



GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FULL SIZE

TYPE OF TRUST FUND: GEF TRUST FUND

PART I: PROJECT INFORMATION

Project Title:	Unlocking biodiversity benefits through development finance in critical catchments		
Country(ies):	South Africa	GEF Project ID:	9073
GEF Agency(ies):	DBSA	GEF Agency Project ID:	
Other Executing Partner(s):	SANBI, Western Province Department of Agriculture(WCDA), Nelson Mandela Metro Municipality (NMMM)	Submission Date:	2015-03-13
GEF Focal Area(s):	BD	Project Duration (Months)	60
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>		Corporate Program: SGP <input type="checkbox"/>
Name of parent program:	[if applicable]	Agency Fee (\$)	648,165

A. indicative Focal AREA STRATEGY Framework and Other Program Strategies

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	Trust Fund	(In \$)	
		GEF Project Financing	Co-financing
BD Programme 10. Integration of Biodiversity and Ecosystem Services into Development and Finance Planning	GEF TF	7,201,835	30,500,000
Total Project Cost	GEF TF	7,201,835	30,500,000

Project Objective: To develop policy and capacity incentives for mainstreaming biodiversity and ecosystems values into national, regional and local development policy and finance: application demonstrated in two water catchments

Project component	Type	Project Outcomes	Project Outputs	Trust Fund	(In \$)		Total
					GEF	Co-fin	
Capacity emplaced: institutional framework, political will, skills and tools culminate in South Africa's road map to wide-scale testing of Natural Capital Accounting in the water sector	TA	<p>Outcome 1: Institutional framework designed to promote testing of the application of Natural Capital Accounting (NCA) in the water sector:</p> <p>Outcome 2: Skills and financial resources for wide-scale testing of Natural Capital Accounting in the water sector provided;</p> <p><i>Both outcomes indicated by: extent to which national drive for NCA is embraced by e.g. National Planning Agency in the implementation of Outcome 10 (Valuation and adoption of NCA in national development accounting)</i></p>	<p>Output1.1: Key institutions for effective national level adoption of NCA in the water sector identified and lobbied to adopt/lead initiative;</p> <p>Output 1.2: An appropriate institutional framework for adoption of NCA in the water sector designed;</p> <p>Output 2.1: A costed strategy for testing national implementation of NCA in water sector prepared: identifies technical capacity and financial gaps;</p> <p>Output 2.2: SA linked to the WAVES program and the project linked to BioFin for support with methodologies and fund raising for widespread testing/piloting, including replication of successful pilots from component 2.</p> <p>Output 2.3: Building on methods and training material developed by WAVES, a robust methodology for costing ecological rehabilitation and maintenance endorsed by DWS and DEA;</p> <p>Output 2.4: Building on training material developed by WAVES and BIOFIN, training relevant staff improves capacity for relevant departments to handle NCA as measured by UNDP Capacity scorecards (baseline and targets established at ppg);</p>	GEF TF	895,900	3,500,000	4,395,900
		Outcome 3: Policies and	Output 3.1: Innovative financial		1,400,000	6,000,000	7,400,000

Project component	Type	Project Outcomes	Project Outputs	Trust Fund	(In \$)		Total
					GEF	Co-fin	
		financial mechanisms; <i>Indicators: innovative financial mechanisms and financial decision making tools available for testing in the 2 river systems: Offset policy available; decision on ecological infrastructure bond available</i>	mechanisms (e.g. Water Pricing Strategy charges strengthened to yield funds for biodiversity management. Output 3.2: Improved financial decision making tools for infrastructure investments developed (e.g. Revised Treasury criteria for conditional grants, improved checklists and safeguard policies for the DBSA, and other DFIs); Output 3.3: Feasibility of an ecological infrastructure bond fund investigated and recommendations made. Output 3.4: National BD Offset Policy and guidelines finalized;	GEF TF			
Demonstration: application of policies and financial mechanisms in the water sector development in 2 river catchments and municipalities deliver funds, tools and lessons for replication and improvements in watersheds		Outcome 4: Two river systems have empowered stakeholder forums that drive the application of financial mechanisms into water economies of two municipalities and along the catchment developments (outcomes 5 and 6): <i>indicated by capacity change for catchment level institutions to recover cost of ecosystem rehabilitation from infrastructure development measured by UNDP capacity scorecard and %age funds needed for ecosystems management met from these recoveries¹</i>	Output 4.1: Two stakeholder forums empowered and restructured, to provide institutional framework for integrating BD and ecosystems values in the development of the water sector, including capacity for enforcement; Output 4.2: : Two Catchment Management Strategies available; with improved detailed understanding and improved financial mechanisms for investment in key ecosystem management and compliance and enforcement Output 4.3: Training on green engineering and valuations at the catchment level institutions increase capacity to apply NCA in the water sector and to support green engineering solutions as measured by UNDP Capacity Scorecard (baselines and targets set at ppg); Output 4.4: Guidelines developed to ensure that Water Infrastructure planning, development and options analysis includes contribution of rehabilitated and maintaining ecological infrastructure;	GEF TF	628,140	4,000,000	4,628,140
		Outcome 5: Application of financial mechanisms lead to 25% increase in cost recovery of ecological investments through water price-linked charges: <i>indicated by extent to which the target is met (target refined at ppg); availability of financial mechanism and its demonstrated application in changed water tariffs; extent to which municipal & national institutions & financiers of infrastructure devt (e.g.</i>	Output 5.1: Comprehensive economic valuation of the 2 river systems available, information used to construct ecosystems accounts for two river basins, with analysis of trade-offs associated with different resource and ecosystem use scenarios (lessons generated for replication); Output 5.2: Detailed costs for selected ecological investments developed for inclusion in an innovative financial mechanisms such as the raw water price tariffs. Output 5.3: Obstacles to interdepartmental transfers removed, and DEA, DAFF, CMA and municipal responsibility to budget for and contract service providers to	GEF TF	1,000,000	4,000,000	5,000,000

¹ Baselines and targets will be established during ppg

Project component	Type	Project Outcomes	Project Outputs	Trust Fund	(In \$)		Total
					GEF	Co-fin	
		<i>DBSA) integrate ecosystem services values in development, finance and land-use planning and decision making</i>	rehabilitate ecological infrastructure is clarified and streamlined into catchment management practices Output 5.4: Alternative natural infrastructure opportunities submitted to DWS and other parties such as DEA and Municipalities for water reconciliation strategy processes and related initiatives Output 5.5: Cost-reflective baseline for pricing rehabilitation submitted to DWS and others such as DEA, NMBMM for inclusion in pricing policies and project budgets;				
	TA TA	Outcome 6: The River Health Index of the two river systems, the Wetlands Health for at least 6 critical wetlands and the state of Berg and Kromme estuarine health maintained or improved; <i>indicated by the health index being maintained or improved by up to 2 percentage points</i> (largely co-finance, GEF funds augment uptake of better practices in already planned baselines);	Output 6.1: Rehabilitation of ecosystems services along riverine areas (over 200km) by removing invasive species, rehabilitating riparian zones, reduce water wastage and increase water yields (targets to bet at ppg). Output 6.2: Adoption of green engineering solutions in new infrastructure development, and in the maintenance of existing ones (e.g. constructed wetlands as sewage treatment) reduce pollution in water bodies from more than ten urban areas (tonnage to be determined at ppg); Output 6.3: 2 Particularly degraded wetlands critical for biodiversity and ecosystems services rehabilitated (criteria set and applied at ppg, areas selected and plans developed); Output 6.4: Partnership established with the authorities responsible for monitoring estuarine health of the 2 estuaries; they are assisted to develop a program for improving management practices of relevant contributors of pollution in the estuaries, and to access funding to implement urgent elements of the programs	GEF TF	2,934,850	13,000,000	15,934,850
Subtotal				TF	6,858,890	30,500,000	37,358,890
Project Management Cost (PMC)				TF	342,945		342,945
Total Project Cost				TF	7,201,835	30,500,000	37,701,835

C. Indicative sources of Co-financing for the project by name and by type, if available

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
GEF Agency	Project finance from participating funders such as DBSA, Treasury, Municipalities, TCTA and others	Grants	3,000,000
GEF Agency	DBSA	Loans	7,000,000
Recipient Government	Expanded Public Works Program (Working for Water, Working for Wetlands)	Grants	10,000,000
Recipient Government	Annual allocation to DWS ("equitable share") and Municipal Infrastructure Grant)	Grants	8,500,000
Beneficiaries	Berg and Kromme Rivers' Partnerships	Grants	2 000 000
Total Co-financing			30,500,000

D. Indicative Trust FUND RESOURCES Requested by Agency, COUNTRY & Programming of Funds – N/A

E. Project preparation grant (ppg): Is Project Preparation Grant requested? Yes ☒

PPG AMOUNT REQUESTED BY AGENCY, TRUST FUND, COUNTRY AND THE PROGRAMMING OF FUNDS

Project Preparation Grant amount requested: \$137,615					PPG Agency Fee: 12,385		
GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee (b)	Total c = a + b
DBSA	GEF TF	South Africa	Biodiversity		137,615	12,385	150,000
Total PPG Amount					137,615	12,385	150,000

F. Project's Target Contributions to Global Environmental Benefits

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity, ecosystem goods and services it provides to society	Improved management of landscapes and seascapes covering 300m hectares	Ecosystems services maintained in over 200,00 hectares of riverine ecosystems by removal of alien invasive plants with heavy water use

1.2 Global environmental Problems, Root Causes and Barriers that need to be addressed

The biodiversity of South Africa's inland water systems and estuaries is critical for sustainable and green economic development. This is particularly so for the river systems that serve large and rapidly growing cities, such as the **Kouga/Kromme and Berg rivers**, which serve Port Elizabeth and Cape Town, respectively. However, inadequate integration of the value of biodiversity and ecosystems services in economic development decisions (including agriculture, infrastructure and urban development) have led to development outcomes that ultimately undermine the natural capital that underpins development; demonstrated by the following environmental challenges:

Threats to biodiversity and ecosystem services on river systems: The **flow regime** of most of South Africa's rivers has been modified by infrastructures such as dams, weirs, abstractions for irrigation and water supply and inter-basin transfers. This has changed seasonality, size, duration and frequency of river flows. Urban, rural and industrial development has resulted in further runoff, wastewater and effluent discharge into the rivers. **Wetlands and other ecological infrastructure** along these rivers are heavily degraded or completely transformed. Peat beds are heavily affected by agriculture, ploughing of wetlands, the removal of palmiet, water abstraction, draining, donga and head-cut erosion, the construction of dams, roads, railway lines and fences, alien plant invasion and peat fires (Haigh et al. 2002). A recent assessment of the Kromme catchment for example, reported that more than 60% of its wetland catchment has been damaged beyond repair (Natural Bridge Communications, 2005). In addition, **invasive alien plant species**, particularly eucalyptus, wattle, pine and others have degraded ecosystems by changing structure and function, soil nutrient cycling and accelerating soil erosion and enhancing fire hazard. Infecting mainly riparian zones, IAS have higher water use than indigenous plant species (Dye and Jarman 2004), currently utilizing 3.5% of water resources, which is significantly more than what would have been used by the displaced indigenous vegetation.

Impacts: the consequences of these threats are manifested in loss of ecosystems services and biodiversity, increased costs of development, and lost productivity. Soil degradation alone, for example, costs South Africa an average R2 billion annually: loss of soil nutrients through degradation costs R1.5 billion per year: total fresh water inflow of the 20 largest catchments has declined by nearly 40% from the pristine condition²; and, the ecological reserve of many rivers is not being met. It has also led to **irregular flow to floodplains and declining ecosystems, wetlands and estuarine health**; Lack of flushing during floods gradually results in increased salinity levels in floodplain soils. The South Africa's River Health Program rated **the Berg and Kouga/Kromme river systems** as fair to poor, as did the Estuaries health status report³.

The ideal situation: Most policy and program documents acknowledge that South Africa needs to maintain and restore its critical ecosystems in order to ensure that the per capita ecosystem service levels provided by the natural capital keep pace with a developing population and its growing demands on the natural resource base. However, application of this ideal in development practice has been hindered by serious disconnect between the use of biodiversity and ecosystem service data/information to shape policy planning and development financing.

Barriers

Barrier 1: The overarching barrier is the lack of capacity to undertake valuation of natural capital (including biodiversity and ecosystems services) and to apply the results to influence development policy and finance planning. The main challenges linked to this barrier are:

- Lack of tools and methods proven to be effective in South Africa to undertake valuations of biodiversity and ecosystems services: on the global scene, tools and methods are coming on line: there is now internationally agreed methodology to account for all natural resources and pollution: the 2012 System of Environmental and Economic Accounting Central Framework (SEEA-CF) of the UN Statistical Commission. The WAVES program is supporting the application of these methods in some

² National Biodiversity Assessment (2011)

³ SANBI 2011. National Biodiversity Assessment Technical Reports Vols 2 & 3.

countries, as well as further development of more tools and methods. South Africa has not been systematically involved in this development work, and its scientists and technical staff are not contributing to, or benefitting from the on-going and innovative developments.

- ii. At the water catchment level, valuation is further challenged by difficulties of accurately quantifying the costs of catchment rehabilitation, incorporating these costs in the water resource management charges set by the Department of Water & Sanitation, which does not have a mandate to undertake ecological management in the catchment, recovering these costs in the charges levied on water use (extraction and pollution), and administering the fiscal transfers of these costs to agencies responsible for catchment rehabilitation.
- iii. Lack of institutional framework and political will to promote the adoption of biodiversity and ecosystems values in development finance: to be effectively integrated into development planning and finance, valuation work needs to be led by a powerful lead agency playing the role of a champion, e.g. National Treasury and Development Agency. This would generate political will needed to make it successful. While there are general levels of awareness of importance of biodiversity and ecosystems values in sustainable development in South Africa, an effective institutional arrangement for its application has not yet been established. Currently there is no champion for the concept with enough political mandate to play an effective champion and advance the political buy-in. At the water catchment level, inadequate institutional framework to mobilize stakeholders poses further challenges. Only 2 out of 9 Catchment Management Agencies have been established in SA, and aren't fully funded. Support structures such as Catchment Management Forums, are often absent, or driven by under-resourced NGO/partnership arrangements, with little influence.
- iv. Unclear mandates amongst the departments involved in water sector: The Department of Water and Sanitation (DWS) focuses on putting the bulk water infrastructure in place and maintaining and rehabilitating the infrastructure, monitoring intended use, as well as the water quality in the rivers. However, it has a limited mandate for catchment management. The rehabilitation of a dam catchment is the responsibility of Department of Environmental Affairs (DEA) and Department of Agriculture and Forestry and Fisheries (DAFF) yet they have scarce resources to fund this. The effects of dams on the habitat is monitored by the DWS (regional offices, River health Program etc.). DEA is partly responsible for catchment management using programmes such as Working-for-Water. Municipalities take some responsibility but clearly suffer from lack of funding. The result of current practices is limited integrated catchment planning and budgeting for sustaining the integrity of ecosystems and preventing a loss of ecosystem services which in turn places infrastructure at risk. There remains a need for clarity and understanding of the different mandates and roles of all the different role players and how to align budgets for the foreseen and known future impacts of development schemes.

Barrier 2: Lack of demonstration of the application of the current level of knowledge and practice in applying biodiversity and ecosystems values in an actual water catchment in South Africa: although the knowledge, tools, financial and policy incentives are not all in place, there is adequate, and growing body of work on natural capital accounting, that is generating best practices; example the WAVES. In addition to the barriers outlined under 1, lack of demonstration is due to **inadequate financial mechanisms and policy incentives demonstrated to be effective in incentivizing the integration of biodiversity and ecosystem values in the planning and financing of development in the water sector.**

1.3 The baseline programs related to the proposed project (to be refined during PPG)

There are 4 baseline programs that are relevant to the proposed project:

Expanded Public Works Programme, consisting of two key components: Working for Water and Working for Wetlands; 1995 to the foreseeable future – US\$ more than 100 million Dollars nationally, 10 million of which counts as baseline for the watershed part of the project, for the period 2016-2020 (project period). Specifics described below.

Working for Water (WFW) ⁴ programme, launched in 1995 and is currently administered through the Department of Environmental Affairs (DEA)⁵, this program spearheads the fight against alien invasive plants in South Africa. This programme works in partnership with local communities, to whom it provides jobs, and also with Government departments including the Departments of Environmental Affairs, Agriculture Forestry and Fisheries, and Trade and Industry, provincial departments of agriculture, conservation and environment, research foundations and private companies. Methods used to clear IAS include mechanical and chemical methods, as well as biological and integrated control. It represents one of the longest-standing and most successful examples of payments for ecosystem services (PES). While a majority of the payments provided by Working for Water have been made by the government using poverty relief funds, private entities are becoming more frequent purchasers of this ecosystem service as well. For example, in Walker Bay, local landowners are paying for half the clearing, and all of the maintenance costs, while in the Eastern Cape farmers are paying 60% of the cost of removing IAPs.

Working for Wetlands is a joint initiative of the Departments of Environmental Affairs (DEA), Water and Sanitation (DWS)⁶ and Agriculture, Forestry and Fisheries (DAFF)⁷. Launched in 2000, the program has an annual budget of ZAR 75 million (USD 9.6

⁴ <https://www.dwaf.gov.za/wfw/default.aspx>

⁵ Since its inception in 1995, the programme has cleared more than one million hectares of invasive alien plants providing jobs and training to approximately 20 000 people from among the most marginalized sectors of society per annum. Of these, 52% are women.

⁶ <https://www.dwa.gov.za/2020Vision/programmes.aspx>

⁷ <https://www.environment.gov.za/projectsprogrammes/workingfowetlands>

million)⁸, nationally, which currently supports 300 projects that maximize employment creation, create and support small businesses and transfer relevant and marketable skills in the course of carrying out rehabilitation work. Interventions ranged from stabilizing erosion and plugging drainage channels to breaching barriers, such as roads, that impede the flow of water. Its stated objectives are: Wetland Protection, Wise Use & Rehabilitation; Skills and Capacity Development; Co-operative Governance and Partnerships; Knowledge Sharing; and, Communication, Education and Public Awareness.

Government of South Africa, allocations to the Department of Water and Sanitation: Annual allocations estimated to be US\$ 10 million for the 2016-2020 period: All municipalities receive a constitutionally mandated share of national tax revenues as an unconditional recurrent grant, called "equitable share". In addition they receive a Municipal Infrastructure Grant (MIG), which is grant finance to cover the capital cost of basic infrastructure for the poor. In the 2012/13 budget the municipalities were allocated USD 4.6bn as equitable share and USD 1.7 billion as MIG, nationally, a small fraction of which would be allocated to the municipalities in the project area. Guaranteed to continue for the period of the project, these funds finance infrastructure development, including building of dams, waste water treatment, bulk water distribution, research and extension. The larger municipalities also get additional funds from loans for special projects, which is likely to happen with large Cape Town Municipality and Nelson Mandela Bay Metropolitan Municipality (NMBM). These potential baselines will be tracked during project implementation and linked to project outcomes.

DBSA infrastructure development in the water sector: DBSA is an important player in the water and sanitation sector, both as a financier and as an advisor and project promoter. The 2013-2014 Annual Report reported that 7.7% of its investments were in the water sector, investing US\$ 989 million of US\$ 12.7 billion dollars. These funds are often loans to municipalities to support developments in water including reticulation and provision of bulk water, sanitation, including reticulation, upgrading and construction of waste water treatment works. It also invests substantial amounts in rehabilitation of roads, which provides a potential for mainstreaming green engineering and ecological infrastructure in road construction (replication). Although it is difficult to predict what DBSA projects will come on line during the 2016-2020 period, chances are high for two reasons: DBSA has taken a policy decision to manage its exposure to the Energy sector by increasing focus on water and transport. As shown in table 1 (below) DBSA's current pipeline of projects in the Water and Sanitation sector is worth nearly US\$ 2.7 billion; both Cape Town and NMBM are fairly large and are the sort of natural customers for DBSA. DBSA is therefore likely to invest more than US\$ 100 million in 2016-2020 in the project areas, much more nationally (replication). However, we count US\$ 10 million as an indicative baseline; such baseline will be monitored during the project formulation (ppg).

Table 1: Current DBSA pipeline (various stages of preparation and approval in the water sector in proposed catchment areas which will be linked to project elements

Project Name	Sector	Project Description	Value in \$
Mainstreaming Environment into municipal decision making particularly infrastructure project development		DBSA serves as an Agency of Treasury for the Cities Support Programme for metropolitan municipalities. The intention is to develop this initiative and link it with this GEF Project in Cape Town Municipality and Nelson Mandela Bay Metropolitan Municipality. The project is at feasibility stage and that will determine the allocated grant budget over the next three years.	60 000
Bulk water and sanitation supply and water conservation and demand management anticipated to be directly linked to project	Water	Cape Town Municipality	14,818,000
Bulk water and sanitation supply and water conservation and demand management anticipated to be directly linked to project	Water	Nelson Mandela Bay Metropolitan Municipality	10,000, 000
Current Total investments at various stages preparation and approval			24,878,000

The Berg River partnership⁹: US\$ 1 million for the 2016-2020 period; through 2 important programs described below. The Berg River Partnership was formed in February 2009 and aims to focus its efforts on four specific outcomes, namely: i) Strategically consider, consult and make recommendations towards improving the water quality of the Berg River; ii) Sustain and grow the Berg River's contribution to a sustainable Western Cape economy, environment and society; iii) Share in an effort to promote, execute and monitor activities that co-create a safe, healthy eco-system with good water quality and biodiversity; iv) Work towards healthy children chasing dragonflies along the Berg River by 2020.

⁸ In the 14 years since its inception, Working for Wetlands has invested more than 724 million Rand (approximately USD 79 million) in the rehabilitation of 906 wetlands, thereby improving or securing the health of more than 70,000 hectares of wetland area. In the process, the programme has provided 18,463 employment opportunities, with almost 3 million person days worked to date. In line with the emphasis of the EPWP on training, Working for Wetlands has provided 193,780 days of training in both vocational and life skills. Teams are made up of a minimum of 60% women, 20% youth and 1% people with disabilities

⁹ <http://www.greenbusinessguide.co.za/green-services/>

The Berg River Partnership is implementing **2020 VFWEF**, a Department of Water Affairs national environmental social upliftment project that uses water to empower and transform lives for a better future in South Africa. In the Berg River system, the objectives of the program are: a) to inform and educate people living along the Berg River about the consequences that negligence and poor water quality have on their future; b) to pro-actively work to positively change the behaviour of farmers and residents living in the townships along the Berg River; c) involve entire communities and make them active citizens, working collaboratively with farmers and the residents along the Berg River to improve water quality levels in the interest of all

Implementation of the **Berg River Improvement plan 2012-2030**. Sanctioned by the Western Cape Government in 2012, the Berg River Improvement Plan addresses the current water quality concerns in the Berg River. The Improvement Plan identifies short (≤ 5 years) and long term (5 – 30 years) interventions, and its financial implications. The ultimate aim of the Improvement Plan is to have a Water Stewardship Programme for the Berg River catchment to change the lives of people through the implementation of simple interventions. The partnership's vision is a Berg River, where its value for ecosystem services is recognized, and its natural resource state as it relates to water quality and quantity returns, while promoting sustainable growth and development towards a green economy in the Western Cape (part of South Africa Green Economy Strategy¹⁰). The direct objectives of the Improvement Plan are to: - Reduce the negative impact from Municipal urban areas, particularly informal settlements and wastewater treatment works; - Reduce the negative impact of agriculture on the Berg River's water quality to acceptable levels; - Ensure sustainable resource use efficiency and ecological integrity. The Plan is also intended to link with the Berg River Water Quality Task Team, as managed by DWA. The Improvement Plan is to be reviewed and updated every 5 years.

The Kromme River Partnership: Developing a "Living Landscape" Strategy: US\$ one million between 2016-2020: With the technical and financial assistance from the Dutch *Partners voor Water* program, Living Lands, together with three partners from the Netherlands: Aqua Terra Nova; Foundation for Sustainable Development (FSD); and For Elements are working with partners in the Kromme River to further apply and refine a successful 'living landscape' strategy. This partnership strengthen the exciting ongoing collaboration with the Department of Environmental Affairs (DEA) and the South African National Biodiversity Institute (SANBI), through the respective Working for Water/Wetland Programs with Gamtoos irrigation Board as implementer of these programs. The project will focus on mobilizing the South African government agencies and landowners towards restoring the landscape and promoting sustainable land use in the region. The restoration of the catchment is likely to be carried out on private land owners in recognition of the fact that long-term cooperation of the farmers, landowners and the broader community is necessary for effective ecosystems rehabilitation. Nelson Mandela Bay Metropolitan Municipality is also investing in the catchment The Metro is currently investing approximately \$300,000 per year on the eradication of aliens in the catchments affecting its water supply. Assuming current figures apply it is likely to invest approximately \$1,500, 000 in catchments of which part will be spent in the pilot catchment.

1.4 The proposed alternative scenario, with a brief description of expected outcomes and components of the project

The project will address a key underlying driver of biodiversity loss – improving the availability of information, capacity and institutional framework needed to ensure economic values of ecosystem services are integrated into the water sector development, thereby generating lessons and preparing the country for the application of NCA in other sectors. At the National level, it will provide a range of tools, institutional framework and capacity to enable the economic value of the water sector resources to be integrated into analysis and monitoring of macroeconomic performance, as well as into decisions and policy making related to natural resource management. At the local level, it will demonstrate the application of policy and finance reforms in two catchments, where it will test incentives and price signals to generate funds for ecosystems management from water and sanitation development. The project will work with a broad spectrum of stakeholders in public, private and NGO sectors to create a platform to recover the costs of rehabilitating ecosystems and biodiversity from the metropolitan water economy, and from infrastructure development in selected catchments. These funds will support the current ecosystems rehabilitation works in the catchment resulting in the two river systems and up to 6 wetlands as well two estuaries either maintaining their current health indices or improving them by 2 percentage points, measured against the baselines established by the River, Wetlands and Estuaries Health systems¹¹ (target to be confirmed at ppg).

Component 1: Capacity emplaced: institutional framework, political will, skills and tools culminate in South Africa's road map to testing of Natural Capital Accounting in the water sector

Under this component, the project will deliver the national level institutional framework, policies, financial mechanisms and capacity necessary to promote the use of monetary value of ecosystems and biodiversity in the national accounting systems, using the water sector as an entry point. This is a necessary step for the widespread integration of biodiversity and ecosystems values in sector development and financial planning decisions. The component will be delivered through 3 outcomes and 12 outputs described briefly below.

Under outcome 1 (Institutional framework designed to promote/enable effective testing of the national application of Natural Capital Accounting (NCA) in the water sector), the project will ensure that the valuation work is led by a powerful lead agency, preferably users of accounting information at the highest strategic decision making in government; e.g. the Presidency (National Planning Commission), and the National Treasury. This will provide the political will necessary for meaningful uptake, in particular to identify the relevant policy entry points (output 1.2). It will therefore facilitate the identification of the relevant institutions which should be

¹⁰ http://www.enviropaedia.com/topic/default.php?topic_id=342

¹¹ South African River Health Programme: http://www.csir.co.za/rhp/state_of_rivers/state_of_crocsabieolif_01/intro_rhp.html; Wetlands Health Systems -- <http://www.wrc.org.za/Knowledge%20Hub%20Documents/Research%20Reports/TT%20438%20-09%20Conservation%20of%20Water%20Ecosystems.pdf>; http://soer.deat.gov.za/dm_documents/State_of_estuaries_full_report_Da5qe_yGVVJ.pdf

part of the work, e.g. Department of Agriculture, Forestry and Fisheries, DEA, National Treasury, Department of Mining, CMAs, Water Boards, Irrigation Boards, etc.; and raise awareness in them on the importance of NCA concept in the Green economy and sustainable development (output1.1). Output 1.1 and 1.2 will lead to an appropriate institutional framework for promoting natural Capital Accounting in the country.

Under Outcome 2 (**Skills and financial resources for wide-scale testing of Natural Capital Accounting in the water sector provided**), the project will facilitate linkages with WAVES and BIOFIN to ensure that South Africa becomes part of the methodology development on-going under WAVES, benefiting from the global effort while simultaneously contributing to the global effort. It will in particular develop and cost a strategy for testing national implementation of NCA in the water sector, which will include indicators for macro level monitoring, and will identify technical capacity and financial gaps, as well as potential sources of additional funds for implementation, including the linkages with WAVES and BIOFIN. In addition, it will develop a robust methodology for costing ecological rehabilitation and maintenance in water and sanitation development sectors, which should be endorsed by DWS and DEA. The training acquired by the staff and other capacity development support will increase institutional capacity to handle NCA in development accounting, measured by UNDP Capacity scorecards (baseline and targets established at ppg).

Under outcome 3 (**Policies and financial mechanisms**) the project will deliver **innovative financial mechanisms** (e.g. Water Pricing Strategy charges, building on policy intervention from the GEF Grasslands Project, and implemented in conjunction with outcome 5). These will be strengthened to yield funds for biodiversity management. This will be achieved through developing a robust methodology to quantify the costs and benefits of the most important ecological restoration and through improved recovery of charges for ecological infrastructure. Although some of the mechanisms exist, or have been proposed (e.g. including an IAP control charge and waste discharge levies), they do not yet operate effectively for various technical, institutional and fiscal reasons. These include the raw water pricing strategy water resource management charges, scheme operating charges, and proposed waste discharge levies.

The project will also deliver **improved financial instruments and decision making tools** (e.g. Treasury and DFI checklists, eligibility criteria for conditional grants, and financier safeguard policies). Application of these tools in infrastructure investments would avoid inappropriate technologies and developments that have unacceptable biodiversity consequences or high long-term operating costs due to environmental risks. Projects that are sensibly located, and have ongoing investment in improved catchment ecological function to reduce lifetime operating costs and environmental risk should be preferentially supported. The project will also explore the potential to develop a South African **ecological infrastructure (EI) bond fund** that is at sufficient scale to secure participation by institutional investors, thereby leveraging private sector finance into Ecological Infrastructure (EI) and associated Ecosystem-based Adaptation interventions. Institutional investors already make large scale investments in infrastructure in Southern Africa. These investments are either undertaken through private equity vehicles or through fixed-income investments – such as infrastructure bond funds (either municipal or national). By leveraging the existing financing arrangements that are used for hard infrastructure, coupled with innovations in the Green Bond market, it may be possible to leverage private sector finance in a manner that allows **EI** to be recognised as an investable asset class.

Finally, the project will also **contribute to the development of the emerging national Offset Policy and guidelines** (especially on offset planning, financing and aggregation practice) to facilitate better planning and infrastructure development and associated mitigation actions.

Component 2: Demonstration: Application of policies and financial mechanisms in the water sector development in 2 river catchments and municipalities deliver funds, tools and lessons for replication and improvements in watersheds

Under this component, the project will test the application of the innovative financing mechanisms developed under component one, in the Berg and Kromme River systems¹². Annex 1 provides a detailed description of these two rivers systems. Text on outcome 6 summarises their importance¹³. The project will demonstrate the use of ecological infrastructure to safeguard and climate-proof built infrastructure and restore biodiversity and ecosystems services in the two river systems. In addition to generating funds for the long-term management of biodiversity from the water economies of the municipality, lessons will be generated and shared widely to promote replication. The component will be delivered through 4 outcomes and 14 outputs, briefly described below.

Under outcome 4 (**the two river systems have empowered stakeholder forums**), the project will augment the emerging institutional structures, restructuring them, and supporting their mandates and capacities for integrating biodiversity and ecosystem values in the development of the water sector. This will include the development of two Catchment Management Strategies, which will identify the action plans for implementing the valuation, and provide financial and capacity deficits, as well as potential sources of raising additional resources. In conjunction with outcome 2, skills developments will be provided through training and development of guidelines to ensure that Water Infrastructure planning, development and options analysis includes contribution of rehabilitated and maintained ecological infrastructure.

¹² The selected river systems are subject to finalisation during the PPG and may be substituted for another catchment system in the same Biodiversity Hotspot, (Maputaland-Pondoland-Albany area), where the construction of a new dam (at Ntabelanga on the Tsitsa River) is imminent.

¹³ The pilots were selected for the testing due to: i) importance for water and estuarine biodiversity - the Berg lies in the Cape Floristic Region Hotspot and passes through other strategically significant biomes such as the succulent Karoo; lower Berg is an IBA under Ramsar. The Kromme/Kouga river systems are within a critical biodiversity hotspot called the Maputaland-Pondoland-Albany centre of endonism; ii) economic importance - the Berg catchment is 8,980km²; of 285km, 190kms passes through the West Coast District Municipality, with 70kms serving the Winelands District. Cape Town is significantly dependent on its water. The Kromme is about 100 km, with a catchment area of 155 631ha. With the adjacent Kouga River they provide around 60% of the water for Nelson Mandela Metro; iii) existence of fledgling catchment forums, albeit poorly funded

Under outcome 5 (Application of financial mechanisms and better decision making tools in the water sector yield additional funding for ecosystem management), the project will facilitate a comprehensive economic valuation of the 2 river systems and the use of the information to construct ecosystems accounts for the two river basins, with analysis of trade-offs associated with different resource and ecosystem use scenarios. The Water Infrastructure planning, development and options analysis will include the contribution of rehabilitated and maintained ecological infrastructure to water service provision, at least in terms of improving the life span of built infrastructure.

In addition, the project will build on all relevant existing policy intervention work such as the Grasslands Project, to strengthen Water Pricing Strategy charges to facilitate the recovery of funds for long term biodiversity management from development of water related infrastructure. These include the raw water pricing strategy, water resource management charges, scheme operating charges, and proposed waste discharge levies. The project will assess the appropriate channels for delivering the funds collected from implementation of such instruments to the appropriate implementing partners, at a national (through the Natural Resource Management programmes), provincial and a local level such as through water user associations, NGOs, and land user incentive programmes. This output will be implemented in conjunction with outcome 3.

Closely connected to the above, the outcome will facilitate the use of **improved financial instruments and decision making tools** (e.g. Treasury and DFI checklists, eligibility criteria for conditional grants, and financier safeguard policies) in the decisions related to infrastructure development. To ensure the implementation, the project will facilitate systematic identification and removal of obstacles to fiscal administration of interdepartmental transfers. The entities responsible for collecting revenue (DWS, Water Boards and the emerging Catchment Management Associations) need to have the mandate to perform biodiversity rehabilitation, and to test appropriate mechanisms to transfer funds. This would encourage the CMAs or other parties such as Water User Associations, Irrigation and Water Boards and municipalities to budget for and contract with service providers to rehabilitate ecological infrastructure. This will be implemented in close collaboration with the water sector chapter of BioFin project which is looking at a comprehensive resource mobilisation study to meet biodiversity targets in South Africa.

Under outcome 6, the project will work very closely with the baseline programs, particularly the DAFF – LandCare Programme and the Working for Water and Wetlands Programs to ensure that rehabilitation works are based on ecosystems principles and adopt ecological infrastructure and green engineering solutions. This outcome will be implemented in the Berg and Kromme catchments areas, covering more than 300 kilometres of combined river length, and over 200,000 hectares of catchment areas. The Kromme is in the second richest floristic region in southern Africa (after the Cape Floristic Region) and, for its size, also in Africa. An estimated 8,100 species occur within the region of which at least 1,900 (23%) species are endemic to the region. In total, there are 615 species of special conservation concern within the Maputland-Pondoland-Albany Hotspot listed on the IUCN Red List of Threatened Species as Vulnerable (364), Endangered (162) and Critically Endangered (89). At a habitat level, one type of forest, three types of thicket, six types of bushveld, and five types of grasslands are endemic to the Maputland-Pondoland-Albany Hotspot. The lower Berg (made up of the floodplain and the Estuary) (IBA) is South Africa's second most important estuary for conservation of estuarine birds, fish, invertebrates and vegetation. Winter flooding of the Berg River inundates 5 500 ha floodplain, which supports at least 127 species of water birds (85 observed regularly, 31 of regional significance, 25 of national importance and 5 listed as red data species). Migratory birds from Europe and northern Asia use the floodplain as feeding grounds during summer.

Under this outcome, the project will facilitate mainstreaming of ecosystems management principles, green technologies and use of ecological infrastructure in rehabilitation works of baseline programs, which will simultaneously rehabilitate ecosystems services along riverine areas (over 200km) by removing introduced species with high water use. This will reduce water wastage and increase water yields at the basement level (targets to be set at ppg). Indeed, research has shown that stream flow increases following removal of invading black wattles (*Acacia mearnsii*) will be greatest in areas of high evaporative demand, where dense stands of trees experiencing low levels of drought stress through the year are replaced by seasonally dormant indigenous vegetation¹⁴. Additional adoption of green engineering solutions in new infrastructure development, and in the maintenance of existing ones (e.g. constructed wetlands as sewage treatment) in more than one municipality will reduce effluent loading in water bodies (tonnage to be determined at ppg). Adoption of improved land management practices by farmers in over 200,000 hectares will further reduce siltation and nutrient loading of water bodies (this will be financed purely from co-finance, hence it is not in the results matrix. However, it is important to note it here for completeness). Particularly degraded landscapes considered critical for reducing siltation and nutrient loading in water bodies will be rehabilitated. Similarly, two particularly degraded wetlands critical for biodiversity and ecosystems services will also be rehabilitated (criteria set and applied at ppg, areas selected and plans developed). Finally, the project will forge a partnership with the authorities responsible for monitoring estuarine health of the 2 estuaries. It will then assist the authorities to develop a program for improving management practices of relevant contributors of pollution in the estuaries, and to access funding to implement urgent elements of the programs. Collectively, these actions will ensure that the River Health Index of the two river systems, the Wetlands Health for at least 6 critical wetlands and the state of Berg and Kromme estuarine health are maintained or improved by up to 2 percentage points.

¹⁴ Citation to be confirmed, but perhaps Mooney et al 2005, Turpie et al 2008 and Van Wilgen et al 2008.

1.5 Incremental Cost Reasoning and expected contributions from the baseline, the GEFTR and co-financing

The proposed project will provide tools, capacity, innovative financial mechanisms, improved financial decision making tools for infrastructure investments developed, and guidelines for ensuring integration of biodiversity and ecosystems values into planning and financing of developments in the water sector. This will lead to two important results: i) increasing the amount of funding available for long-term biodiversity and ecosystems management; and, improved ecosystems, as a result of rehabilitation. The project builds on a rich baseline programs, which will provide excellent incremental benefits, as outlined below.

- i) Without the project, the government funded Expanded Public Works Program will continue the eradication of IAS and Wetlands rehabilitation, but this will continue to be driven by poverty eradication and will be hampered by a focus on employment creation, rather than optimal environmental management, including rehabilitation of ecosystem services. Identification of sub-projects in the program will continue in an adhoc manner with annual, unpredictable budgets; and sector-based planning and implementation, rather than integrated catchment rehabilitation plans funded by secure revenues (such as water revenues) in the medium to long term.
- ii) Currently, a rudimentary method of costing invasive alien plant control is being used by DWS/ DEA to determine potential costs for inclusion in the Water Resource Management¹⁵ Charge of the Raw Water Price. No costs for other ecosystem rehabilitation is included. A cap on the price of raw water charges for irrigation use restricts the revenue that is generated by DWS for potential ecological management. DWS allocates a nominal amount of revenue from the Water Trading Entity¹⁶ to the Natural Resource Management Programmes of DEA (in 2014 this amounted to US\$1, 9 million, out of a total budget over \$180 million)¹⁷. The work on the innovative financing mechanism and improved decision making tools will empower DWS to recover funds for ecosystem management. Furthermore, removing the obstacles to interdepartmental transfers, together with rationalizing mandates and responsibilities will allow DEA, DAFF, CMA and municipal responsibility to budget for and contract with service providers to rehabilitate ecological infrastructure, further increasing funding, and sustainability of the funding for ecosystems and biodiversity management.
- iii) In the absence of the project, the capital costs for water infrastructure will continue to fail to include a component for ecological rehabilitation of the catchment, and the charges set for cost recovery and operations for specific schemes will not include ongoing maintenance of rehabilitated wetlands, catchments and riparian zones. This is a serious omission, especially considering DBSA's large investment in the water sector (table 1). Indeed, safeguard policies from financing institutions such as DBSA or most commercial banks and National Treasury will continue to only cater to a limited extent, for biodiversity values and impacts, failing to curb externalities imposed in development proposals. Safeguard policies of DBSA and other banks are currently mostly derived from the Equator Principle Guidelines but these could be made more effective if there were cohesive catchment management planning mechanisms in place. Their application and refinement in the context of South Africa's biodiversity and aquatic systems need ongoing review, development and capacity building.
- iv) Under the prevailing business as usual, mitigation activities for large infrastructure projects, where they are required, are ad hoc and at risk of not achieving a net investment in maintaining catchment integrity. There will continue to lost opportunities for integrated development approaches in the absence of a national offset policy and national/provincial guidelines to promote a more systematic and effective approach to protecting catchment ecosystem integrity from multiple and cumulative project development impacts. At present, it is estimated that less than \$1 million p.a. is invested from biodiversity offset projects around the country.
- v) Implementation of the Berg River Improvement Plan, the Education program and the Kromme River Living Space will, under the prevailing business as usual, fall short of mainstreaming biodiversity values into the action plans, and will be less effective, especially in raising funds for the long-term ecosystems rehabilitation work needed. In addition, the current shortage of skills in green engineering will continue to pose a challenge to the adoption of this novel concept in the advancement of the Green Economy.

1.6 Global environmental benefits

Baseline	Alternative	Global environmental benefit
Public works funded poverty alleviation driven rehabilitation falling und DEA will proceed on the Berg & Kromme/ Kouga rivers, but be hampered by a focus on employment creation, rather than optimal	Public works investments are better prioritised to focus on the most important rehabilitation	Over 200,000 hectares targeted by the Public Works investment integrate biodiversity and ecosystems values in the choice of rehabilitation works, thereby

¹⁵ <https://www.dwaf.gov.za/nwrs/>

¹⁶ The WTE is a financial vehicle in DWS that can retain water revenue outside of the general fiscus. It is used to recover water charges for investment in infrastructure and water management administration.

¹⁷

restoration project identification; annual, unpredictable budgets; and sector-based planning and implementation, rather than integrated catchment rehabilitation plans funded by water revenues in the medium to long term.	projects, and have improved follow-up and maintenance programmes that are not hampered by job-creation strictures in such employment programs	reducing threat to biodiversity. Result of better management on catchments reduce pollution and nutrient loading in rivers and Estuarine health, ensuring that no ecosystem status assessments fall into a lower category ¹⁸
A rudimentary method of costing invasive alien plant control is used by DWS to determine potential costs for inclusion in the Water Resource Management Charge of the Raw Water Price. No costs for other ecosystem rehabilitation is included.	A comprehensive and robust cost model is used to set more accurate costs for all rehabilitation and maintenance of ecological infrastructure that deliver water and biodiversity benefits	Catchment areas of important river systems are maintained in a state of <5% dense alien infestation, and with their ecological reserve met, at least maintaining the current River Health Index, or increasing it by 2 points
DWS allocates a nominal amount of revenue from the Water Trading Entity ¹⁹ to the Natural Resource Management or other Programmes (in 2014 this amounted to US\$1,9 million, out of a total budget over \$180 million for NRM)	DWS allocates substantial funds from the WTE that have been raised in the water price, to programmes for rehabilitation and maintenance (target of \$100 million)	A demonstration of a key mainstream payment for ecosystem services example from a government party to the CBD.
Capital costs for water infrastructure do not include a component for ecological rehabilitation of the catchment, and the charges set for cost recovery and operations for specific schemes do not include ongoing maintenance of rehabilitated wetlands, catchments and riparian zones, despite the economic valuations conducted by GEF investments in the CAPE BCSD and MDTP GEF projects.	Capital costs for infrastructure in stressed or badly degraded catchments includes funds for rehabilitation of natural infrastructure.	Increased funds for biodiversity management; current river health index maintained or improved by 2 points
Safeguard policies from financing institutions such as DBSA or most commercial banks and National Treasury cater for recognition of biodiversity impact and likely externalities imposed in development applications only up to a certain extent. Safeguard policies of DBSA and other banks are mostly derived from the Equator Principle Guidelines but these could be made more effective if there were cohesive catchment management planning mechanisms in place. Their application and refinement in the context of South Africa's biodiversity and aquatic systems needs ongoing review, development and capacity building. The linkages between regional planning and infrastructure development needs to be further developed with regards to biodiversity and ecosystem management.	Safeguard policies guide development and inhibit inappropriate development such as developing water-intensive projects in stressed catchments, or in river systems whose ecological reserve is not met.	Policies that dictate development integrate biodiversity and ecosystems values, fostering replication; Reduced threats to selected catchments in two BD hotspots (Cape Floristic and Maputaland-Pondoland-Albany)
Mitigation activities for large infrastructure projects, where they are required, are ad hoc and at risk of not achieving in a net investment in maintaining catchment integrity. There are lost opportunities for integrated development approaches in the absence of a national offset policy and national/provincial guidelines to promote a more systematic and effective approach to protecting catchment ecosystem integrity from multiple and cumulative project development	Mitigation activities for a range of large development projects are coherent, aggregated in a systematically planned priority area, and deliver 100,000 ha of better managed catchments, with associated management	Increased funding for biodiversity and ecosystems management; over 100,000 hectares of catchments in globally significant BD hotspots under improved management, with habitat improvement benefits to threatened species.

¹⁸ SANBI tracks the "Ecosystem Status" of all range of terrestrial and freshwater ecosystems according to the IUCN categories of threat.

¹⁹ The WTE is a financial vehicle in DWS that can retain water revenue outside of the general fiscus. It is used to recover water charges for investment in infrastructure and water management administration.

impacts. At present, less than \$1 million p.a. is invested from offset projects around the country.	funds, in the 2 river systems.	
National Treasury's <i>Cities Support Programme</i> aims to help achieve sustainable human settlements through, amongst others, mainstreaming climate resilience and environmental considerations into planning and engineering services across municipal departments while supporting employment creation. This has not yet had an impact in increasing revenues from services for investment in biodiversity management that improves, for example, water security.	The <i>Cities Support Programme</i> guidance and criteria results in integrated planning, that explicitly considers the ecological component of water security, disaster risk reduction, and ecosystem-based-adaptation in the planning, design and financing of municipal developments	Human settlement programs that internalize biodiversity values and ecosystems services in at least one city, leading to increased budgets for biodiversity management; and reduction of pollution in the water systems, improving habitat for fish and birds. Use of green engineering and ecological infrastructure to maintain or new sewage systems in at least 10 towns reduce effluent loading in water bodies, with habitat improvement benefits for water biodiversity.

1.7 Co-financing

The co-finance is outlined in the section on baseline programs. In addition, primary source of co-financing will be from public investments in ecosystem rehabilitation in the catchments. Although annual budgets are impossible to guarantee, \$3 million and \$1 million per annum is likely to be invested in the Berg and Kromme/Kouga catchments, respectively. Treasury and DFI grant and loan finance for infrastructure projects is likely to be very significant (waste water treatment works in the Berg, and Supply augmentation schemes in both catchments). Both the DEA and DBSA will be budgeting for review of key policy instruments and loan criteria. We anticipate that DWS will be budgeting for stakeholder consultation and input into the emerging CMAs and catchment forums, and NGOs currently fund-raise to cover their oversight and participation in these processes. The Berg River and Kromme Partnerships will invest considerable amounts (specified in the baseline programs section) each year. In addition, DBSA is likely to invest more than US\$ 2.4 million annually. Although this investment may not be in the Berg or Kromme, it provides national level opportunities for replication. The total co-finance is US\$ 32 million.

1.8 Innovativeness, sustainability and potential for scale-up.

Although previous water pricing strategies have catered for revenue collection for control of IAPs, the effectiveness has been low. This project will address some of the technical, institutional and fiscal gaps believed to be limiting this work. Innovation is found in the methodology for costing ecological management requirements, and in using existing revenue collection mechanisms to increase compliance with regulations protecting biodiversity. The sustainability of the project is two-fold: its main objective is to create a long-term dependable revenue stream from water sales in urban areas and irrigation farmers to fund ongoing rehabilitation and maintenance of biodiversity in water catchments, and it will create an understanding of the importance of removing externalities in pricing. The potential for scale up is large, as the methodology can be readily exported to all catchments where natural infrastructure management opportunities present themselves. It can also be easily up scaled through the substantive water sector investment portfolio of DBSA.

2 Stakeholders

2.1 The project design will involve participation of relevant stakeholders from civil society and local communities

A detailed stakeholder analysis will be undertaken during the ppg and reported at VEO. A summary is provided below.

Stakeholder	Relevant Role
DEA	National focal point for the Convention on Biodiversity. It is responsible for protecting, conserving and improving the South African environment and natural resources. DEA will be the lead government department in this initiative to develop national policy and guidelines for mainstreaming biodiversity management into development decisions, the expansion of cost recovery for biodiversity and natural resource management and facilitating the pass-through payments to implementation partners. DEA hold the policy on Offsets, and will develop guidelines and expedite suitable institutional and financial mechanisms to enable offset aggregation. DEA together with DoA share responsibilities for catchment management (for example both departments share responsibilities in accordance to very specific laws for catchment rehabilitation upstream of a dam. Public works programmes such as Working-for-Water and Working for Wetlands fall under DEA; these programmes are instrumental in this project as they are the main practical mechanism used by government to manage catchment and river health threats (AIS).
SANBI	The South African National Biodiversity Institute (SANBI) is a public entity with special responsibility for biodiversity matters, responsible for exploring, revealing, celebrating and championing biodiversity for the benefit and enjoyment of all of South Africa's people. SANBI was selected as the Responsible Party to lead the project based on its past experience in similar GEF initiatives such as its work in the establishment of the CAPE Coordination Unit (CCU). The project will benefit from the strong coordination and facilitation role played by SANBI.

<i>Stakeholder</i>	<i>Relevant Role</i>
National Treasury	Approves fiscal flows to national departments, provinces and municipalities and has a stake in ensuring that regional development is balanced and is not undermined by environmental risks. The project will work with and be guided by advice from the Treasury in the design of fiscal and other incentives for biodiversity mainstreaming including also increased flows of government funds
Municipalities	Local government plays a vital part in the protection of the environment, although this is often not acknowledged or given the emphasis that it should be given. This project will help open up opportunities for mainstreaming and integrating environmental considerations into municipal infrastructure plans and services through municipal plans, programmes and projects. Municipalities invest heavily in water infrastructure (as well as roads which can impact water systems). They will play a key role on catchment forums and identify those issues which are of highest priority and to then apply approaches which will be effective and practical in the specific municipal context.
DWS	The Department of Water Affairs and Sanitation (DWS) is responsible for ensuring bulk water infrastructure is in place, maintaining, rehabilitating the infrastructure and monitoring. It is also responsible for monitoring the water quality in the rivers. (For example the effects of our dams on the downstream habitat of rivers is monitored by the DWS through mechanisms such as regional offices, River health Programs). At present the Catchment Management Agencies (CMA's) have not assumed responsibilities for managing the water resources of their respective Water Management Areas (WMA's). In the interim, DWAF's Regional Offices continue to manage the water resources in their area of jurisdiction until such time as they can hand over these management functions to established and fully operational CMAs. Each CMA will develop a Catchment Management Strategy (CMS) for the protection, use, development, conservation, management and control of water resources within its WMA. CMAs will also ensure the alignment of the catchment strategy plans with local municipalities' development plans, the increase in public participation and the opportunity for Catchment Management Agencies to start generating revenue. DWS will be a key role player in this project to help develop policy, especially water pricing policy and in developing and designing local demonstration projects in the two select river systems and in monitoring the impact of interventions.
Provincial Departments	The project will engage provincial bodies as key stakeholders in the planning and implementation stages such as Provincial departments falling under DEA and related agencies such as: i) Cape Nature, a public entity with the responsibility for biodiversity conservation in the Western Cape. It is governed by the Western Cape Nature Conservation Board Act 15 of 1998 and mandated to promote and ensure nature conservation, render services and provide facilities for research and training; ii) Eastern Cape Parks and Tourism Agency, a public entity established in terms of the Eastern Cape Parks and Tourism Agency Act, No. 2 of 2010. ECPTA aims to develop and manage protected areas and to promote and facilitate the development of tourism in the Eastern Cape Province. iii) The National Department of Agriculture Forestry and Fisheries (DAFF) will also engage the project through its provincial departments such as the Western Cape Department of Agriculture (DoA). This department is committed to 'Enhancing the sustainable management and efficient use of natural agricultural resources and production inputs' The DoA is responsible for implementing the LandCare Programmes aimed at restoring sustainability to land and water management in both rural and urban areas. LandCare policies are developed and achieved through the formation of partnerships with a wide range of groups from within and outside Government through a process that blends together appropriate upper level policy processes with bottom-up feedback mechanisms. The LandCare Programmes managers will play a key and strategic role in the design and implementation of the demonstration projects and will help integrate service providers to pro-actively engage in building sustainable catchments.
Academic Institutions	The proposed project will work closely with universities (e.g. University of Cape Town and Nelson Mandela University) and professional bodies for environment, agriculture and others as appropriate to source technical expertise. Partnerships with public sector training institutions identified as relevant during the project formulation will also be explored.
NGOs	There are a large number of active NGOs in the country working on varied environmental issues – ranging from natural resource management including environment, conservation, environment protection, pollution control, broad sustainability issues, youth participation and environmental justice. Some of the well-known NGOs include WWF-SA, LivingLands, and Conservation-SA. NGOs will be engaged in a variety of roles throughout the project life cycle (PPG development and implementation, including ensuring transparency in strategy determination, price-setting, and as implementers of restoration projects. They will also help hold DFIs and corporates to account for investments and the success of mitigation actions.
CBOs	Existing forums and representation where possible from local water users will be drawn into the project design and implementation, especially: i) The Berg and Kromme River Partnerships, who provide both baseline and co-finance; They will be involved in the design, implementation and replicating lessons; ii) Local communities will be involved in demonstration projects as designers, implementers, beneficiaries and evaluators in accordance with all DBSA safeguards applicable; ii) During the PPG the project will map existing NGOs / CBOs in the project area, identify respective strengths and design a strategy to partner with these organizations in various areas including but not limited to: community mobilization and organization; research and provision of technical services; partners to

<i>Stakeholder</i>	<i>Relevant Role</i>
	implement specific activities at the local level; iii) Local communities will be primary agents to manage priority biodiversity areas and also in managing local agro ecosystems. Local traditional leaders as well as formal leaders (such as the parliamentarians) will be key stakeholders in ensuring sound ecosystem management. Local farmers groups, irrigation user groups, women's groups, youth groups etc. will also be key stakeholders in planning, implementation, monitoring and review of demonstration projects. The project recognizes that in some parts of the catchment women and men use natural resources differently and will be impacted differently by the project. It will pay particular attention to dimension of gender equality and women's empowerment in the design of its interventions. Local communities in general will be key beneficiaries of the project and will be consulted with and involved in the design and implementation of the project.
Private Sector	Organizations such as the National Business Initiative and the financial sector (investment and development banks) will be key stakeholders in developing certain financial instruments that may be able to raise bond finance for ecosystem investment through infrastructure loan and grant finance. Insurance companies, Sector industries/partnerships/forums active in the catchment will be involved in the detailed project document and contribute to designing and testing valuation methodologies and ecological infrastructure payment mechanisms (e.g. Sasol could be interested in testing offsets on the Vaal in Mpumalanga and sharing lessons learnt through this project).
DBSA	DBSA will provide the role of the GEF Agency to oversee the projects successful implementation providing oversight management for the project's coordination, design, management and monitoring components, providing additional insight into DFI tools for biodiversity valuation and mainstreaming into development finance decisions.

2.2. Gender Considerations.

The project recognizes that in some parts of the catchment women and men use natural resources differently and will be impacted differently by the project. It will pay particular attention to gender equality and women's empowerment in the design of its interventions. Local communities in general will be key beneficiaries of the project and will be consulted with and involved in the design and implementation of the project. This has already been demonstrated by several of the baseline programs (especially the Berg River Vision2020 Education Program, Working for Water and Working for Wetland), where every effort is made to reach (employ) women and the disadvantaged (disabled and HIV AIDS victims). Implementation of the proposed project will follow this excellent practice. A gender assessment will also be conducted during the ppg to ensure that all gender issues are considered.

2.3 Risk.

Risk and Risk Level	Management Strategy
Social willingness to pay for basics services (water) declines. (medium)	Although many municipalities are owed significant revenue by water users, there is higher level of compliance in the larger metros, and a price elasticity in the domestic and industrial sector. Agricultural price elasticity is low, but the likelihood of reduced subsidies and export limits due to pollution and biodiversity loss is high, which should encourage effective investment from irrigation users in catchment integrity.
Engineers and water managers channel levies that were raised for water resource management investments into built infrastructure. (medium)	Use valuation studies, and demonstrate benefits and low-regret approaches to ecological infrastructure management. The lack of opportunities for, and expense of, traditional built infrastructure solutions limits the extent to which this can be pursued. Increasing the transparency in price setting and improving the rigor of quantifying costs should reduce this risk
Social resistance to offsets prevents them being used as a management tool. (medium)	Sound planning, significance financial implications, targeted activities and improved compliance monitoring, especially from DFIs, should allay some fears. Confirming in policy and practice that offsets are a last resort should also manage this risk.
Sectoral strife in specific catchments around water allocation prevents uptake of sensible catchment strategies (medium)	Improving transparency, and providing low-regret approaches to managing ecosystem-mediated water risk, should help to reduce conflict. Tying the catchment, planning and strategy processes into the cost of water, and providing for incentives for improved compliance with natural resource regulations, should increase collaboration.
Climate Change (low)	May change national priorities to other catchments depending on where disasters and needs arise. The project is however dealing in stretched catchments and the need to switch catchments is therefore unlikely. Geographical scope of catchment could be accommodated in the detailed project document.
Structural changes in key driving partners require changes in Steering Committee members or Executing Agency or other key role players involved (low)	The TOR of the SC and partnership pilot projects falling under this project will accommodate unanticipated changes in government structures, roles and responsibilities between state and parastatal departments.
Large infrastructure projects do not occur in the catchment to use as catalytic force for piloting ecological infrastructure projects (low)	The project will accommodate small ecological and engineering infrastructure project initiatives in the catchments such as the Berg, Umzimvubu, or Kouga and not just depend on big infrastructure initiatives.
National priorities on developing and testing appropriate mechanisms change during 5 year period (low)	The project needs to be flexible to accommodate shifts in government and private sector priorities around a variety of mechanisms that can be used for building and sustaining ecological infrastructure in catchments such as offsets, water pricing, safeguards, conditionality's attached to state funding transfers.

Risk and Risk Level	Management Strategy
Poor quality process and poor substance of documentation and demonstration project (low)	The Steering Committee will comprise at least of one NGO, one government, one academic and one private sector and one finance institution representative. The project will be divided into milestones and the Steering Committee will approve each milestone. The project will appoint a peer reviewer/s to make inputs throughout the life cycle of the project.

2.4 Coordination.

Programs, and Initiatives	Proposed collaboration
BioFin	Close collaboration on engagements with Treasury, Biodiversity Public Finance Review, and emerging conditional grants for protected area sustainable financing.
Advancing Experimental Ecosystem Accounting in SA	SANBI, UNStats, and StatsSA are collaborating in AEEA. <i>Ecosystem accounting does not necessarily imply accounting for ecosystems in monetary terms, and need not involve valuation of ecosystems.</i> In South Africa is approaching ecosystem accounting from the point of view of physical accounting, drawing on the scientific building blocks that form the foundation of the National Biodiversity Assessment and translating these into an accounting framework, thereby generating information that can be used in a wider range of socio-economic contexts. Part of Phase 1 is piloting National River Ecosystem Accounts, and it will explore some form of integrated land and catchment / ecological infrastructure accounts in KZN, with a view to taking this national in Phase 2. These initiatives will be closely linked through shared networks and support services to stakeholders established with this GEF Project.
NWRS II	An implementation plan has been developed by NGOs, SANBI and DWS for improving ecosystem management for water outcomes. Close collaboration with these role players is expected, to elevate the profile of this plan within DWS.
Berg River Improvement Plan (BRIP)	The project will link closely and provide support to key drivers behind the BRIP (including Provincial Agriculture and Environment Departments).
SANBI GEF 5 Mainstreaming Biodiversity into Land Use Regulation and Management at the Municipal Scale	This project would complement the work on municipal budgeting and investment in biodiversity management activities, but drawing explicit links to municipal revenue generation from water, and the need and desirability to enhance investments in water security and risk reduction. Although operating in different municipalities, there is scope for significant lesson sharing.

2.5 Consistency with National Priorities

The project is consistent with the following: i) Delivery Agreement for Outcome 10 (one of twelve national Outcomes), which pushes the use of ‘valuation, protection and continual enhancement of environmental assets and natural resources’. The Delivery Agreement sets out a range of actions to be taken in order to attain each outcome including valuing ecosystem services and biodiversity, establishing a mechanism to reflect the value of biodiversity in SA’s national resource accounts, developing alternative financing mechanisms for expanding the conservation estate and protecting threatened ecosystems and species, as well developing monetary and fiscal incentives for conservation; ii) NBSAP (revision currently underway) and the National Water Resources Strategy (a key water management tool); iii) DEA’s on-going effort to develop a national offset policy; iv) The Green Economy strategy and National Development Plan; v) the strategic infrastructure project interested in demonstrating the linkages between engineering and ecological infrastructure planning and budgeting.

2.6. Knowledge Management

The project will develop learning networks to support key institutions, organisations and forums involved in infrastructure delivery. Knowledge sharing will be informed by global good practice. The project will demonstrate a suite of tools and methods, and facilitate cross learning by stakeholders/beneficiaries from the 2 catchment systems. It will link the development of these tools and methods with similar initiatives happening in other catchment systems in South Africa building on and reinforcing effective biodiversity and ecosystem mainstreaming initiatives occurring throughout the country. The focus will be on developing and advancing financial approaches and tools which directly help to shape policies, plans and decisions in mainstreaming biodiversity values into development decisions. Environmental mainstreaming will become stronger if tools, methods and tactics are developed locally by key interested and affected parties ensuring relevance to the local context. The initiative will help identify what works best for what purpose and for which user.

Specifically, the project will use the following channels for knowledge management: i) SANBI, whose core business is biodiversity knowledge management, and has a track record of maintaining vibrant partner platforms in previous GEF projects. Its mandate to provide input on government policy will provide knowledge sharing entry points into many government Departments; ii) The DWS Vision202 for Environment Education program, currently being implemented by the Berg River Forum and others. The program aims specifically at young people, serving as an avenue for sustaining the knowledge into the future; iii) The “Living Landscape” of Kromme River, which is linked to research units and global knowledge sharing platforms; iv) BIOFIN and WAVES – which are developing global best practices in BD finance and valuation of ecosystems services, respectively, and are linked to global knowledge sharing platforms.

PART III: ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT AND GEF AGENCY

A. Record of Endorsement of GEF Operational Focal Point on Behalf of the Government:

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Mr. Zaheer Fakir	Chief Policy Advisor, International Governance and Relations	ENVIRONMENT	12 TH MARCH 2015

B. GEF AGENCY Certification

This request has been prepared in accordance with GEF policies ²⁰ and procedures and meets the GEF criteria for project identification and preparation under GEF-6.					
Agency Coordinator, Agency name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email
Nomsa Zondi, Development Bank of Southern Africa		25 March 2015 (revision date)	Nomsa Zondi	+27113133911	NomsaZ@dbsa.org

C. Additional GEF Project Agency Certification (Applicable Only to newly accredited GEF Project Agencies)

²⁰ GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF

Annex 1: Brief demonstration of the Global Environment benefit and issues in the two river systems (to be expanded during ppg).

The Berg River system

The Berg River is in the **Cape Floristic Region Hotspot**. The catchment area is 8,980km² and the river has a total length of 285km. It is undoubtedly the most significant river system for the Cape Town Metropole. Part of it (190kms) passes through the West Coast District Municipality, with 70kms serving the Winelands District Municipality. The lower Berg (made up of the floodplain and the Estuary) is listed as an Important Bird Area (Ramsar Convention), and is South Africa's second most important estuary in terms of national conservation importance for estuarine birds, fish, invertebrates and vegetation. In addition to the estuary, winter flooding of the Berg River inundates an extensive floodplain of about 5 500 ha. The floodplain supports at least 127 species of water birds, of which 85 are observed regularly, 31 are of regional significance, 25 are of national importance and 5 are listed as red data species. Migratory birds from Europe and northern Asia use the floodplain as feeding grounds during summer. Although the floodplain is known to support large numbers of breeding birds, the distribution and abundance of these floodplain species and their conservation status has however never been quantified.

Unfortunately, the Berg River suffers from serious degradation. Overstretched and poorly maintained sewerage treatment works contribute to serious water quality issues. Massive wetland drainage in historical times exacerbated flash flooding and filtration capacity. Invasive tree species (primarily *Eucalyptus camaldulensis*) have colonized much of the riparian margin along the middle and lower reaches, reducing access and water yield significantly. Some key catchment areas are heavily invaded with Black Wattle and Pine species. Water from the Berg River is also used to irrigate fruit crops that are exported to Europe and polluted water can and has compromised export quality with dire consequences for farmers and employment in the agricultural sector.

Although the construction of the Berg River dam in the last decade included some ground-breaking examples of tapping into development finance for ecological management, the full benefits of enhanced ecological function are not widely appreciated and the costs of restoration are not included in the pricing of water from the scheme. The Berg River Improvement Plan recognizes the need to fund specific biodiversity management functions from the charges levied on water sales, but the institutional arrangements and the technical mechanisms are not developed.

Maputaland-Pondoland-Albany (MPA) hotspot

One or two system falling under the MPA hotspot will be selected during the detailed planning stage likely to be the Kouga/Kromme Rivers or the uMzimvubu River systems.

Maputaland-Pondoland-Albany (MPA) hotspot is roughly the size of New Zealand (274,000 km²) and is located along the east coast of southern Africa, below the Great Escarpment. In terms of species diversity, the region is the second richest floristic region in southern Africa (after the Cape Floristic Region) and, for its size, also in Africa. An estimated 8,100 species occur within the region of which at least 1,900 (23%) species are endemic to the region. In total, there are 615 species of special conservation concern within the Maputaland-Pondoland-Albany Hotspot listed on the IUCN Red List of Threatened Species as Vulnerable (364), Endangered (162) and Critically Endangered (89). At a habitat level, one type of forest, three types of thicket, six types of bushveld, and five types of grasslands are endemic to the Maputaland-Pondoland-Albany Hotspot.

The Kromme River is about 100 km length, and has a catchment area of approximately 155 631ha²¹. With the adjacent Kouga River they provide around 60% of the water for Nelson Mandela Metro, yet their catchments are heavily degraded through invasive trees species (primarily Black Wattle (*Acacia mearnsii*), Pines and Eucalyptus species), deeply eroding wetlands (primarily peat-based²²), and reduced land-cover (overgrazed or fallow). Previous GEF investments have developed the economic arguments for restoring these catchments, but the institutional arrangements and responsibilities and funding mechanisms have not been developed.

²¹ Mander et al. 2010

²² Marneweck et al. 2001