa means that water is central to long term sustainable economic growth. Over the period 1994-2006 the sum of Phase 1 of the LHWP expenditures and revenues of M12.785 billion amount to about three times Lesotho's total gross domestic product of M4.175 billion in 2002. The revenues post Phase 1 construction of the LWHP are between US$20 to 30 million annually (roughly 4.8% of GDP).

8. Botswana's track record of good governance and economic growth has significantly raised living standards of many but is vulnerable to the wide spatial variability and extreme scarcity of water resources, coupled with the high dependency on internationally shared and trans-boundary waters. The national poverty rate has declined from over 50 percent at independence to around 21 percent; access to basic services, such as water, education and health, have all improved across the country. Targeted policy decisions have seen access to improved water sources increase to an estimated 99 percent of the total population in 2012 with a commitment to universal access by 2016. However, Botswana is increasingly facing new challenges requiring innovative, ambitious approaches that capitalize on the regional linkages and reflect its central geographical position within the SADC. Infrastructure development is crucial to unlock

Botswana's economic growth potential and water remains a central constraint to continuing the sustainable development.

9. Botswana has successfully implemented the optimized national capital investment program envisaged under the first National Water Master Plan (1991). Following the 2006 review of the Master Plan, efforts are now directed toward meeting national water demands through improved allocative efficiency, enhancing technological developments to improve water resources stewardship and water demand management, coupled with strategic investments in regional water infrastructure. An ambitious reform program has been initiated as a first phase of these measures to re-align the roles and responsibilities within the water sector, and to introduce a series of policy and regulatory instruments for improving water demand management and water use efficiency measures.

10. As part of the reforms, the Water Utilities Corporation (WUC) has been mandated with the responsibility for delivery of water and wastewater services country wide. Historically WUC has been responsible for operating the water system for Gaborone and other five major cities and, with continual improvements over time, has been considered one of the best performing utilities in Africa. Distributional losses fell from 21 percent of production in 2000 to 10.6 percent in 2008. This is considered to be less than half the level of a well-performing utility. As of 2008 the WUC's nonrevenue water was only 40 percent of the losses reported by similar African utilities. The collection ratio has been reported at 95 percent of bills since 2000, a ratio that financially contributes reliable, high-quality service (24/7). The WUC is currently in the process of assuming responsibility for all water supply systems from the Department of Water Affairs and local councils. This has resulted in an increase in un-accounted for water during the transition period. A series of water demand measures are being implemented, with establishment of a Leakage Control Unit which is installing pre-paid meters for all customers, including public stand posts, network rehabilitation, pressure management and monitoring and evaluation in an effort to address the short term losses. As a result, non-revenue water has shown a steady decline over the past 2 years dropping from 25% to around 15% in January 2013.

11. The next phase toward securing water for continued economic growth and prosperity is a series of strategic investments in regional water infrastructure. The North-South Carrier (NSC) is the first of these and includes a pipeline that carries raw water south for a distance of 360 kilometers to the capital city of Gaborone. Phase 1 was completed in 2000 with implementation of Phase 2 aimed at duplicating the pipeline to carry water from the Dikgatlhong Dam. A proposed extension to deliver water from the Zambezi River would add more than 500 kilometers to the total pipeline length. This is roughly equivalent in length to the transfer from the Highlands of Lesotho.

B. Sectoral and Institutional Context

12. The Orange-Senqu River basin is among the top three most economically important basins per unit area on the African continent (after the Nile and the Limpopo river basins), accounting for over 10 percent of GDP in Sub-Saharan Africa. The Orange-Senqu River, which has a catchment area of over one million square kilometers, has its headwaters in the highlands of Lesotho and flows about 2,300km west before discharging into the Atlantic Ocean. The catchment encompasses Botswana, Lesotho, Namibia and South Africa with main tributaries being the Senqu, Vaal, Fish and Molopo-Nossob river systems.

13. The Mountain Kingdom of Lesotho is fully situated within the basin but accounts for only

five percent of the basin surface area, while contributing 40 percent of annual runoff. Mean annual precipitation is nearly 1800 millimeters in the headwaters in Lesotho but only 50 millimeters at the river's mouth between South Africa and Namibia. In contrast, Botswana accounts for 12 percent of the basin and contributes little to the basin run-off, with South Africa accounting for more than half of the total mean annual runoff (56 percent) and 98 percent of the consumption among the riparian basin states.

Table 1. Demographic and geographic characteristics of the Orange-Senqu Basin.

	Surface area		Population			
Country	Country area in Basin (km^2)	% of country in basin*	Country population*	Country population in the basin*	% of country population in basin*	% of total basin population*
Botswana	121,338	12	1,680,883	47,667	2.8	0.30
Lesotho	19,938	5	2,127,539	2,127,539	100.0	13.52
Namibia	239,531	25	1,830,330	163,093	8.9	1.04
South Africa	563,244	60	44,819,778	13,357,298	29.8	84.87
Total	944,051		50,458,510	15,738,115	141.5	100

*River Awareness Kit (http://www.limpoporak.com)

14. Developments within the Orange-Senqu River make it one of the continent's most highly contested international waters. Of the estimated mean annual runoff of 11,500 Mm^3, abstractions total 5,370 Mm^3. Transfer within the basin through the LHWP average around 780 Mm^3, with more than 8,000 Mm^3 having been transferred to Gauteng since inauguration of the scheme more than 15 years ago. Groundwater infiltration and evaporation remove another 3,000 Mm^3 with an estimated 3,000 Mm^3 remaining to be exploited. However, estimates suggest that at least 1,000 Mm^3 are required to maintain ecosystem functions, leaving roughly 2,000 Mm^3 to be developed sustainably. South Africa accounts for nearly 98 percent of water consumption in the basin, primarily through irrigation, industry, and mining. Throughout the basin, agriculture accounts for 64 percent of abstractions, urban supply accounts for 23 percent, rural domestic consumption accounts for 6 percent, and other uses, including mining and hydropower, account for 7 percent.

15. Recognizing the importance of coordinated integrated management and the equitable and reasonable utilization of the resource of the Orange-Senqu River basin, the four riparian states established the Orange-Senqu River Commission (ORASECOM) in 2000. This was the first basin-wide agreement and provides a mechanism for facilitating exchange of information among the riparian member states within the context of existing bi-lateral agreements. The first of the bi-lateral commissions and agreements was signed by Lesotho and South Africa in 1978 to establish a Joint Technical Committee to investigate the feasibility of the LHWP. Subsequent agreements in 1986 and 1999 further strengthened the bilateral relationship and, with Bank support, saw construction of the Katse and Mohale dams under Phase 1A and 1B of the LHWP. South Africa also signed several bilateral agreements with Namibia and Botswana, starting with Namibia in 1987 to establish the Joint Technical Committee that was subsequently upgraded to a Permanent Water Commission in 1992.

B. Higher Level Objectives to which the Project Contributes

16. The World Bank has had a long-standing commitment to global priorities and region-wide programs. The 2008 Regional Integration Strategy for Africa provides a coherent and strategically focused framework to guide the Bank Group's assistance in support of regional integration and regional programs in the provision of regional public goods. The strategy acknowledges that regional approaches to the management of shared waters can provide improved water security and more sustainable management of these resources than is achievable through national action alone. It further recognizes that effective management is all the more urgent given the potentially disruptive impact of climate change on water resources availability and increasing water demand resulting in potential conflicts arising from limited supplies.

17. In Botswana, the Country Partnership Strategy (April 23, 2009, Report No. 47520-BW) acknowledges that water is Botswana's scarcest natural resource and that removing infrastructure bottlenecks will be a critical factor in increasing competitiveness. The proposed grant is also aligned to the objectives of the Country Assistance Strategy for Lesotho (Report No. 51787-LS). It would contribute to the long-standing Bank program of support to the water sector in Lesotho and help link the basin level management issues within the specific infrastructure development option. The CAS acknowledges the possibilities associated with Phase 2 of the LHWP and this grant would provide one of a number of instruments within a broad package of support to help position Lesotho going forward with further development of the Highlands.

18. The proposed grant would also provide an important input in support of the broader assessment and analysis of potential impacts associated with climate change in the Orange-Senqu River basin. It links to the ongoing analytical work "Addressing the Climate Vulnerability of Africa's Infrastructure" that is focused on river basins across Africa using a climate lense to build on the Africa Infrastructure Country Diagnostic. The Orange-Senqu River basin is one of the seven case studies under implementation. It will also benefit from the proposed Bank executed assessment of climate change in Lesotho under the Global Facility for Disaster Reduction and Recovery (GFDRR) grant program that is looking at sectoral impacts and macro-economic modeling of potential climate change related impacts, including those in the Lesotho Highlands.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

19. The **Project Development Objective** is to determine the viability of water resource development options for Botswana to access water from the Lesotho Highlands by assessing engineering, costing, social, legal, environmental, economic and financial information.

20. The proposed program is directly aligned with the objectives of the multi-donor trust fund for Cooperation in International Waters in Africa (CIWA) of strengthening cooperative management and development of international waters in Africa to facilitate sustainable climate resilient growth. Key outcomes envisaged by the CIWA MDTF include increasing levels of regional cooperation and integration, enhanced management and development of water resources in a climate resilient manner, and broad stakeholder engagement and coordination. The support is further aligned to CIWA's objective, focusing initially on a catalytic assessment of transfer options to secure long-term regional water security.

Project Beneficiaries

21. Project Beneficiaries include those long-term direct beneficiaries in Botswana that will benefit from the most efficient options for increased security of water supplies and improved service delivery through the analysis of options under the study. The estimated number of beneficiaries is roughly 600,000 people in southern Botswana. The population of the Kingdom of Lesotho (1,000,000 people) will benefit from the potential for additional investments in water resources infrastructure and sustained sources of revenues through the provision of water, while an estimated 400,000 people in South Africa could benefit from improved security and supply of water along the transfer route based on the options assessed under the study.

22. In addition to the long-term tangible benefits through the increased security of water supplies and investments in water resources infrastructure, intangible benefits are realized through increased water security, greater regional integration and enhanced cooperation. These outcomes are articulated in the regional SADC agreements and the regional goals of economic development, as well as being reflected in the agreement establishing the Orange-Senqu River Commission and those national development plans and sectoral strategies.

PDO Level Results Indicators

23. The key results are aligned to the CIWA MDTF indicators used for all CIWA projects. These are intended to measure progress toward enhanced management of water resources and the development of physical investments in a climate resilient manner. Specifically, to:

(a) reduce the obstacles to cooperation and advancing investments;

(b) support the identification and preparation of strategic investment opportunities; and,

(c) support national level activities which relate to the development or management of shared waters.

III. PROJECT DESCRIPTION

A. Project Components

24. The proposed grant would support a catalytic study to investigate potentially transformative development options for the transfer of water from the Lesotho Highlands to Botswana. The study will explore additional transfer options from the Lesotho Highlands and the development of additional, sustainable revenue streams for Lesotho based on renewable water resources. This would help Botswana to make a more informed decision for securing water supplies and would consolidate Lesotho's position as the water tower of southern Africa. The concept builds on the historical foundations of bilateral agreements in the Orange-Senqu River basin, and positions a more strategic regional analysis of long term water supply security considerations in southern Africa.

25. The individual study is the first in a possible series of studies that could inform longer term assessments of regional trade-offs relating to the potential costs and benefits associated with different supply options from the Zambezi River, the Okavango delta and other sources such as the Limpopo River and regional groundwater resources. This kind of regional strategic planning

would illustrate the incremental gains and improved efficiencies to be achieved through cooperative ventures and help catalyze regional infrastructure developments.

26. Specifically, the study will determine the viability of water resource development options by considering engineering, costing, social, legal, environmental, economic and financial information and make recommendations required by the Member States to enable them to decide on the:

a. extent and timing for accessing water from the Lesotho Highlands;
b. the institutional framework under which this could be implemented; and,
c. the financial options for the storage and transfer of water.

27. The study will include a review of all relevant previous studies relating the Senqu-Orange River and its tributaries, to assist collate the water delivery requirements and demand patterns for determination of the assurance level. Various possible water resource schemes will be identified and defined in the upper Orange-Senqu River, including further phases of the Lesotho Highlands Water Project. Water availability for each of the identified options will be assessed with due cognizance of the existing and future water supply requirements of all the Riparian States. Different delivery mechanisms will be investigated, including potential conveyance routes from source to the delivery point in Botswana. Unit Reference Values will be calculated for all options as the means for economic comparison and possible financing mechanisms, tariff structures and royalty models identified to facilitate the storage and transfer of water from the Highlands of Lesotho to the demand centres of greater Gaborone and Southern Kgalagadi in Botswana. This information will be used to inform recommendations on appropriate institutional models for further development.

28. The proposed study would also provide inputs to a regional platform for exploring alternative, regionally integrated models of development through trade-off analyses of different regional water supply options. The SADC Regional Infrastructure Development Master Plan Water Sector Plan (August 2012) provides a blueprint for securing infrastructure development that would be well informed by such a regional analysis of options. The study would be the first of a series to foster these goals through a more strategic regional lens that could optimize the use of water resources and realize the regional objectives of fostering cooperation and mutual benefit. Within this context it could launch a process that could inform developments in the Okavango Delta, the Zambezi and Limpopo river basins as well as regional groundwater resources, among others.

29. The study will link with and leverage the ongoing analytical work being undertaken by the Bank to strengthen the analytical base for investments in Africa's infrastructure under a future uncertain climate. This builds on the work of the Africa Infrastructure Country Diagnostic (AICD) and will specifically explore the following across seven river basin in Africa, including the Orange-Senqu River basin:

a. defining a range of impacts of climate change on a subset of infrastructure over a range of climate scenarios;
b. developing and testing a framework for investment decision that can be "robust" under a wide range of climate outcomes; and,
c. enhancing the "investment readiness" of African countries to use climate finance resources geared at increasing their resilience to climate variability and change.

30. The study will further link to the GFDRR ACP-EU Natural Disaster Risk Reduction Program in Lesotho. This includes US$500k Bank executed grant being implemented in collaboration with the Lesotho Ministry of Energy, Meteorology and Water Affairs to undertake a "Scenario Analysis to Strengthen Natural Resources Management and Economic Planning". This will entail the following activities:

a. Comprehensive assessment of the historical, recent and future climate change scenarios. The task would focus on interpretation of conducted and on-going downscaling of Global Circulation Models for Lesotho and the creation of climatic data series (temperature and rainfall) representing three scenarios: i) existing, ii) future probable change and iii) future extreme change.

b. Analysis of the impact of climate variability and future climate change on key sectors; water, land management and energy; and its implications on the Lesotho economy and sustainability of vulnerable watersheds. This will include comparison of the costs, or losses of revenue associated with climactic variability and future change in these sectors.

c. Preparation of Policy Briefs and Sectoral Papers to provide analytical foundations for a structured, multi-sectoral dialogue and decision-making within the Government of Lesotho.

B. Project Financing

31. The financing for the project will be provided through a US$2 million recipient executed grant from the multi-donor trust fund for Cooperation in International Waters in Africa (CIWA MDTF), administered by the World Bank, to be implemented over two years. The Justification Note was endorsed by the CIWA Advisory Committee meeting in Entebbe, Uganda on October 19, 2012.

C. Lessons Learned and Reflected in the Project Design

32. The provision of a recipient-executed grant to facilitate a regional assessment of infrastructure development options reflects the experience in using such financing mechanisms to foster cooperation. Neutral financing mechanisms administered through independent brokers can help remove some of the complex political economy issues and allow the space needed for riparian states to engage in a balanced process on equal terms. Such financing can play an important role in building and strengthening the enabling environments in which financial co-operation over transboundary management becomes a possibility. The structure of the proposed support has been informed by the World Bank's global lessons learned through involvement in transboundary water issues and the experience of supporting the regional process within the SADC context. Some of the key lessons reflected in the design of this catalytic support includes: i) the importance of riparian ownership and early stakeholder engagement; ii) flexible levels of engagement; iii) clear goals and results focus; iv) the need to communicate results and outcomes to stakeholders and development partners in order to build support; vi) the need to allow the time and space for complex negotiations that can be informed by sound analysis of the technical, financial and economic considerations; and, vi) the importance of donor coordination to increase program effectiveness.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

33. The Government of Botswana, the Government of the Kingdom of Lesotho and the Government of the Republic of South Africa have initiated this high level planning study to evaluate possible water resource developments and transfer options focusing on the water resources of the Lesotho Highlands with the possibility to supplying communities adjacent to the conveyance system.

34. A Memorandum of Understanding (MoU) between the three countries was signed during the preparation phase in order to facilitate the process of assessing options for the transfer of water from the highlands of Lesotho. The MoU signed on March 01, 2013 reaffirms the commitment of the Member States to the SADC Revised Protocol on Shared Watercourse and the principles of the Agreement on Establishment of the Orange-Senqu River Commission (ORASECOM).

35. A Joint Study Management Committee (JSMC) has been established to provide management and guidance. Meetings are agreed to be rotated amongst the party States established comprising representatives of Botswana, Lesotho, South Africa. As per the agreement in the MoU, the routine administration will be managed by the Ministry of Minerals, Energy and Water Resources, Department of Water Affairs in Botswana on behalf of the Parties and as recipient of the proposed CIWA Grant.

B. Project Stakeholder Assessment

36. The Orange-Senqu River Commission (ORASECOM) was established in 2000. This provides for a consultative mechanism among the riparians. The MoU and proposed support would follow the existing mechanisms at the basin level to ensure interaction and alignment among the various levels.

37. A significant program of donor support to ORASECOM has been implemented over the past decade and the proposed engagement would be fully complementary to and build on existing partner programs. These have been focused primarily on IWRM and institutional issues through support to the ORASECOM Secretariat.

38. Of the four riparians within the Orange-Senqu River basin, Namibia is the only one not formally participating in the MoU or the benefits of the proposed study. Namibia was present at the signing of MoU on the side of the regular meeting of the ORASECOM Ministerial meeting.

C. Results Monitoring and Evaluation

39. The Results Framework outlined in Annex 1 has been designed to meet the requirements of the CIWA MDTF and provides the basis for monitoring progress of the project. The reporting mechanisms and formats will rely on those used to report progress to the ORASECOM structures. Monitoring and Evaluation will be undertaken through the normal operations of World Bank project supervision and evaluation processes. The indicators are all aligned with the CIWA results framework to allow results to be aggregated and report on progress toward the overall CIWA outcomes.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary Table

Stakeholder Risk	Risk Rating	Mitigation measures
Implementing Agency Risk		
- Capacity	- L	
- Governance	- L	
Project Risk		
- Design	- M	
- Social and Environmental	- M	
- Program and Donor	- M	
- Delivery Monitoring and Sustainability	- L	
Overall Implementation Risk	**Moderate**	

B. Overall Risk Rating Explanation

40. The overall risk of the project is rated as Moderate. The rating is driven by the fact that this project will involve three countries with different interests in a potentially complex hydro-political regional context. An Integrated Risk Assessment Framework has been completed.

41. In managing the associated risk, the Bank team will continue to engage regularly with the three participating riparian states, along with ORASECOM, the SADC Water Division, Namibia and other development partners. While this will come with a high transaction cost, such partnership will be central to understanding the political-economy within the basin and ensuring a satisfactory outcome for the proposed support.

VI. APPRAISAL SUMMARY

42. The grant will support a strategic assessment and knowledge products to strengthen the framework for regional infrastructure development and enhanced water security. The grant will contribute directly to the SADC goals of fostering cooperation and mutual benefit amongst its Member States. Substantial economic benefits could be realized through implementation of the outcomes of the assessment. Botswana has successfully implemented the optimized national capital investment program envisaged under the first National Water Master Plan (1991) and is now looking secure water for continued economic growth and prosperity through a series of strategic investments in regional water infrastructure following the recommendations of the 2006 review of the Master Plan.

43. The North-South Carrier (NSC) is the first of these and includes a pipeline that carries raw water south for a distance of 360 kilometers to the capital city of Gaborone. Phase 1 was completed in 2000 with implementation of Phase 2 aimed at duplicating the pipeline to carry water from the Dikgatlhong Dam. A proposed extension to deliver water from the Zambezi would add more than 500 kilometres to the total pipeline length. This is roughly equivalent in length to the transfer from the Highlands of Lesotho. The grant will also help to strengthen the potential development of sustainable revenue streams for Lesotho and so capitalize on the

availability of high altitude, high quality water.

44. To facilitate the process of developing regional infrastructure, the Government of Botswana entered into a Memorandum of Understanding with the Government of the Kingdom of Lesotho and the Government of the Republic of South Africa to initiate a high level planning study. This will evaluate possible water resource developments and transfer options focusing on the water resources of the Lesotho Highlands with the possibility to supplying communities adjacent to the conveyance system.

45. The MoU signed on March 01, 2013 reaffirms the commitment of the Member States to the SADC Revised Protocol on Shared Watercourse and the principles of the Agreement on Establishment of the Orange-Senqu River Commission (ORASECOM). A Joint Study Management Committee (JSMC) has been established to provide management and guidance. Meetings are agreed to be rotated amongst the party States established comprising representatives of Botswana, Lesotho, South Africa.

46. **Procurement.** The Risk Assessment is assessed as Moderate. All procurement to be financed under the proposed project will be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated January 2011, and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated January 2011, and the provisions stipulated in the Grant Agreement. At this time it is envisioned that the Grant will not finance procurement of goods, works or non-consultant services. It is anticipated that the Grant will finance two consultant contracts for firms. All consultant selection undertaken for firms will be done using the Bank's Standard Requests for Proposals. The project will carry out implementation in accordance with the "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD and IDA and Grants" dated October 15, 2006 and revised January 2011 (the Anti-Corruption Guidelines).

47. An assessment has been made of the procurement capacity at the Ministry of Minerals, Energy and Water Resources of Botswana (MMEWR). The Ministerial Tender Committee and the Procurement and Supplies staff at MMEWR have been involved in several consultant selection processes under the Morupule B Power Generation and Transmission Project (P112516) and the capacity is deemed adequate. The key issues identified regarding procurement for project implementation are: (a) the need for additional Bank support to MMEWR staff to assure adherence to World Bank Procurement and Consultant Selection Guidelines; and, (b) the need to commence the selections timeously due to the number of stakeholders involved some of whom are based outside Botswana.

48. Noting that the grant will only finance two consultant contracts, the proposed corrective measures to mitigate the overall risk include: (a) the Bank will provide hands on support during the consultant selection process to MMEWR staff to assure adherence to World Bank Procurement and Consultant Selection Guidelines; (b) the timetable includes advance consultant selection to mitigate the risk of delays; and, (c) the two consultant contracts will be subject to prior review. An acceptable Procurement Plan covering the first 18 months of the project has been prepared and the principle selection for the consulting firm is advanced.

49. **Financial Management.** The Risk Assessment is assessed as Low. The project financing is limited to two consulting assignments and it has been agreed that direct payment method will be used. This will allow Pre Dante verification (compensating audit procedures) of supporting documentation before payments are effected. With this disbursement method there will be no

requirement for audit report and opening and management of designated account. Minimum application threshold need to be agreed upon before the project effectiveness.

A. Other Safeguards Policies Triggered

50. The project has been classified as an Environmental Category C project. No infrastructure is being financed under the grant. The grant will not finance any feasibility and/or environmental/social studies and therefore does not trigger environmental or social safeguards policies. The grant will support a strategic study of options that includes screening for any potential environmental impacts and include a relative ranking among the different identified options. There is an existing basin agreement and the issues have been tabled and minuted at meetings of the Member States. Three of the four riparian states are involved in the project and have signed a specific MoU relating to the proposed activities. The fourth riparian has been consulted and will be informed of progress through the basin protocols in compliance with OP7.50.

Annex 1: Results Framework and Monitoring

BOTSWANA: Lesotho Highlands - Botswana Water Transfer

1. The results framework is directly aligned with the overall CIWA program results framework. This is intended to allow for simple aggregation of the results of the Basin Level Outcomes (BLO) from all of the CIWA supported programs across Sub-Saharan Africa. It is an amalgamation of the results matrices of all of the first phase projects presented alongside the long-term objectives for CIWA's engagement in the basin.

2. The results framework provides the definition of successful strengthening in each of the result areas. The four result areas are:

(a) Regional cooperation and integration strengthened: This result aims to foster cooperative trans-boundary institutions for greater regional stability and creation of an enabling environment for shared sustainable growth.

(b) Water resources management strengthened: This result aims to underpin the evidence-based knowledge for planning and decision-making to maximize development opportunities and minimize climate risks.

(c) Water resources development strengthened: This result aims to support investments that improve resilience to climate related shocks, enhance food security, and enable countries to follow a lower carbon growth path.

(d) Stakeholder engagement and coordination strengthened: This result aims to enable greater voice of civil society, private sector and academia in the decision making processes related to cooperative management and development of shared basin resources.

Project Development Objective (PDO): is to determine the viability of water resource development options for Botswana to access water from the Lesotho Highlands by assessing engineering, costing, social, legal, environmental, economic and financial information.

PDO Level Results Indicators*	Core	Unit of Measure	Baseline	Cumulative Target Values**			Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition etc.)
				YR 1	YR 2	YR3				
Indicator One: US$ financing mobilized for cooperative management and development of international waters resources projects supported by the project.	☐	US$	0	Agreed ToRs	Reconnaissance Study Completed	Study Findings Adopted	Bi-annually	ORASECOM Reports	Botswana	Planned investment financing influenced by CIWA during one or more stages of project preparation
Indicator Two: Number of people directly benefiting from improved water resources management and development in target basins through projects supported by the project.	☐	#	0	0	0	2m beneficiaries ID'd	Bi-annually	ORASECOM Reports	Botswana	
INTERMEDIATE RESULTS										
Intermediate Result Indicator 1: Joint Study Management Committee meeting bi-annually	☐	#	0	2	2	2	Bi-annually	ORASECOM Reports	Botswana	
Intermediate Result Indicator 2: ORASECOM Council Updated	☐	#	Signed MoU	2	2	2	Bi-annually	ORASECOM Reports	Botswana	

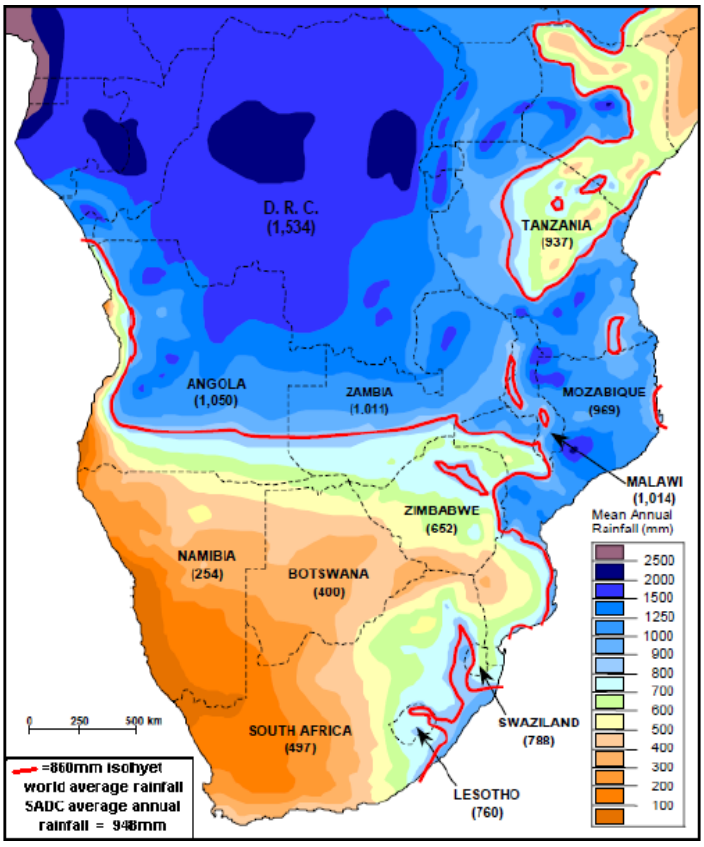
***Please indicate whether the indicator is a Core Sector Indicator (see further http://coreindicators)**
****Target values should be entered for the years data will be available, not necessarily annually**

Annex 2: Detailed Project Description

BOTSWANA: Lesotho Highlands - Botswana Water Transfer

1. The southern Africa region is characterized by extreme variations of available water resources in both time and space. The humid, well watered regions of the Democratic Republic of Congo (DRC), lying slightly north of the equator are in direct climatological contrast to the deserts found along the Namibian coastline. The SADC region encompasses a range of about 35 degrees of latitude from these northernmost areas to Cape Agulhas, its southernmost point. The climate is heavily influenced by the Agulhas current on the east coast, bringing warm water from areas to the north of the region, producing a warm and humid climate along that coastline, and the cold Benguela current that pumps a stream of water from Antarctica into the south-western coast of the region. This produces a cooler, drier climate along that coastline. Average annual rainfall varies from 4,000mm in the north to less than 50mm in south-western parts of the region.

2. On a regional basis the average renewable freshwater resources (ground and surface water) of the SADC region are substantial. With a population of approximately 200 million (year 2000 SADC estimate), per capita annual renewable freshwater resources average 8,900 cubic metres (equivalent to about 24,000 litres/person/day). However, this seemingly favourable water situation masks tremendous seasonal, annual and spatial variability. In addition, water is generally not available in places of highest water demand.



3. As economic growth progresses and population numbers increase, several of the states in the region are predicted to become "water stressed" by 2025. At present the countries with some of the most developed economies in the region (as measured by GDP per capita) also face the greatest levels of water stress.

4. The Orange-Senqu River, which has a catchment area of over one million square kilometers, has its headwaters in the highlands of Lesotho and flows about 2,300km west before discharging into the Atlantic Ocean. The catchment encompasses Botswana, Lesotho, Namibia and South Africa with main tributaries being the Senqu, Vaal, Fish and Molopo-Nossob river systems. The Orange-Senqu River basin is among the top three most economically important basins per unit area on the African continent (after the Nile and the Limpopo river basins), accounting for over 10 percent of GDP.

5. Lesotho has only five percent of the basin surface area but contributes 40 percent of annual runoff and the Mountain Kingdom is full situated within the basin. Mean annual precipitation is

nearly 1800 millimeters in the headwaters in Lesotho but only 50 millimeters at the river's mouth between South Africa and Namibia. In contrast, Botswana accounts for 12 percent of the basin and contributes little to the basin run-off, with South Africa accounting for 98 percent of the consumption among the riparian basin states and more than half of the total mean annual runoff (56 percent).

Table 1. Demographic and geographic characteristics of the Orange-Senqu Basin.

	Surface area		Population			
Country	Country area in Basin (km2) [TFDD]	% of country in basin [RAK]	Country population [RAK]	Country population in the basin [RAK]	% of country population in basin [RAK]	% of total basin population [RAK]
Botswana	121,338	12	1,680,883	47,667	2.8	0.30
Lesotho	19,938	5	2,127,539	2,127,539	100.0	13.52
Namibia	239,531	25	1,830,330	163,093	8.9	1.04
South Africa	563,244	60	44,819,778	13,357,298	29.8	84.87
Total	944,051		50,458,510	15,738,115	141.5	100

6. Developments within the Orange-Senqu River make it one of the continent's most highly contested international waters. Of the estimated mean annual runoff of 11,500 Mm^3, abstractions total 5,370 Mm^3. Transfer within the basin through the LHWP average around 780 Mm^3, with more than 8,000 Mm^3 having been transferred to Gauteng since inauguration of the scheme more than 15 years ago. Groundwater infiltration and evaporation remove another 3,000 Mm^3 with an estimated 3,000 Mm^3 remaining to be exploited. However, estimates suggest that at least 1,000 Mm^3 are required to maintain ecosystem functions, leaving roughly 2,000 Mm^3 to be developed sustainably. South Africa accounts for nearly 98 percent of water consumption in the basin, primarily through irrigation, industry, and mining. Throughout the basin, agriculture accounts for 64 percent of abstractions, urban supply accounts for 23 percent, rural domestic consumption accounts for 6 percent, and other uses, including mining and hydropower, account for 7 percent.

7. Recognising the importance of coordinated integrated management and the equitable and reasonable utilization of the resource of the Orange-Senqu River basin, the four riparian states established the Orange-Senqu River Commission (ORASECOM) in 2000. This was the first basin-wide agreement and provides a mechanism for facilitating exchange of information among the riparian member states within the context of existing bi-lateral agreements. The first of the bi-lateral commissions and agreements was signed by Lesotho and South Africa in 1978 to establish a Joint Technical Committee to investigate the feasibility of the LHWP. Subsequent agreements in 1986 and 1999 further strengthened the bilateral relationship and, with Bank support, saw construction of the Katse and Mohale dams under Phase 1A and 1B of the LHWP. South Africa also signed several bilateral agreements with Namibia and Botswana, starting with Namibia in 1987 to establish the Joint Technical Committee that was subsequently upgraded to a Permanent Water Commission in 1992.

8. Botswana's impressive track record of good governance and economic growth has significantly raised living standards of many. The national poverty rate has declined from over 50 percent at independence to around 21 percent; access to basic services, such as water,

education and health, have all improved across the country. Targeted policy decisions during this period have seen access to improved water sources increase to an estimated 99 percent of the total population in 2012 with a commitment to universal access by 2016. However, Botswana is increasingly facing new challenges requiring a new approach and different ways of doing things. Infrastructure development is crucial to unlock Botswana's economic growth potential and water remains a central constraint to continuing the sustainable development. Efficient utilization of its scarce water resources is a critical pillar in support of further economic growth, diversification and the eradication of poverty.

9. Botswana's water resources are characterized by wide spatial variability, extreme scarcity, and a high dependency on internationally shared and trans-boundary waters. Most of the water is located in the northwest, far from the population center in the southeast. Those resources in the north are located in the Okavango, one of the world's most important wetland habitats shared between three riparian states, or within the Zambezi River basin which is shared among eight riparian states. The dependency ratio, reflecting that part of the total renewable water resources originating outside the country, is the highest in southern Africa at 80 percent. All of the country's major drainage basins are shared. Low and unreliable rainfall, with high rates of potential evapotranspiration, combined with very flat topography result in low rates of surface runoff and low rates of groundwater recharge. Climate change scenarios indicate that runoff is projected to decrease by 30 percent under the median projection.

10. Having successfully implemented the optimized national capital investment program envisaged under the first National Water Master Plan (1991), the recommendations of the 2006 Master Plan review directed policy and strategies to meet the national water demands toward improving allocative efficiency, enhancing technological developments to improve water resources stewardship and water demand management, coupled with strategic investments in regional water infrastructure. An ambitious reform program has been initiated as a first phase of these measures to re-align the roles and responsibilities within the water sector, and to introduce a series of policy and regulatory instruments for improving water demand management and water use efficiency measures.

11. The next phase toward securing water for continued economic growth and prosperity is a series of strategic investments in regional water infrastructure. The North-South Carrier (NSC) is the first of these and includes a pipeline that carries raw water south for a distance of 360 kilometres to the capital city of Gaborone. Phase 1 was completed in 2000 with implementation of Phase 2 aimed at duplicating the pipeline to carry water from the Dikgatlhong Dam. A proposed extension to deliver water from the Zambezi would add more than 500 kilometres to the total pipeline length. This is roughly equivalent in length to the transfer from the Highlands of Lesotho.

12. Lesotho is well positioned to capitalize on the strategic regional investments in water infrastructure and consolidate its position as the water tower of southern Africa. Lesotho is one of the world's poorest countries and the transfer of water under the first two phases of the Lesotho Highlands Water Project (LHWP) provides revenues of between US$20 to 30m annually, making a significant, long-term, sustainable contribution to the overall GDP. Being surrounded by the Republic of South Africa accentuates the development challenges typically faced by many countries. The GDP per capita income in Lesotho is US$851 with a poverty ratio of 56.3 percent. The Human Development Index value of 0.450 for 2011 situates it in the low human development category, positioning the country at 160 out of 187 globally. The

combination of high altitude, an abundance of water and the geographic proximity to major demand centers in southern Africa means that water is central to long term sustainable economic growth.

13. Among the strongest economies in the SADC, Botswana, Namibia and South Africa are all relatively water scarce with options for water management limited by topography and weather patterns. Investing in water infrastructure and diversification have been important factors in building their economies and reducing their vulnerability to water related constraints to the economy. Most of the major growth centers of economic and social development are located in areas where water is not naturally found in abundance. Accordingly, an extensive system of inter-basin water transfer schemes has been developed, by which water may be conveyed from areas of relative abundance to areas of need where water is relatively scarce. Beyond the mere ability to augment average supplies to water short regions, these schemes increase the diversity of supply to these growth centers, improving the reliability and resilience of supply systems.

14. The Lesotho Highlands Water Project is the largest of these transfer schemes. Situated within the Orange-Senqu River basin, the scheme is used to secure water for more than 12 million people in the Gauteng Region, which generates more than 40 percent of South Africa's GNP. This is one of a number of schemes within the Orange-Senqu River basin and capitalizes on the good quality water and high altitude areas of Lesotho to provide the least cost solution for securing water for the economic hub of South Africa. With limited options for augmenting existing water supplies, Bostwana has also approached Lesotho to explore the possibilities for investigating potential development options for the further transfer of water from the Lesotho Highlands. This would consolidate Lesotho's position as the water tower of southern Africa and explore the development of additional, sustainable revenue streams for Lesotho based on renewable water resources.

15. The grant will support a proposed study that will assist in investigating potentially transformative development options for the further transfer of water from the Lesotho Highlands. This would help inform options in Botswana to securing water supplies and in consolidating Lesotho's position as the water tower of southern Africa. The concept builds on the historical foundations of bilateral agreements in the basin, and position a more strategic regional analysis of long term water supply security considerations in southern Africa.

16. The individual study could inform longer term assessments of regional trade-offs relating to the potential costs and benefits associated with different supply options from the Zambezi River, the Okavango delta and other sources such as the Limpopo and groundwater, for Botswana, Zimbabwe and South Africa, among others. This kind of regional strategic planning would illustrate the incremental gains and improved efficiencies to be achieved through cooperative ventures and help catalyse regional infrastructure developments.

17. The grant would support a study of additional transfer options from the Lesotho Highlands and explore the development of additional, sustainable revenue streams for Lesotho based on renewable water resources.

18. The study would determine the viability of water resource development options by considering engineering, costing, social, legal, environmental, economic and financial information and make recommendations required by the riparian member states to enable them to decide on the:

a. extent and timing for accessing water from the Lesotho Highlands;

b. the institutional framework under which this could be implemented; and,

c. the financial options for the storage and transfer of water.

19. The proposed study would also provide inputs to a regional platform for exploring alternative, regionally integrated models of development. The SADC Regional Infrastructure Development Master Plan Water Sector Plan (August 2012) provides a blue print for securing infrastructure development that would be well informed by such a regional analysis of options. The study would be the first of a series to foster these goals through a more strategic regional lense that could optimize the use of water resources and realize the regional objectives of fostering cooperation and mutual benefit. Within this context it could launch a process that could inform developments in the Okavango, the Zambezi, the Limpopo river basins and regional groundwater resources, among others.

20. The study will link to the GFDRR ACP-EU Natural Disaster Risk Reduction Program in Lesotho. This includes US$500,000 Bank executed grant being implemented in collaboration with the Ministry of Energy, Meteorology and Water Affairs to undertake a "Scenario Analysis to Strengthen Natural Resources Management and Economic Planning". This will entail the following activities:

a. Comprehensive assessment of the historical, recent and future climate change scenarios. The task would focus on interpretation of conducted and on-going downscaling of Global Circulation Models for Lesotho and the creation of climatic data series (temperature and rainfall) representing three scenarios: i) existing, ii) future probable change and iii) future extreme change.
b. Analysis of the impact of climate variability and future climate change on key sectors; water, land management and energy; and its implications on the Lesotho economy and sustainability of vulnerable watersheds. This will include comparison of the costs, or losses of revenue associated with climactic variability and future change in these sectors.
c. Preparation of Policy Briefs and Sectoral Papers to provide analytical foundations for a structured, multi-sectoral dialogue and decision-making within the Government of Lesotho.

Annex 3: Implementation Arrangements

BOTSWANA: Lesotho Highlands - Botswana Water Transfer

Project Institutional and Implementation Arrangements

1. The grant will be implemented by the Ministry of Minerals, Energy and Water Resources, Department of Water Affairs in Botswana on behalf of Botswana, Lesotho, and South Africa. This is in accordance with institutional arrangements for implementation of the study agreed to by the three countries in the Memorandum of Understanding signed on March 01, 2013 at a meeting of the Orange-Senqu River Commission (ORASECOM).

2. The MoU signed on March 01, 2013 reaffirms the commitment of the Member States to the SADC Revised Protocol on Shared Watercourse and the principles of the Agreement on Establishment of the Orange-Senqu River Commission (ORASECOM). It commits the Government of Botswana, the Government of the Kingdom of Lesotho and the Government of the Republic of South Africa to undertake a joint, high level planning study to evaluate possible water resource developments and transfer options focusing on the water resources of the Lesotho Highlands and the possibility of supplying communities adjacent to the conveyance system.

3. A Joint Study Management Committee (JSMC) has been established under the auspices of the MoU to provide management and guidance. Meetings are agreed to be rotated amongst the party States established comprising representatives of Botswana, Lesotho, South Africa. As per the agreement in the MoU, the routine administration will be managed by the Ministry of Minerals, Energy and Water Resources, Department of Water Affairs in Botswana on behalf of the Parties and as recipient of the proposed CIWA Grant.

Financial Management, Disbursements and Procurement

4. A financial management assessment of the Ministry of Minerals, Energy and Water Resources (MMEWR), the implementing entity was carried out in accordance with the Financial Management Manual for World Bank-Financed Investment Operations, issued by the Financial Management Sector Board on March 1, 2010 and the ORAF Financial Management Draft Interim Guidance Note issued by the AFTFM unit on September 30, 2010.

5. The objective of the assessment was to determine whether the implementing agency, MMEWR has adequate financial management arrangements, to ensure that: (1) the funds are properly accounted for and used only for the intended purposes, in an efficient and economical way; (2) capability exists for the preparation of accurate, reliable and timely periodic financial reports; (3) internal controls exist which allow early detection of errors or unusual practices as a deterrent to fraud and corruption, (4) the assets are safeguarded. The results of the review are documented below.

6. Disbursements will be made through Direct Payment and Re-imbursements. Given that the grant support will be limited to a small number of consulting assignments with fixed budget it was agreed that this would be the most cost effective and efficient mechanism. Expenditures are limited to Consulting Services, with fixed budget selection with the Minimum Value of Applications for Reimbursements and Direct Payments US$ 50,000.

7. The overall conclusion of the assessment is that the risk is Low. The project financing is limited to two consulting assignments and it has been agreed that direct payment method will be

used. This will allow Pre Dante verification (compensating audit procedures) of supporting documentation before payments are effected. With this disbursement method there will be no requirement for audit report and opening and management of designated account. Minimum application threshold need to be agreed upon before the project effectiveness.

Procurement

8. The key issues identified regarding procurement for project implementation are (a) the need for additional Bank support to MMEWR staff to assure adherence to World Bank Procurement and Consultant Selection Guidelines, (b) the need to commence the selections timeously due to the number of stakeholders involved some of whom are based outside Botswana.

9. Noting that the grant will only finance two consultant contracts, the proposed corrective measures to mitigate the overall risk include: (a) The Bank to provide hands on support during the consultant selection process to MMEWR staff to assure adherence to World Bank Procurement and Consultant Selection Guidelines (b) Advance consultant selection to mitigate the risk of delays (c) The two consultant contracts to be subject to prior review. An acceptable Procurement Plan covering the first 18 months of the project is under preparation.

10. The Risk Assessment is rated as MODERATE.

11. Risk mitigation action plan. The following actions are suggested to mitigate the procurement risk and facilitate the implementation of the project.

Procurement Management Action Plan to Mitigate Procurement Risk

Risk	Mitigation/Action	Responsibility	Due Date
Need for additional Bank support to MMEWR staff to assure adherence to World Bank Procurement and Consultant Selection Guidelines	a) The Bank to provide hands on support during the consultant selection process to MMEWR staff to assure adherence to World Bank Procurement and Consultant Selection Guidelines (b) The two consultant contracts to be subject to prior review	Bank	Ongoing
The need to commence the selections timeously due to the number of stakeholders involved some of whom are based outside Botswana	Advance consultant selection to mitigate the risk of delays	Bank / JSMC	Ongoing

12. All procurement to be financed under the proposed project will be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated January 2011, and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated January 2011, and the provisions stipulated in the Legal Agreement. At this time it is envisioned that the Grant will not finance procurement of goods, works and non-consultant services. It is anticipated that the Grant will finance two (2No.) consultant contracts for firms. All consultant selection undertaken for firms will be done using the Bank's Standard Requests for Proposals. The project will carry out implementation in accordance with the "Guidelines on Preventing and Combating Fraud and Corruption in Projects

Financed by IBRD and IDA and Grants" dated October 15, 2006 and revised January 2011 (the Anti-Corruption Guidelines).

Procurement of Works, Goods and Non consultant Services (other than consultants' services)

13. The Grant will not finance Works, Goods and Non consultant Services.

Selection of Consultants

14. The two Consultants' services required for firms by the project are estimated in aggregate at not more than US$ 2million to cover consultancies for: (a) Planning study to investigate water resource development options to supply Republic of Botswana with water from the Kingdom of Lesotho highlands; and, (b) Assessment of Regional Water Supply Options.

15. **Assessment of the agency's capacity to implement procurement**. An assessment has been made of the procurement capacity at the Ministry of Minerals, Energy and Water Resources of Botswana (MMEWR). The Ministerial Tender Committee and the Procurement and Supplies staff at MMEWR have been involved in several consultant selection processes under the Morupule B Power Generation and Transmission Project (P112516) and the capacity is deemed adequate.

16. The Bank carried out an assessment of the country procurement environment in October, 2007. Botswana has a Procurement Act and Regulations (2006) to regulate the procurement practices in the country. The Botswana Public Procurement and Asset Disposal Board (PPDAB) is a statutory body with functions defined in the Act. It combines both the regulatory function and operational functions (the latter by reviewing all procurement transactions above a set threshold). Standard bidding documents have been prepared and were distributed electronically to user agencies in July, 2007. The Bank's 2007 assessment suggested areas for improvement in the procurement systems and shared the same with PPADB and concerned stakeholders. The 2006 Act is currently under review with a view to devolve responsibility for executive procurement to spending entities whilst maintaining and upscaling the regulatory and oversight function at PPADB. Botswana consistently features amongst countries with exceptional good governance. Due to the value of the consultant contracts under the Grant, all consultant selection decisions will be made at Ministry level. Delays in obtaining procurement clearances are therefore not envisaged.

17. **Procurement Supervision**. Given the country context, the project risk, and that the two consultant contracts will be subject to prior review, an annual Post Procurement Review will not be required. Supervision missions by the World Bank will be conducted at least once every twelve months.

18. To enhance the transparency of the procurement process, the Recipient shall publish the award of Contracts selected under QCBS method, generally within two weeks of receiving the World Bank no-objection to the recommendation of award of Contract, in accordance with the Procurement and Consultant's Guidelines.

19. **Procurement Plan**. The Borrower has developed a Procurement Plan for project implementation. The Procurement Plan will be updated annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

20. **Prior Review Threshold**. Procurement Decisions subject to Prior Review by the Bank as stated in Appendix 1 to the Guidelines for Procurement

Selection of Consultants

21. **Prior Review Threshold**. Selection decisions subject to Prior Review by Bank as stated in Appendix 1 to the Guidelines Selection and Employment of Consultants.

Prior Review Threshold: Consultants

	Selection Method	Prior Review Threshold	Comments
1.	QCBS	>, =$200,000	All
2.	FBS, QBS, LCS and CQS	<$200,000	As per procurement plan
3.	Single Source (Firms)	N/A	All
4.	Individual Consultants	>, =$100,000	All
5.	Individual Consultants	<$100,000	As per procurement plan
6.	Single Source (Individual Consultants)	N/A	All

QCBS = Quality- and Cost-Based Selection (Section II of the Consultants' Guidelines)
LCS = Least Cost Selection (Para 3.6, of the Guidelines)
CQS = Selection based on Consultants' Qualifications (Para 3.7 of the Guidelines)
FBS= Fixed Budget Selection (Para 3.5 of the Guidelines)
QBS = Quality Based Selection (Para 3.2 of the Guidelines)

22. **Short list comprising entirely of national consultants**. Short list of consultants for services, estimated to cost less than US$ 200,000 equivalent per contract, may comprise entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines. All Terms of Reference irrespective of the value of the consultancy assignment are subject to prior review.

Consultancy Assignments with Selection Methods and Time Schedule

1	2	3	4	5	6	7
Ref. No.	**Description of Assignment**	**Estimated Cost (US$m)**	**Selection Method**	**Review by Bank Prior/Post**	**Expected Proposals Submission Date**	**Comments**
LHBWTS.1	Planning study to investigate water resource development options to supply Republic of Botswana with water from the Kingdom of Lesotho highlands.	1.80	FBS	Prior	Feb 2014	
LHBWTS.2	Assessment of Regional Water Supply Options	0.20	NCB	Prior	Dec, 2014	

Environmental and Social (including safeguards)

23. The project is not financing any feasibility and/or environmental/social studies and therefore does not trigger environmental or social safeguards policies. No infrastructure is being financed under the grant. The grant will support a strategic study of options that includes screening for any potential environmental impacts and a relative ranking among the different identified options.

24. No infrastructure is being financed under the grant, although the study will explore the options and potentially identify potential dam sites for further development.

25. The study will assess water transfer options within the Orange-Senqu River basin. There is an existing basin agreement and the issues has been tabled and minuted at meetings of the riparian states. Three of the four riparian states are involved in the project and formulating a specific MoU. The fourth riparian has been consulted and will be informed of progress through the basin protocols in compliance with OP7.50.

Monitoring & Evaluation

26. Monitoring and Evaluation will be undertaken through the normal operations of World Bank project supervision and evaluation processes. The project level results frameworks will be aggregated to report on progress toward the overall basin level goals and those of CIWA.

27. The following Development Objective Results Indicators are the global indicators of the CIWA Multi-Donor Trust Fund and used for all CIWA projects to measure progress toward enhanced management of water resources and the development of physical investments in a climate resilient manner:

Indicator 1: **US$ financing mobilized for cooperative management and development of international waters resources projects supported by the project.**

28. This indicator reflects the intended impact of enabling growth through investments in cooperative water resources management and development projects. It reflects the planned and actual investment financing of all projects which CIWA has influenced during one or more stages of project preparation including but not restricted to support for facilitation of investment dialogue, project identification, pre-feasibility, ESIAs, feasibility, transaction negotiation and resource mobilization. Investment financing from all sources will be included.

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

29. This indicator reflects the planned and actual direct beneficiaries of projects influenced by CIWA and will be disaggregated by gender where possible. Indirect beneficiaries are assumed to be all the people living within the basins that CIWA is supporting.

30. These indicators will be determined from the aggregated results of each Project in the Program. The project level results matrix in each project will be structured to be consistent with the four CIWA Intermediate Results Areas which are:-

(a) Regional cooperation and integration strengthened.
(b) Water resources management strengthened.
(c) Water resources development strengthened.
(d) Stakeholder engagement and coordination strengthened.

31. The CIWA MDTF provides definition for what constitutes successful strengthening in each of the result areas in line with the overall CIWA objectives.

(a) Intermediate Result 1: Regional Cooperation and Integration Strengthened

Indicator: Trans-boundary basin institution strengthened to improve regional cooperation based on progress as defined in the CIWA Support Plans (CSP)

(a) This result aims to foster cooperative trans-boundary institutions for greater regional stability and creation of an enabling environment for shared sustainable growth.

(b) The indicator is based on the assumption that the existence of a strong basin institution is a good indicator of strong regional cooperation.

(c) This indicator reflects the focus of CIWA's long-term engagement with basin institutions in order to more deeply understand and support those institutions and ultimately help foster regional cooperation.

(d) The progress towards strengthening trans-boundary basin institutions will be assessed on:

i. Extent of data-sharing,
ii. Extent of public access to information,
iii. Facilitation of prior notification,
iv. Clarity of evidence for benefits of cooperation,
v. Quality of institutional legal and policy frameworks,
vi. Effectiveness of national/regional linkages and sustainability of core financing.

(b) Intermediate Result 2: Water Resources Management Strengthened

Indicator: Improved analytic tools, data (including real time monitoring systems) and capacity.

(a) This result aims to underpin the evidence-based knowledge for planning and decision-making to maximize development opportunities and minimize climate risks.

(b) The indicator is based on the assumption that if a basin institution has improved analytic tools, data and capacity it will be better able to assess and monitor water resource management status, challenges and opportunities and inform key basin officials and decision-makers. This in turn will enable stronger management of water resources.

(c) The progress towards improving analytic tools, data and capacity of basin institutions will be assessed on:

i. Quality of decision support systems,
ii. Extent of monitoring systems (hydro-met) and data collection,
iii. Quality of disaster risk management systems,
iv. Quality and timely implementation of the basin management plans,
v. Monitoring of the state of the basin
vi. Quality of policy at national level relating to international waters.

(c) Intermediate Result 3: Water Resources Development Strengthened

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

(a) This result aims to support investments that improve resilience to climate related shocks, enhance food security, and enable countries to follow a lower carbon growth path.

(b) The indicator is based on the assumption that through a regional perspective, basin institutions will identify and advance opportunities that seek to optimize the regional benefits and reduce the risks of unilateral approaches.

(c) This indicator will aggregate the number of investment projects that CIWA has influenced to progress at least one step in the project cycle defined as follows: i) Pre-identification (Unlocking Potential) ii) Identification, iii) Pre-feasibility, iv) Feasibility, v) Investment Financing facilitation, vi) Detailed Design, vii) Construction, viii) Commissioning, ix) Ongoing Operations and Maintenance.

(d) Intermediate Result 4: Stakeholder Engagement and Coordination Strengthened

Indicator: Improved engagement with civil society, private sector and academia.

(a) This result aims to enable greater voice of civil society, private sector and academia in the decision making processes related to cooperative management and development of shared basin resources.

(b) The indicator is based on the assumption that improving engagement with civil society increases public accountability, demonstrates best practice for safeguards and provides a mechanism for addressing grievances. Furthermore, engagement with the private sector aims to improve competiveness in procurement and increase the potential for investment financing. Finally, engaging with academia seeks to enhance the long-term development of national professional capacity.

(c) The progress towards improving engagement with civil society, private sector and academia will be assessed on:

i. Clarity of plans and process of engagement,
ii. Extent of participation in the project development cycle (including investment reviews, identification of opportunities, pre-feasibility and feasibility activities, project implementation) and
iii. Extent of public access to information.

Role of Partners

32. The Grant is being financed through the multi-donor trust fund for Cooperation in International Waters in Africa (CIWA). The CIWA MDTF is administered by the World Bank and has established two levels to facilitate management and governance of the supported activities. This includes: i) at the CIWA Program Level to guide the strategy and activities of the work of CIWA as a whole (Figure 1); and, ii) at the CIWA Basin Level with specific international river basins and regions which are responsible for the detailed activities within a river basin window (Figure 2).

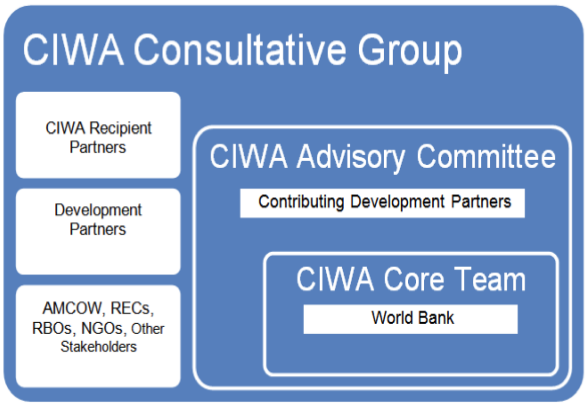


Figure 1: CIWA Structures

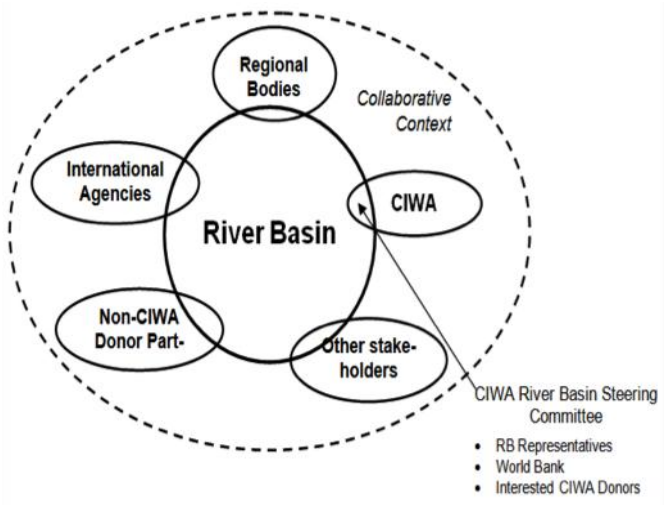


Figure 2: Basin Advisory Committee

33. The grant financed study is one of a series of catalytic activities that will be reported through the CIWA Advisory Committee. The original Justification Note was represented at the meeting of the CIWA AC in October, 2012 for endorsement. Subsequent consultations and updates are made through the CIWA AC meetings. While establishment of a CIWA Basin Advisory Committee is not required for this type of catalytic activity, updates are provided and discussed through the regional mechanisms for coordination of activities supported by International Cooperating Partners (ICPs) within the SADC Water Sector.

34. These regional mechanisms are intended to guide ICP funded activities and will ensure that these contribute to achieving the agreed results in line with the overall CIWA objectives, contribute to the efficient use of resources and coherent, harmonized program of support. These regional mechanisms include the SADC Water Strategy Reference Group and the Orange-Senqu ICP Partnership. Within the Orange-Senqu River basin, the consultative forum established in accordance with the agreed principles of the SADC framework and in line with other basin level consultative forums provides a mechanism for alignment of ICP support. It also provides a platform and interface for policy and technical dialogue between the ORASECOM Organs and the ICPs.

35. The Southern Africa Development Community (SADC) has established a partnership with International Cooperating Partners (ICPs) to guide cooperation. This cooperation is articulated through the "Windhoek Declaration on a New SADC-ICP Partnership" that was adopted during the April 2006 SADC Consultative Conference. The Windhoek Declaration outlines the overall objective, commitments by SADC and ICPs and the structure for effective dialogue, including areas of cooperation between SADC and ICPs. A review initiated in 2012 was intended to o improve the effectiveness of the SADC–ICP partnership, with a view to facilitating an enhanced and more strategic dialogue, while adhering to the priorities and interests of SADC and the ICPs. A key driver for achieving greater aid effectiveness is the concept of thematic coordination groups in core intervention areas as incorporated in the Windhoek Declaration.

36. With this thematic structure, the Water Strategy Reference Group (WSRG) was established to serve as a vehicle for the implementation of the Windhoek Declaration in the SADC Water Sector. This acknowledges water as being a core intervention area and a key instrument in the promotion of regional integration through transboundary water resources in the SADC. The WSRG is intended to contribute to increased aid effectiveness based on the principles of SADC and/or other recipients' ownership, contribute to ICP harmonisation, and alignment of ICP delivery of assistance with regional partners' conditions and rules and regulations, and contribute towards the joint responsibility for the achievement of results on the RSAP. The WSRG is a strategic advisory group to the SADC Secretariat that acts as an interface for policy and technical dialogue between SADC and ICP decision makers. The group also

provides input to specific strategic documents and processes. A lead ICP is appointed by the WSRG to reduce transaction costs by recipients and ICPs and to improve the quality and coherence of dialogue and support.

Annex 4: Map of the Orange-Senqu River Basin

BOTSWANA: Lesotho Highlands - Botswana Water Transfer