



OUTPUT 3.5. DETAILED PROJECT DESIGN REPORT – ANNEX 21 (FINAL - V1.3)

Provision of Project Preparation Services to the South African National Biodiversity Institute (SANBI) through the GCF Project Preparation Facility (PPF)

11 April 2025

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LIST OF ABBREVIATIONS

Acronym	Definition
D:APR	Adaptation Policy and Resourcing Division
ARA	Adaptation Results Area
BCR	Benefit Cost Ratio
BIPA	Biodiversity Information and Policy Advice Division
BRAM	Biodiversity Research, Assessment and Monitoring Division
CBA	Cost Benefit Analysis
CMIP6	Coupled Model Intercomparison Project Phase 6
COGTA	Department of Cooperative Governance and Traditional Affairs
COP	Conference of the Parties
DDM	District Development Model
DFFE: EP	Department of Forestry Fisheries and the Environment: Environmental Programme
DFFE	Department of Forestry Fisheries and the Environment
DHS	Department of Human Settlements
DM	District Municipality
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
DSI	Department of Science and Innovation
DWS	Department of Water and Sanitation
EbA	Ecosystem-Based Adaptation
Eco-DRR	Ecosystem-Based Disaster Risk Reduction
EIRR	Economic Internal Rate of Return
ESMF	Environmental and Social Management Framework
EWS	Early Warning Systems
GCF	Green Climate Fund
GIS	Geographic Information System
GRM	Grievance Redress Mechanisms
ha	Hectare
IAP	Invasive Alien Plant
KPI	Key performance indicators
LM	Local Municipality
MERL	Monitoring, evaluation, reporting and learning
MISA	Municipal Infrastructure Support Agent
NAFAB	National Adaptation Funds Advisory Body
NBI	National Business Initiative
NCCAS	National Climate Change Adaptation Strategy
NDA	National Designated Authority
NDMC	National Disaster Management Centre
NGO	Non-Governmental Organisation
PCC	Presidential Climate Commission
PDMC	Provincial Disaster Management Centre
PMG	Project Management Group
PMU	Project Management Unit
PPF	Project Preparation Facility
PSC	Project Steering Committee
SALGA	South Africa Local Government Association
SANBI	South African National Biodiversity Institute
SANParks	South African National Parks
SAWS	South Africa Weather Service
SCM	Supply Chain Management
SDG	Sustainable Development Goal

Acronym	Definition
SFC	Sustainable Finance Coalition
SMME	Small, Medium and Mico Enterprises
TAMDEV	Technical Assistance, Mentorship and Development Programme
TNC	Third National Communication
ToC	Theory of Change
UNFCCC	United Nations Framework Convention on Climate Change
WWF	World Wide Fund for Nature
ZAR	South African Rand

1 Introduction

1.1 PROJECT BACKGROUND

The impacts of climate change have been felt across South Africa with the frequency and severity of droughts, floods and wildfires increasing. Climate projections show that this trend, including changes in intensity and unpredictability, will continue. These hazards are leading to escalating risks of significant impacts on South Africa's wider economy and both the urban and rural livelihoods and its most vulnerable populations.

Climate change models indicate that these trends will continue and accelerate, with major socio-economic impacts on rural communities. These impacts include:

- Decreased productivity of croplands and rangelands due to erosion, aridification and soil nutrient leaching;
- Reduced availability of water for both domestic and agricultural use;
- Increased intensity and frequency of wildfires; and
- Damage to infrastructure.

Functioning ecosystems and ecological infrastructure can help people to adapt to climate change, by enhancing food and water security, safety, health and well-being. "Ecosystem-based Adaptation" (EbA) and "Ecosystem-based Disaster Risk Reduction" (Eco-DRR) draw from practices like conservation and ecosystem restoration to enhance ecosystem resilience. Both EbA and Eco-DRR are gaining traction as important development options due to their ability to offer multiple benefits to people, ecosystems, and biodiversity. They support long-term planning for climate change adaptation and disaster risk reduction, are cost-effective compared to built infrastructure, and prioritise community involvement and the utilization of traditional and local knowledge systems. The inclusive and interdisciplinary nature of EbA and Eco-DRR enables these approaches to address various policy objectives at local, regional, and national levels, for climate change adaptation, disaster risk reduction, and sustainable development.

In response, South Africa's National Biodiversity Institute (SANBI) is preparing a full application, with the associated supporting documents, to the Green Climate Fund (GCF) to fund a programme to scale up ecosystem-based approaches to managing climate intensified disaster risks in vulnerable regions of South Africa (the Eco-DRR project). Ecosystem-based approaches are broadly accepted as a cost-effective and sustainable means to promoting resilience in communities vulnerable to climate change intensified drought, flood and wildfire and this project will utilise ecosystem-based approaches to reduce the impacts of climate change to the benefit of 5 481 886 people. This will be achieved through the rehabilitation of vulnerable catchments, the integration of ecosystem-based approaches into settlement planning and disaster risk reduction (DRR), and the creation of an enabling environment that unlocks private sector finance and scales best practices across South Africa.

The project will simultaneously develop the evidence base for Eco-DRR interventions, and work with the South African government towards the implementation of effective Eco-DRR practices at scale.

1.2 PURPOSE OF THE REPORT

The objectives of this Design Report are to provide details for the project's implementation:

- Outline the principled approach to EbA and Eco-DRR that guides the way in which the project should be governed and implemented;
- Provide an overview of the key stakeholders that need to play key role in the governance of the project;
- Outline the projects governance arrangements providing the roles and responsibilities of the various governance components, as well as clarifying the split in accountability of the Accredited Entity and the Executing Entity;
- Provide an overview of the financial flow into the project and the linkages to project procurement; and
- Outline how the project meets the GCF's investment criteria.

1.3 STRUCTURE OF THE REPORT

The structure of the report is as follows:

1. **Introduction:** presents the project background.
2. **Project Design:** describes the principles behind the design of the project as well as the key stakeholders that are required to support the governance and implementation of the project.
3. **Project Governance:** details the overall governance framework for the project including the various components of the governance framework, the brief terms of reference for each component as well as project staff requirements.
4. **Financial Flows:** outlines the financial arrangements for the project.
5. **Alignment to the GCF Investment Criteria:** presents how the Eco-DRR project aligns and supports the various GCF Investment Criteria.

2 Project Design

2.1 EBA AND ECO-DRR IMPLEMENTATION

Along with the direct, hazard-specific impacts of floods, droughts and wildfires, a feedback loop of compounding impacts of all these hazards – as well as rising temperatures – on ecosystems will likely result in increased ecosystem degradation under projected climate change conditions. These climate impact pathways, which vary between landscapes, have varying levels of impact on natural and human systems (

Figure 2-1). Moreover, higher temperatures, drier conditions and an increase in Invasive Alien Plants (IAP) increases the occurrence of wildfires, which further reduces vegetation cover and contribute to the degradation of soils, having impacts on groundwater recharge. As a result, flooding causes high rates of soil erosion because the supporting services provided by groundcover vegetation have been reduced or lost during the preceding drought periods and wildfires. Erosion during the flooding events, in turn, causes direct damage to catchments and reduces the productivity and availability of land for livestock production, further intensifying the impacts of overgrazing. The increased intensity of flood, drought and wildfire cycles is particularly concerning given that soil erosion by water already affects over 70% of the country and is expected to increase by 5–10% in South Africa’s eastern interior by 2070 because of the interconnected effects of land use and climate change.

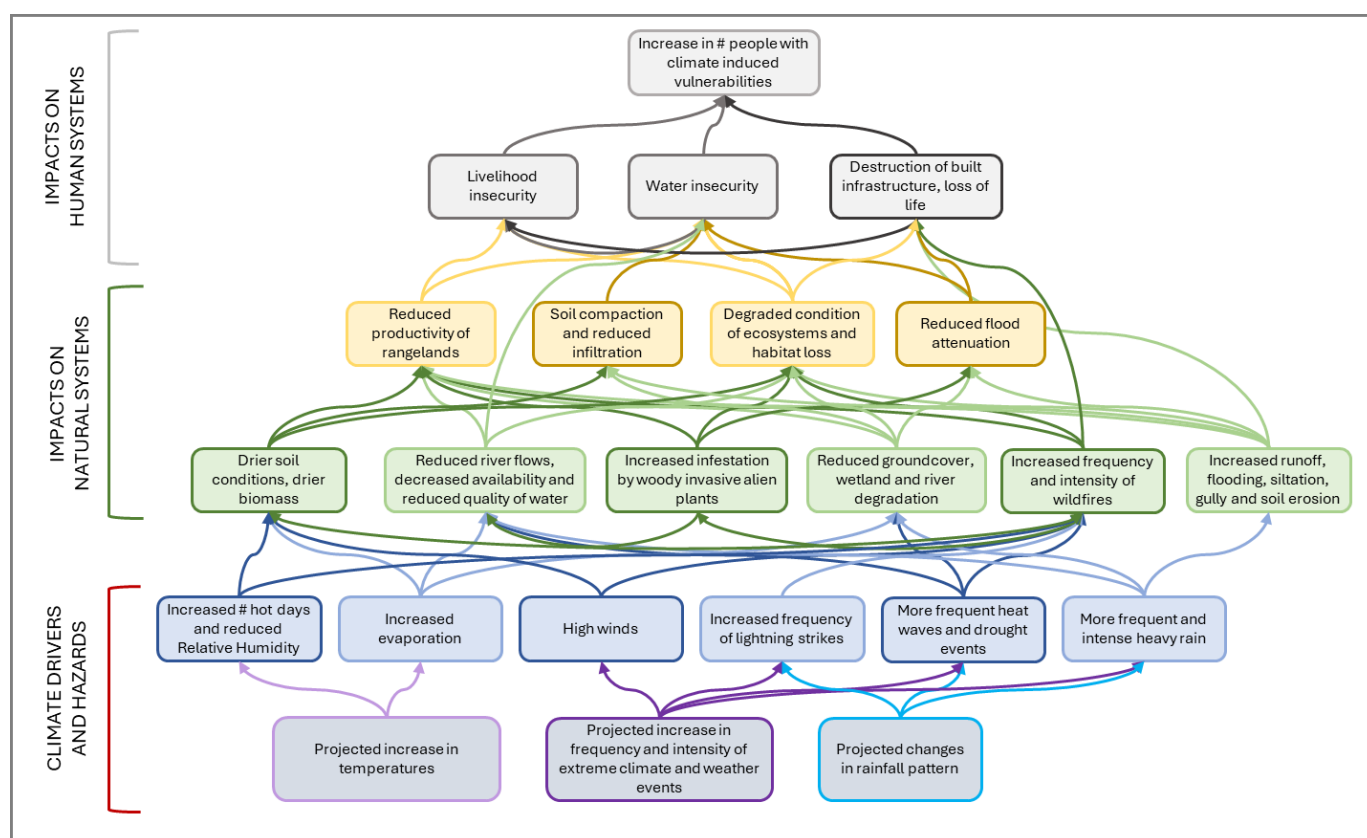


Figure 2-1: Climate impact pathways (SANBI, 2024) : Climate impact pathways (SANBI, 2024)

It is also expected that climate change will have a substantial impact on the proliferation of IAPs, which already cause land degradation and reduce water availability in rural and peri-urban communities in South Africa. A direct effect will be the

changes to the geographic ranges of these plants. It is also expected that changes in the frequency and intensity of extreme events such as floods and wildfires will have the potential to increase ecosystem susceptibility to future invasions.

Beyond the visible and quantifiable ecological and socio-economic impacts of climate change on peri-urban and rural communities noted above, the project also recognises there are less visible "hidden social impacts," such as psychological distress, fear and anxiety, and the disruption of traditional knowledge and cultural identity brought by disasters on these communities. For example, climate-induced migration often forces communities to leave their ancestral lands, weakening ties to places, customs, and ways of life. This displacement leads to feelings of loss and long-term mental health issues. While difficult to measure economically, these impacts are significant, especially in these communities with deep-rooted cultural systems, suggesting that the true costs of climate change are often underestimated.

EbA is recognised as an important tool in enhancing climate resilience. These approaches are highlighted in several national documents as a key feature that supports the country's strategy to address climate change impacts. The power of EbA lies in its ability to not only provide intervention options to modify livelihood and infrastructure approaches in the short-term and locally at a project-by-project case, but in its potential to be widely transformative in the way societies and economies may function more sustainably into the future. When EbA is coupled with Eco-DRR interventions, the real value of these approaches comes to the fore: where the natural environment functions to protect, regulate and mitigate hazards that may occur. Ultimately societal and economic vulnerabilities get reduced, while resilience within communities and at livelihood-scales improve.

Managing the impacts of droughts, floods and wildfires on communities is a high priority for the Government of South Africa. This priority is evident in its preparation of several national policies and strategic plans for climate change adaptation. Climate change adaptation is highlighted as critical in many of South Africa's plans, programmes and strategies, emphasising the importance of drought, flood and wildfire impacts. In addition, these strategies and plans acknowledge the importance of ecosystems and ecosystem services and their role in community resilience.

South Africa's Third National Communication (TNC) to the United Nations Framework Convention on Climate Change (UNFCCC) (2018) recognises that climate change effects will lead to increasingly severe and frequent droughts, floods and wildfires, which will significantly impact infrastructure and communities. In response to these hazards, the Communication highlights the need for a comprehensive approach to adaptation measures, including improved infrastructure, land-use practices and water-conservation measures. The interventions under the proposed Eco-DRR project will align with the approach outlined by the Communication (DEA, 2018).

South Africa has 10 national priorities (DEA, 2011) to achieve the national climate change response objective as per the National Climate Change Response White Paper (DEA, 2018b).

- **Risk reduction and management:** Prioritise near-term adaptation interventions that address immediate and observed threats to the economy, ecosystem services and health and well-being of South Africans.
- **Mitigation actions with significant outcomes:** Prioritise cost effective and beneficial mitigation policies, measures and interventions that reduce the greenhouse gas emission trajectory.

- **Sectoral responses:** Prioritise the requirement for all key actors, organisations or participants in relevant sectors or subsectors to prepare, submit, implement, monitor and report the implementation of detailed climate change response strategies and actions plans.
- **Policy and regulatory alignment:** Prioritise interventions already envisaged by national policies, legislation or strategies that have climate change co-benefits. Particularly those that also contribute towards the national priorities of job creation, poverty alleviation or have other positive socio-economic benefits.
- **Integrated planning:** Mainstreaming of climate change considerations and responses into all relevant sector, national, provincial and local planning regimes.
- **Informed decision-making and planning:** Prioritise research, systematic observation, knowledge generation, information management and early warning systems that increase our ability to measure and predict climate change and the implications of its adverse effects on the economy, society and environment.
- **Technology research, development and innovation:** Prioritise cooperation and the promotion of research, investment in and/or acquisition of adaptation, lower carbon and energy efficient technologies, practices and processes for employment by existing or new sectors or subsectors.
- **Behaviour change through choice:** Prioritise education, training and public awareness programmes to build the general public's awareness of climate change. This will empower all South Africans to make informed choices that contribute to an economy and society that is resilient to climate change.
- **Resource mobilisation:** Prioritise the development of comprehensive resource and investment mobilisation strategies, capacities, mechanisms or instruments that support and enable implementation of climate change responses at the scale required.

The scope and design of the Eco-DRR project addresses many of these priorities as reflected in the projects Theory of Change (Figure 2-2).

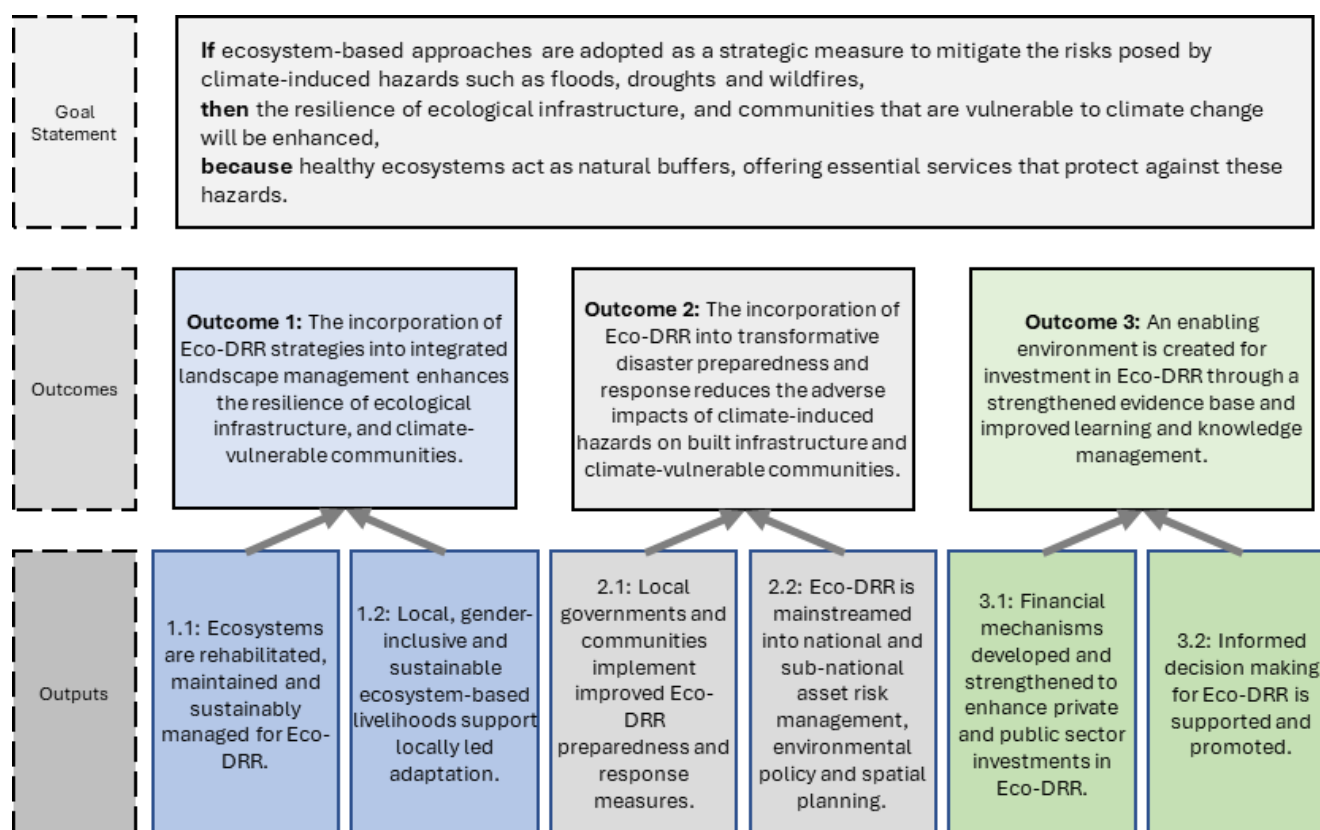


Figure 2-2: Eco-DRR Theory of Change

The design and approach to the Eco-DRR project is rooted in the principles that underpin EbA and that are outlined to practically support implementation in such a manner that resilience is built, that inclusivity is ensured, that implementation at scale is realised and that effective and sustainable management is secured (DEA, 2018). These principles are outlined in Table 2-1.

Table 2-1: Principles and criteria for achieving effective EbA (DEA, 2018)

Principle 1: EbA interventions support resilient and functional ecosystems that ensure and enhance ecosystem services.
<ul style="list-style-type: none"> Criterion 1.1: EbA interventions must maintain or improve ecosystem functioning and integrity with the understanding that healthy, intact ecosystems are better able to maintain functional integrity under a range of climate futures. Criterion 1.2: EbA interventions must leverage resilience in natural, near-natural, transformed or restored ecosystems without impacting adversely on biodiversity or compromising the ecological integrity of the broader ecosystem.
Principle 2: EbA interventions support people in adapting to climate change and climate variability.
<ul style="list-style-type: none"> Criterion 2.1: EbA interventions must result in tangible benefits to people within the context of climate change adaptation. Criterion 2.2: EbA interventions support socio-economic benefits that go beyond improving adaptive capacity.
Principle 3: EbA interventions are participatory, inclusive, and transparent.
<ul style="list-style-type: none"> Criterion 3.1: EbA interventions must be designed to be inclusive and to consider the needs of and impacts of climate change on marginalised groups. Criterion 3.2: EbA interventions are cognisant of the disproportionate impacts of climate change on women and are designed with this in mind. Criterion 3.3: EbA interventions are designed, developed and implemented through participatory processes. Criterion 3.4: EbA interventions are supported by capacity building processes.
Principle 4: EbA interventions are knowledge and evidence-based as informed by the best available science and robust indigenous and local knowledge.
<ul style="list-style-type: none"> Criterion 4.1: EbA interventions must use credible, scale relevant climate scenarios. Criterion 4.2: EbA interventions are based upon credible, locally relevant impact and vulnerability scenarios.

<ul style="list-style-type: none"> • Criterion 4.3: EbA interventions support learning networks, communities of practice and the co-generation of knowledge. • Criterion 4.4: EbA interventions support robust M&E and learning processes. • Criterion 4.5: EbA project cycles assess and evaluate thresholds and trade-offs. • Criterion 4.6: EbA project cycles permit flexible adjustment of interventions as informed by the best available information.
Principle 5: EbA interventions are contextualised within broader national and regional policy and landscape processes and are designed to be scalable and replicable.
<ul style="list-style-type: none"> • Criterion 5.1: EbA interventions are cognisant of broader landscape processes and ecosystem services, and recognise that some EbA service benefits may only become apparent at larger scales such as watersheds or biomes. • Criterion 5.2: EbA interventions are implemented as part of integrated climate change adaptation strategies. As such, they are aligned with national and sub-national enabling frameworks and mainstreamed into relevant plans, policies and practice at multiple scales. • Criterion 5.3: Scalability and sustainability are explicitly considered in EbA interventions.
Principle 6: EbA interventions strive to be integrative and to promote transdisciplinarity and multi-sectorality throughout the project lifecycle.
<ul style="list-style-type: none"> • Criterion 6.1: EbA interventions are sectorally cross-cutting and require the collaboration, coordination, co-operation of multi-stakeholder groups and operational role-players, including that of institutional stakeholders. • Criterion 6.2: EbA interventions support cross-sectoral adaptation and governance across scales. • Criterion 6.3: Where relevant, EbA interventions make use of complementary natural, engineered, social and systemic solutions
Principle 7: EbA strives to achieve co-benefits and synergistic outcomes.
<p>Synergies between adaptation and mitigation outcomes have long been sought and incentivised where feasible. EbA generally revolves around ecosystem management and thus may be relevant to carbon sequestration and related local changes in climate forcing such as albedo changes, especially where restoration or reforestation interventions are being considered.</p> <ul style="list-style-type: none"> • Criterion 7.1: EbA interventions promote positive co-benefit synergies, e.g. job creation, income generation, climate change mitigation

Noting these principles, there are a number of recognised barriers that hinder the implementation of EbA and Eco-DRR, which the project design must address both through the governance of the project as well as through the implementation of the various interventions. These barriers include:

- **Barrier 1: Challenges within the enabling environment regarding collaboration, coordination, capacity and integration of Eco-DRR approaches.** There is limited cross-sectoral governance, collaboration and coordination in addressing complex, interrelated climate, biodiversity and disaster risk reduction challenges. There exists a noticeable lack of cross-sectoral governance, collaboration and coordination, essential for addressing the complex, interrelated challenges of climate change, biodiversity and DRR. Mandates exist horizontally across a range of sectoral government departments including the Department of Forestry, Fisheries and Environment (DFFE), the Department of Water and Sanitation (DWS), Department of Agriculture, Land Reform and Rural Development (DALRRD) and the Department of Cooperative Government and Traditional Affairs (COGTA). These sector departments function in differing ways with some being national competencies and some being supported by Provincial and Local Government Departments. A range of public entities also provide support to these Departments in delivering on their mandates. Thus, there is vertical complexity between the various spheres of government which further contributes to suboptimal intergovernmental and cross-sectoral coordination. This has led to the fragmented implementation of climate change adaptation efforts related to EbA and Eco-DRR, and a limited understanding of the interconnections between climate change, environmental management and DRR. This is further compounded by limited institutional and technical capacity for undertaking Eco-DRR initiatives to enhance environmental and socio-economic resilience against climate change. Significant effort has gone into the

establishment of an intricate landscape of policies, strategies, regulations, and institutions such as the recent Climate Change Act (2024), the National Climate Change Adaptation Strategy NCCAS (2018) and the National Climate Change Response (2011) which provide the necessary guidance and institutional frameworks for the integration of climate change adaptation and environmental management, in support of the country's social and economic development targets. The establishment of the independent, multistakeholder Presidential Climate Change Commission in 2020, comprising government ministries and commissioners from various sectors, has also played a vital role in garnering political support for action. Nevertheless, insufficient human and technical capacity across most spheres of government and relevant public institutions limits the ability to contextualise and implement these policies, strategies and regulations. These capacity constraints are experienced most profoundly within local government. From a disaster risk reduction perspective, local Disaster Management Centres responsible for disaster risk reduction and response, are typically short-staffed and under-resourced, and have limited capacity to support disaster risk reduction interventions and drive proactive measures like the incorporation of Eco-DRR. Lastly, there is limited integration of Eco-DRR into policy and planning mechanisms at the national, provincial and local levels. Several policy instruments and strategies provide for the mainstreaming of EbA and Eco-DRR into responses that address the impacts of worsening droughts, floods and wildfires in South Africa. However, the benefits of functioning ecological infrastructure are not understood and ecological infrastructure is not recognised as an asset base in which investment is required. Access to downscaled climate change information and specific tools that are needed support mainstreaming efforts are also limited. As a result, local structures, including municipalities and community-based organisations, do not consider the functioning of ecological infrastructure in their current disaster preparedness and response measures, and EbA and Eco-DRR are not adequately incorporated in development planning tools such as District Development Model (DDM) One Plans and municipal Integrated Development Plans (IDPs), and associated budgetary processes.

- **Barrier 2: Absence of inclusive and participatory community engagement and agency for climate change-induced disasters.** Communities have not been adequately engaged and empowered to take up adaptation interventions in rural parts of South Africa. Local level engagement and inclusive decision making processes are a fundamental requirement of integrated disaster management and a principled approach for building climate resilience, and the absence of these has contributed to past interventions failing to take youth, gender and other social and community considerations into account, and to incorporate local and traditional knowledge systems into adaptation responses. Underlying factors for this include technical and financial capacity constraints at the local level, the complex institutional environment which requires various sectoral actors to support these engaged processes and the lack of intentional and long-term approaches that foster inclusive planning and implementation.
- **Barrier 3: Inadequate resourcing and lack of an evidence base to catalyse investment in ecological infrastructure for Eco-DRR.** The absence of a comprehensive evidence base that demonstrates the effectiveness of EbA and Eco-DRR (for addressing the impacts of worsening droughts, floods and wildfires in South Africa) hinders the directing of both public and private sector investments into, and is a result of inadequate resourcing of, this important programme of work. South Africa's constrained fiscal environment, competing demands for public sector funds, and a lack of appreciation of the possible returns on private sector investment further hinder resource

mobilisation efforts. This is particularly challenging for rural municipalities that must manage competing development priorities with limited technical and financial resources.

- **Barrier 4: Limited implementation of EbA and Eco-DRR at scale.** Many of the EbA and Eco-DRR interventions implemented in South Africa over the past two decades have been small-scale in nature, with a primary focus on job creation. As a result, the positive impact of these measures has not been well documented and the impact has been limited and often very localised. There are complex upstream and downstream hydrological and environmental processes that need to be better understood. The findings from the Feasibility Study (Annex 2) further supports this with the results from the cost benefit analysis highlighting the increased benefit associated with larger catchment areas and the linkages to downstream infrastructure. Such upscaled interventions will require focused intention from key actors coupled with adequate resourcing (financial, human and technical) to ensure a sustained and comprehensive approach to implementation

Addressing these barriers to ensure the sustainable and principled upscaling of EbA and Eco-DRR requires the project to undertake focused interventions to improve policy, to integrate planning, to build institutional capacity, to develop innovative and sustainable financing mechanisms, and to work closely with rural communities and traditional leaders while ensuring social learning through the establishment of participative engagement processes (Figure 2-3).

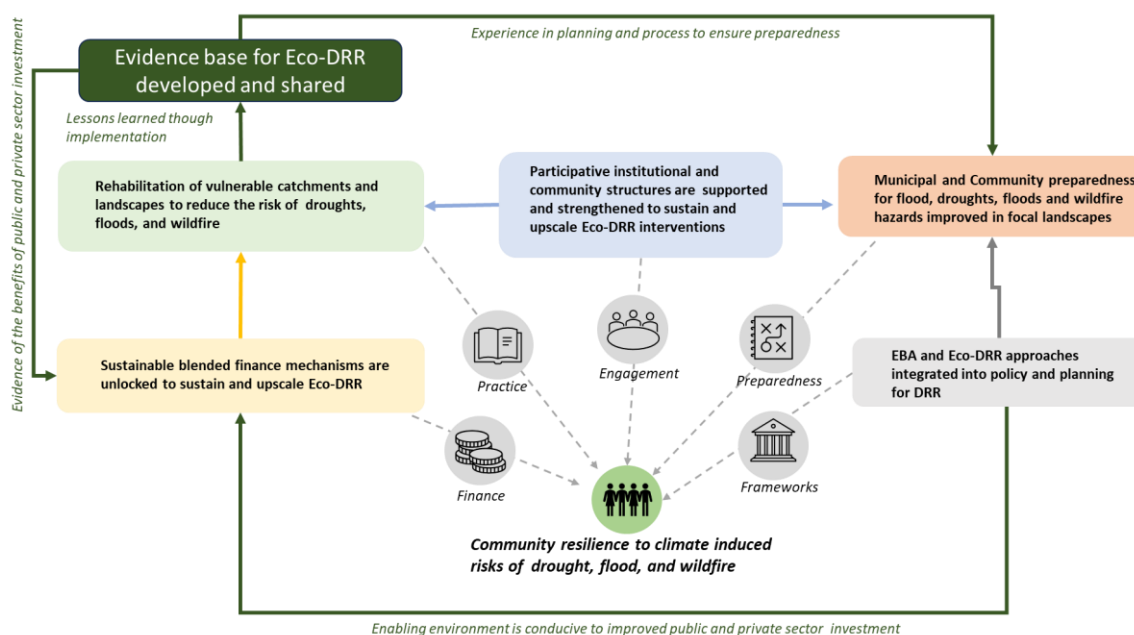


Figure 2-3: Conceptual framework for the Eco-DRR project

2.2 ECO-DRR AND ECOSYSTEM SERVICES REHABILITATION

Site-level implementation interventions are most likely to be scalable and sustainable within 2 of the 4 DMs identified. These being Alfred Nzo and Ehlanzeni DMs. In these areas, the experienced Non-Governmental Organisations (NGOs) are capacitated to support implementation and assist in facilitating private sector engagement.

The enabling environment within 2 of the 4 DMs (namely Ngaka Modiri Molema and Sekhukhune DMs) requires significant capacitation and support to be ready to undertake local-level interventions for Eco-DRR and be able to sustain these into the future. The lack of a foreseeable market to bring finance into Eco-DRR in these districts will also require significant groundwork to prepare the enabling environment. As such, the lessons from the other site-based interventions will be important learning opportunities. It is therefore recommended to run demonstration interventions in these two DMs as part of the learning process.

With the focus of Eco-DRR ecosystem services restoration interventions on Alfred Nzo and Ehlanzeni DMs, the opportunity exists to scale up interventions from the original catchments. Noting the cost benefit analysis (CBA) findings that indicate the importance of downstream infrastructure as well as the benefit accrued through improved rangelands, these aspects should be brought into what could be larger catchment areas.

Building on the planning and capacitation that has been undertaken, the implementation of site-based Eco-DRR interventions will be critical in providing the data, information and knowledge necessary to develop the business cases required to support private sector investment. While the feasibility study has shown that working across large rangelands may have the most potential for securing private sector engagement, it is also important to undertake a variety of Eco-DRR focused actions to test and understand the impact that these may have in building improved levels of climate resilience against drought, floods and wildfires. This implementation is proposed to take place in two DMs, namely, Alfred Nzo and Ehlanzeni DM, with the full support of an implementation hub that aims at providing support to the roll out implementation activities at relative scale. The implementation hub will test the possibilities of new operational and institutional modalities for these activities, learning from the experience of the “Working for Water” and Department of Forestry Fisheries and Environment: Environmental Programmes (DFFE: EP) programme and associated ecosystem focused programmes. This also includes the Social Employment Fund which aims to tackle unemployment through the strengthening of partnerships with social and civic partners, enabling them to create ‘whole of society’ initiatives for greater scale and impact across South Africa (IDC, n.d.).

This will then enable an upscaling of project activities in these areas as outlined in Table 2-2, covering an area of approximately 53,475 hectares (ha). The earlier activities to establish governance structures, build capacity and undertake collaborative planning, may result in adjustments to these areas. However, these are usefully indicative of the potential as a baseline. In both DMs, the areas have been increased substantially from those sites tested in the local catchment-level analysis undertaken in the feasibility study. These larger areas are shown in Figure 2-4 and Figure 2-5. Key points to note for these sites are:

- **Alfred Nzo:** Within the centrally located areas around Umzimvubu and Ntabankulu Local Municipalities (LMs) the communities around Ntsizwa mountain will become increasingly vulnerable to water security challenge, impacting on their lives and livelihoods. Significant infestations of woody IAPs are impacting on local water security as well as increasing the potential for wildfires during drought periods. Additional rangelands allow the opportunity to take approach to rangeland management to scale where actors such as Meat Naturally and Herding for Health have been providing support to communities. This area is also a priority area for the District Municipality (DM) and would

enable the Winnie Madikezela Mandela LM to also develop capacity, through learning exchanges, noting the levels of vulnerability across that LM.

- **Ehlanzeni:** The expanded site downstream to incorporate more of the Sand River catchment and incorporates the Dwarsloop area of Bushbuckridge. This introduces more road and bridge infrastructures and provides the project to engage in a range of wetland and riverine focused interventions as well as upstream rangeland work. Additionally, downstream of this catchment there are a number of community level agricultural projects that are being developed in Dingleydale and New Forest that will be dependent on sustainable water supplies from the upper catchment, introducing an upstream and downstream water security discourse.

Table 2-2: Summary of proposed ecosystem restoration and rangeland management interventions in Alfred Nzo and Ehlanzeni DMs¹

Type of intervention	DM		Total	Cost (USD 'millions)
	Alfred Nzo (ha)	Ehlanzeni (ha)		
Clearing of IAPs (woody species)	2337.00		2,337.00	5,10
Improved landscape management in degraded upper catchment areas		14,517.00	14,517.00	3,17
River rehabilitation and wetland restoration (including hard and soft interventions)	234.31	608,40	842.71	1,45
Rotational grazing/resting (eco-champs / enviro-champs)	10, 203.18	25,575.70	35,778.88	0,62
Total	12,774.49	40,701.10	53,475.59	-
Total Area of Land Under Improved Management	12774.49	40701.10	53475.59	-
Cost (USD 'millions)	5,68	4,66	-	10,34

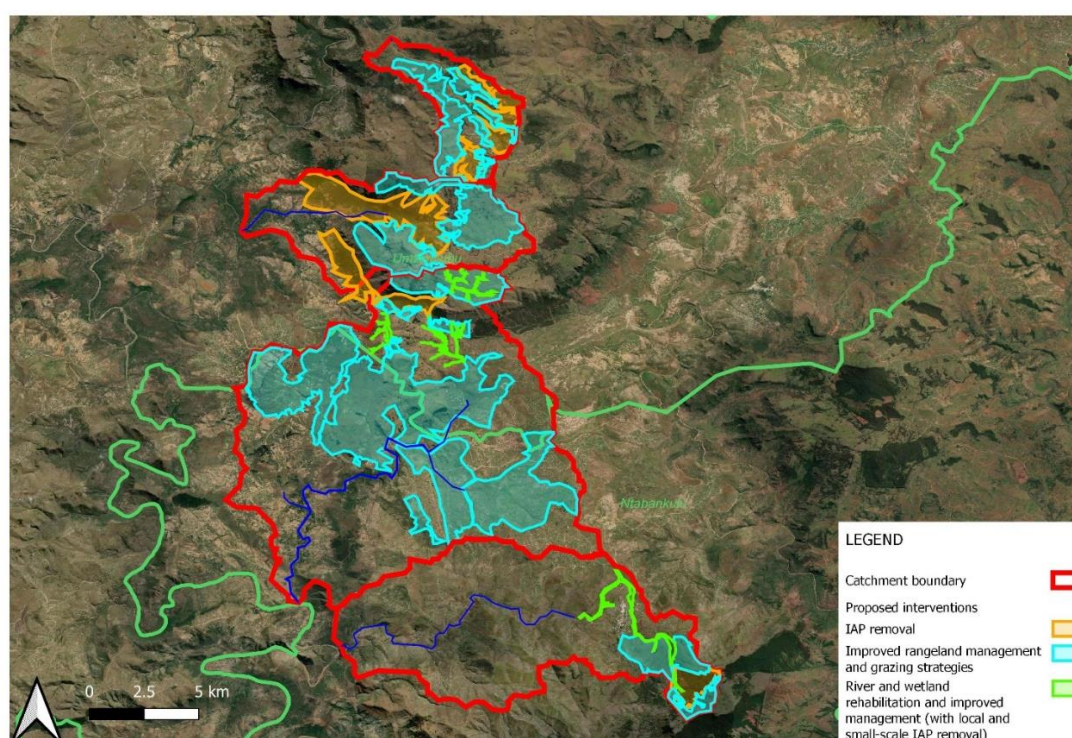


Figure 2-4: Recommended and mapped interventions within Alfred Nzo DM

¹ The interventions and hectares presented in the table are indicative only and will be confirmed during the Operationalisation Phase of the Eco-DRR project.

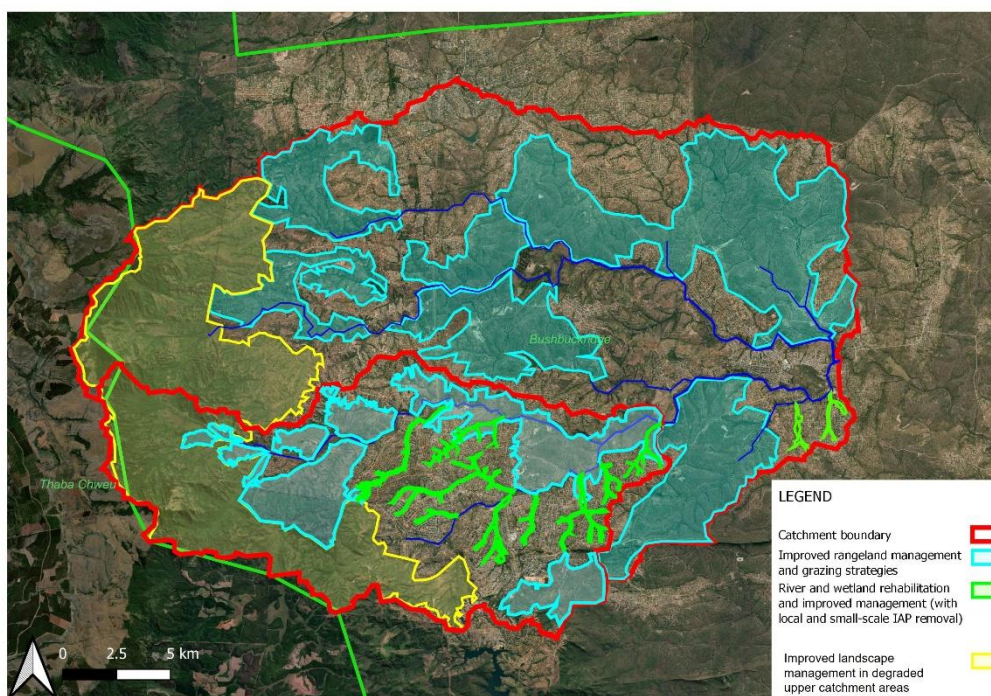


Figure 2-5: Recommended and mapped interventions within Ehlanzeni DM

Noting the challenges in the receiving environment within Ngaka Modiri Molema and Sekhukhune DMs, it is recommended that a demonstration approach be utilised while, over the duration of the project, ongoing efforts (supported by the demonstration) assist to build a more receptive and enabling environment for Eco-DRR. In effect, these interventions will then also support efforts to mainstream Eco-DRR and EbA approaches into municipal planning. These sites are as tested in the feasibility study but with some adjustments to the level of intervention and are shown in Figure 2-6 and Figure 2-7. Key points to note about these sites are:

- **Ngaka Modiri Molema DM:** The Mokgola area to the north of Zeerust will become increasingly water insecure with smaller communities being exposed to the extremes of droughts and floods. These communities are located downstream of the Klipspruit River with the upper catchment being significantly degraded. While the CBA assessment was not as strong as the other locations, this nevertheless provides a useful site for demonstrating the benefits of Eco-DRR and EbA, while building municipal capacity. Interventions will be able to explore the impacts of Eco-DRR interventions on the local road infrastructure, most specifically the R49. In addition, the Provincial DFFE: EP highlighted their increasing concern regarding the fragility of rangelands in this area, noting that this is also part of an area of increasing biodiversity concerns linked to migratory corridors through to Madikwe in the north.
- **Sekhukhune DM:** The concerns regarding the siltation of Vergelegen Dam remain, and as such, interventions in the upper catchment, largely focused on improved rangeland management, will provide useful demonstration of the potential impacts that Eco-DRR can have on communities in this area - both from a water security perspective as well as from flooding during extreme events which do not get retained by the dam when it is full of sediment. There are extensive rangelands and old agricultural fields that, under improved management, can impact upon the dam and the cost benefit analysis for this area justifies utilising this site to build municipal capacity through showcasing Eco-DRR impacts.

Table 2-3: Summary of proposed ecosystem restoration and rangeland management interventions in Ngaka Modiri Molema and Sekhukhune DMs²

Type of intervention	DM		Total (ha)	Cost (USD 'millions)
	Ngaka Modiri Molema (ha)	Sekhukhune (ha)		
Clearing of invasive woody alien plants		110.76	110.76	0,24
Improved rangeland management				1,02
- Rotational resting and grazing	1558.00	12928.40	14486.40	0,15
- Rotational fencing	69.60		69.60	0,32
- Revegetation	69,60	28.19	97.79	0,23
- Zai Pits	180.00		180.00	0,32
Wetland and riverine rehabilitation				1,17
- Brushpacks	9.16	23.40	32.56	0,80
- Vegetative strips	9.16	19.95	29.11	0,37
Total Area of Interventions	1895.52	13110.70	15006.22	
Total Area of Land under Improved Management	1558.00	12976.70	14534.70	
Cost (USD 'millions)	1,25	1,18		2,43

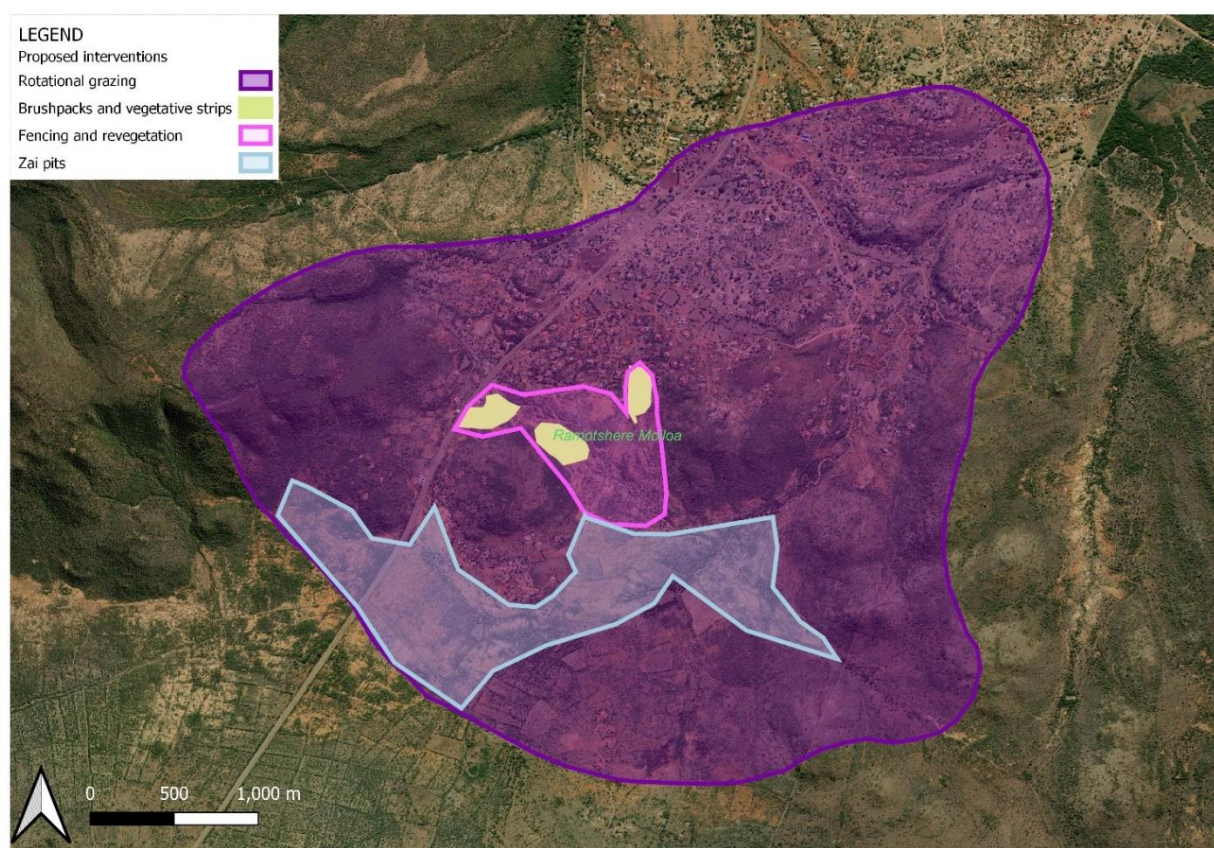


Figure 2-6: Recommended and mapped sites for Ngaka Modiri Molema DM

² The interventions and hectares presented in the table are indicative only and will be confirmed during the Operationalisation Phase of the Eco-DRR project.

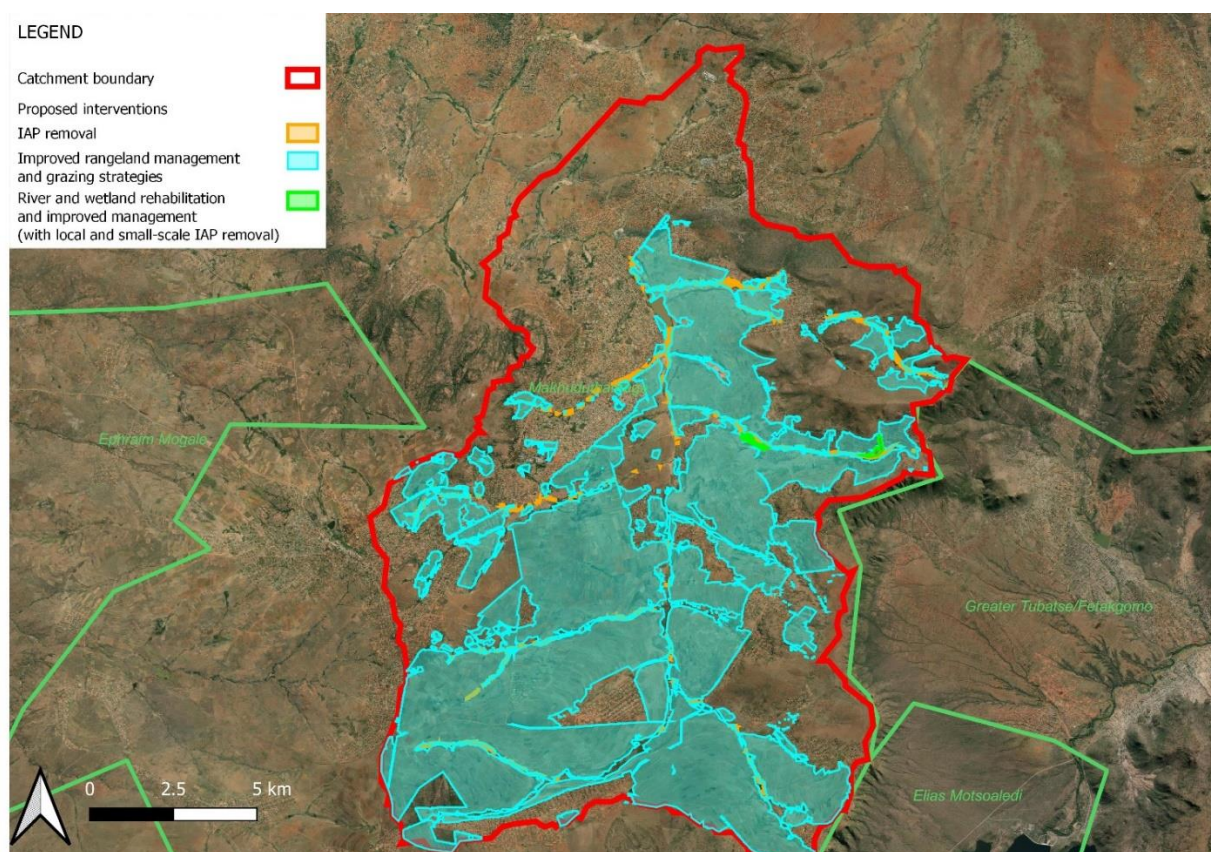


Figure 2-7: Recommended and mapped sites for Sekhukhune DM

Through these recommended site level interventions to restore ecosystem services, a total area of 68,010.29 ha would be under improved management. The number of direct beneficiaries, for these areas, are provided in Table 2-4 and were determined using the ESKOM (2015) household survey spatial dataset.

Table 2-4: Direct beneficiaries from interventions related to ecosystem service restoration

DM	Number of Households	Total Number of People
Ehlanzeni	62,281	249,124
Female (52.8%)		131,537
Male (47.2%)		117,587
Alfred Nzo	10,907	43,628
Female (53.1%)		23,166
Male (46.9%)		20,462
Sekhukhune	17,517	70,068
Female (53.11%)		37,213
Male (46.89%)		32,855
Ngaka Modiri Molema	817	3,268
Female (51.31%)		1,677
Male (48.69%)		816
Total	91,522	366,088

To support the implementation of these interventions, staff will be required and thus jobs will be created. Typically, models to date have used staff on a part time basis or as part-time teams that service multiple areas. For the purpose of understanding the number of jobs created, Table 2-5 provides the level of effort (person days) and then the full-time job

equivalents. This will provide the most significant opportunity for youth as well as young professionals and will include equally a gendered approach.

Jobs will also be created through support to Small, Medium and Micro Enterprises (SMME) and livelihoods. Resilient and sustainable economic frameworks for local communities will be strengthened through the introduction of gender-inclusive, ecosystem-based livelihood stacking strategies in Alfred Nzo and Ehlanzeni DMs. These will enable local community members to secure and diversify their income sources, thereby reducing their vulnerability and improving their resilience to the adverse impacts of climate hazards. Through this activity, communities will be encouraged and capacitated to engage in economic activities that are both sustainable and complementary to the rehabilitation and sustainable land management.

Table 2-5: Employment creation through interventions to restore ecosystem services

DM	IAP Removal	Fencing	River Wetland and Rehabilitation	Revegetation	Brushpacks	Vetiver	Zai Pits	Rangeland Management	TOTAL
Level of Effort (person days)									
Alfred Nzo	226 689		16 109					10 932	253 730
Ehlanzeni	70 407		59 015					27 403	156 825
Sekhukhune	10 744			2 734	33 298	9 018		13 852	69 646
Ngaka Modiri Molema		8 700		4 785	13 035	4 140	15 011	1 669	47 340

2.3 ECO-DRR FOCUSED DISASTER PREPAREDNESS AND PLANNING IMPROVEMENT

Improving the resilience of vulnerable populations and critical infrastructure against climate-induced hazards will require working with the various DMs and LMs, supporting Provincial Government departments, and a range of stakeholders to strengthen and improve the various strategies and planning instruments that underpin climate adaptation and support DRR. This does require that planning processes for built infrastructure solutions incorporate and integrate ecological infrastructure, as well as various and appropriate Eco-DRR interventions. To develop these, the necessary data collection and exchange protocols will require redress. During the analysis for this study, the lack of climatological and hydrological data was prohibitive and will need to be addressed to support the implementation of this project, as well as those to improve municipal scale planning and the design of appropriate infrastructural solutions. Data sharing and Early Warning Systems (EWS) are in their infancy in these more rural DMs where there is limited staff capacity and the lack of political will to prioritise these. The establishment of climate data-sharing protocols will also be supportive of developing accessible and fit-for-purpose EWS.

The policy and planning assessment provides a more detailed analysis of the instruments that DMs and LMs have in place. These are presented in a more comprehensive manner in the Feasibility Study. A more succinct summary of the planning environment within the DMs is provided in Table 2-6, which briefly considers how environmental aspects, climate change and/ or EbA are reflected. This shows that while all DMs have a range of planning instruments that look to climate-related risks, there is no recognition of EbA. The importance of environmental management - and in some instances ecosystem

services - is mentioned. Master planning tools are wholly focused on built infrastructure. Hence the need to strengthen the integration of EbA and Eco-DRR into the various municipal planning instruments is prevalent across all 4 DMs.

Table 2-6: Summary of the inclusion of environmentally focused interventions in key planning instruments

DM	Overview of key planning instruments
Alfred Nzo	<ul style="list-style-type: none"> The DDM One Plan emphasises the importance of environmental management, recognises the impact of climate change and the vulnerability of rural communities. No mention of EbA. IDP notes actions to strengthen environmental management and the importance of the EPWP programme in supporting environmentally focused actions. Disaster management plans note the importance of environmental degradation.
Ehlanzeni	<ul style="list-style-type: none"> The DDM One Plan notes the need to protect biodiversity, water and agricultural resources and climate-proofing infrastructure. No mention of EbA. IDP also notes importance of climate change and prioritises the development of an updated climate change adaptation strategy as well as an environmental management framework. Wetland strategy and action plan developed. Climate response plan recognises the importance of environment with specific mention of grasslands and their importance.
Ngaka Modiri Molema	<ul style="list-style-type: none"> The DDM One Plan makes no mention of climate change but does recognise the importance of developing an environmental management framework as well as the challenges the DM faces with regards to disaster risk management (DRM). Latest IDP makes no mention of climate change or environmental conservation. Climate response plan recognises the importance of ecosystem services.
Sekhukhune	<ul style="list-style-type: none"> The DDM One Plan emphasises the importance of climate change but does not make linkages to the environment or EbA. IDP notes the importance of climate change and its impact on socioeconomic sectors. Notes unsustainable use of natural resources and its impact on biodiversity and ecosystem services, but no linkages to EbA or environmental management interventions. Bioregional plan was developed to support environmental management and land use planning. Recognises ecosystem services.

Through the workshops and project design discussions held, it is apparent that the Disaster Management Centres, that functions at a district level, are typically under resourced and under capacitated. This presents significant logistical challenges when disasters occur, thereby placing lives and livelihoods at risk. This is particularly so for the more rural communities. In this regard, there are often poor communications and associated challenges that hinder rural communities from understanding the information relayed to them. There is a dire need to review and improve the manner in which early warning messaging is reaching communities. Additionally, there is little understanding of hazard avoidance practices.

It is therefore imperative that the project provides support to the 4 DMs to strengthen their EWS and the communications so that they are fit for purpose and are timeous to ensure communities vulnerable to climate change can avoid the loss of lives and livelihoods. The development of improved approaches to disaster preparedness provides a useful opportunity to share lessons and knowledge between the various DMs, and as such, South African Local Government Association (SALGA) will prove to be an invaluable partner to support capacity building. SALGA has also developed a suite of international partnerships that can be leveraged to bring in innovative approaches into the improvement of disaster preparedness.

Noting that the improvement of EWS at DM level will have impacts on all those people who reside within the DM, the number of indirect beneficiaries from these interventions, based on municipal reports (2022-2024), are given in Table 2-7.

Table 2-7: Number of indirect beneficiaries across Alfred Nzo, Ehlanzeni, Ngaka Modiri Molema and Sekhukhune DM from improved EWS, communications and hazard avoidance practices

DM	Total Number of People
Ehlanzeni	2,021,773
Female (52.8%)	1,064,324
Male (47.2%)	957,449
Alfred Nzo	892,833
Female (53.1%)	473,883
Male (46.9%)	418,950
Sekhukhune	1,266,737
Female (53.11%)	669,270
Male (46.89%)	597,467
Ngaka Modiri Molema	934,455
Female (51.31%)	477,472
Male (48.69%)	456,983
Total	5,115,798

Climate change and its impact of future hazards as well as the importance of ecosystem services in reducing the impact of these hazards, needs to be mainstreamed into all planning instruments. The varying levels of quality of these planning instruments regarding DRR also require attention. Undertaking actions to strengthen planning across all 4 DMs will be imperative, with a focus on learning from the LMs where site level interventions will take place.

It is imperative that the importance of ecological infrastructure and associated ecosystem services is mainstreamed into planning instruments and especially into built infrastructure plans. Working with the DMs and LMs to identify critical built infrastructure where the integration of ecological infrastructure can improve climate resilience is key. Equally, integrating ecological infrastructure into new build plans is also a vital area of the Eco-DRR project to address. Supporting this will also build institutional capacity and will enable the transfer of these skills to other LMs.

This feasibility report has considered the enabling environment in which the project interventions are best suited to take place and the Eco-DRR project will ensure that the project placement is appropriate with the municipality's needs. It should be noted that provinces and municipalities in the country have their own spatial planning bylaws, disaster management policies and environmental regulations, tailored to local needs and contexts. Prior to the commencement of proposed project activities, a thorough desktop review of any relevant provincial legislation and municipal by-laws in the targeted district and LMs must be done. Examples of the kinds of laws that may be relevant to the Eco-DRR project include by-laws related to stormwater management, spatial planning, biodiversity, waste management, fire safety, DRM and others. By-laws may require any person undertaking activities in that area to obtain a consent, authorisation or licence before doing any work in that jurisdiction. The municipal and provincial officials should therefore be engaged during the Operationalisation Phase of the project to determine whether any applications should be made by the consultants of the Eco-DRR project, with the view to obtaining necessary permissions to undertake work in the area. If consents, authorisations or licences are required, then the turnaround for obtaining these permissions must be factored into the timeframes of the Eco-DRR project to ensure that there are no undue delays.

The Green Book is pivotal in helping South African municipalities understand and mitigate climate risks, contributing to the country's broader developmental goals. This tool provides critical, policy-relevant evidence that helps local governments integrate climate change considerations into their planning processes, enhancing resilience and promoting sustainable development. The Green Book has been widely used since its launch in 2019 and many sectors of government have come to depend on the information it provides. The fundamental data on which the evidence in the Green Book pivots, are socioeconomic and climate data. The Stats SA National Census 2022 has now been released and the Coupled Model Intercomparison Project Phase 6 (CMIP6) is also now available. Furthermore, there have been improvements in the approach to adaptation and these also need to be updated in the tool.

As this tool's primary aim is and remains to aid the public sector in integrating and prioritising climate change considerations within municipal planning for human settlements, providing support to get the Green Book updated and strengthened is important to support resilience building.

2.4 UPSCALING PATHWAYS FOR ECO-DRR

Within the environmental policy frameworks, the importance of climate change and EbA is clearly noted, yet in sectoral-based policy instruments this is less so. In South Africa, the impacts that climate change will have on the social economy and environment are broadly understood, but this has yet to be mainstreamed into policy, strategy and planning within these key developmental sectors. As a result, the DFFE lead on most EbA activities such as IAP clearing, restoration and rehabilitation, which is primarily funded through the national budget and the EPWP. While public finance has provided essential seed finance for such EbA programmes, there is growing understanding that these funds should continue to be used to leverage additional sources of finance to develop a more sustainable financing model. Public funds should increasingly be utilised for unlocking technology, driving efficiencies and assisting to de-risk direct private sector investment. The development of blended finance solutions and other innovative mechanisms can then be used to create economic opportunities and jobs through the upscaling of Eco-DRR and EbA activities, and associated value chains.

The Draft National Biodiversity Economy Strategy (2024) places emphasis on the need to develop the biodiversity economy to promote conservation and species and ecosystem management. However, Death (2014) and McLean (2018) have noted that progress has been slow, commitment shallow, and efforts incoherent with regards to development of the green economy (Death, 2014; McLean, 2018). Private sector investment in EbA initiatives faces several barriers but particularly the lack of evidence demonstrating the financial benefits of investing in ecological infrastructure and its services is essential to address. As such, the Eco-DRR project is seen as catalytic in not only coherently developing that evidence base but also in developing a suite of business cases that provide opportunity to efficiently upscale these interventions. Importantly, the data and information gathered through the site level Eco-DRR interventions, will be key in developing that evidence base. Furthermore, the experience of organisations such as the National Business Initiative (NBI), the Sustainable Finance Coalition (SFC), Meat Naturally and a range of others can be leveraged to develop these business cases.

While there are opportunities linked to IAP removal through such value chains as biochar, and the growing of grasses such as vetiver to support with slope management and soil erosion, the increased revenue streams from improved livestock

productivity are likely to form the basis of the business cases to present to private sector investors. However, from the analysis of the revenues from carbon credits, possible ecotourism and biodiversity credits could also be significant factors in certain landscapes. It will be important, through this project, to assess these opportunities for introducing such financing mechanisms. Analyses will be required to show how critical variables like change in livestock productivity, price of livestock commodities, price and number of carbon credits, and price and number of biodiversity credits influence the overall business case and the supporting cash flow models.

The analysis above has outlined that opportunity exists in the Voluntary Carbon Market as well as the upcoming Article 6 compliance market. As noted, the Johannesburg Stock Exchange has established the Johannesburg Stock Exchange Venture Carbon Market and this could be leveraged. The Article 6 compliance market is still under development but is likely to become a multi-billion-dollar industry during the proposed GCF project's timeframe. Therefore, it is important for the Eco-DRR project to engage with policymakers to ensure that the government's policies are conducive to attracting investment into managing the country's rangelands and grasslands to be resilient to climate change impacts.

The international biodiversity credit market is, like the compliance carbon credit market, still under development and relatively nascent. There are, however, indications that this market is growing rapidly in size, and there is likely to be scope for including revenue streams related to the sale of biodiversity credits in the business cases developed by the project. In South Africa, Value Nature has done useful work in this regard and this can be leveraged. Likewise international funders would be interested should the business case be attractive and should the South African government clarify a range of policy issues. It is consequently important that the Eco-DRR project quantifies the biodiversity benefits of indigenous practices in a rigorous manner.

Certainly the site level Eco-DRR interventions will provide the evidence and the initial conceptual design of these investment models, providing for a range of business cases. It is clear that as these are developed there is meaningful opportunity to learn from other sites across the country thereby developing a Community of Practice that goes beyond the geographic spread of the current sites and a broader suite of actors. Undertaking assessments of the viability of projects across a wider swathe of projects, over the duration of the project, then supported by catalytic investments to seed these projects will undoubtedly provide the direction and momentum to upscale investments in Eco-DRR.

It must be emphasised that through the course of the project design and the undertaking of this feasibility study, that the paucity of data and information has been constrictive and will further hinder the ability to plan Eco-DRR interventions and support the development of well-conceived business cases. It will be essential for the Eco-DRR to address these information generation and management challenges. Noting the potential for upscaling investments in natural capital through such mechanisms, it will be important for the Eco-DRR project to support approaches to improve the collection of data and information that underpins decision making. The project must support the comprehensive gathering of biophysical, social and economic data that will enable the modelling of selected ecosystem services, facilitating their valuation, and thereby supporting the determination of risks to populations, economic growth, financial markets, and the environment.

2.4.1 Upscaling Pathways for Eco-DRR Recommendations

Developing a viable business case to support investment in Eco-DRR will need engagement with the South African government regarding a range of policy matters that will require clarification. Whilst there is tactic support for the development of the biodiversity economy as outlined in the Draft National Biodiversity Economy (2024), there are various aspects to be addressed. As such, these need to be clarified to facilitate private sector investment. This discourse is complex and politically challenging and project design must recognise that this requires dedicated time and effort.

While these policy related matters are being resolved there will be opportunity to meet with a range of private sector investors to alert them to the project and the potential that this holds. This market sounding will also assist in the above-mentioned discussions with the South African Government by providing issues of concern and core elements of risk that financiers will want resolved.

The site level interventions outlined as part of the project design will provide a rich evidence base which will support the development of business cases that can be utilised to garner investment support. It is clear from this feasibility study that there are sites where Eco-DRR related activities are already underway (albeit piecemeal) and where the potential exists for upscaling. In this regard, it would strengthen the development of these business cases to pull together a wider pool of evidence and insight – both within the selected DMs or beyond. As such, it is recommended that the project design investigate, during its Operationalisation Phase, sites where evidence and experience can be drawn to strengthen the development of these business cases.

Once the business cases have been developed, it would be useful to explore further sites where these could be implemented. Noting the Community of Practice that would have been developed, these could be fairly swiftly accessed. These will have to be assessed and the business case for these could then be tailored accordingly. The hosting of another market sounding would be important to endeavour to match projects with financiers. The development of a project prospectus would support this. A process for assessing this and the need for investment would need to be designed.

The data, information and knowledge gaps are significant. The data and information needed to support Eco-DRR and EbA will be clarified during the site level interventions, and the lessons from this will need to be shared with the key government departments and agencies in order to develop improved monitoring networks, better information management systems and revised data sharing protocols. This will require attention at national levels to support the development of Natural Capital Accounts, as a key priority for the government in driving towards better-informed decision making.

Knowledge exchange is critical noting that much of the information and knowledge regarding Eco-DRR and EbA is disparate and not necessarily coherent. The development of a knowledge hub will be a key step forward for promoting and mainstreaming Eco-DRR.

2.5 DETAILED PROJECT DESCRIPTION

The project will be implemented through three interconnected Outcomes, in four DMs and across four Provinces in South Africa. The DMs were selected through a thorough desktop analysis supported by a number of stakeholder engagement

processes, an initial climate risk and vulnerability study and an assessment of the receiving institutional and enabling environment has been undertaken.

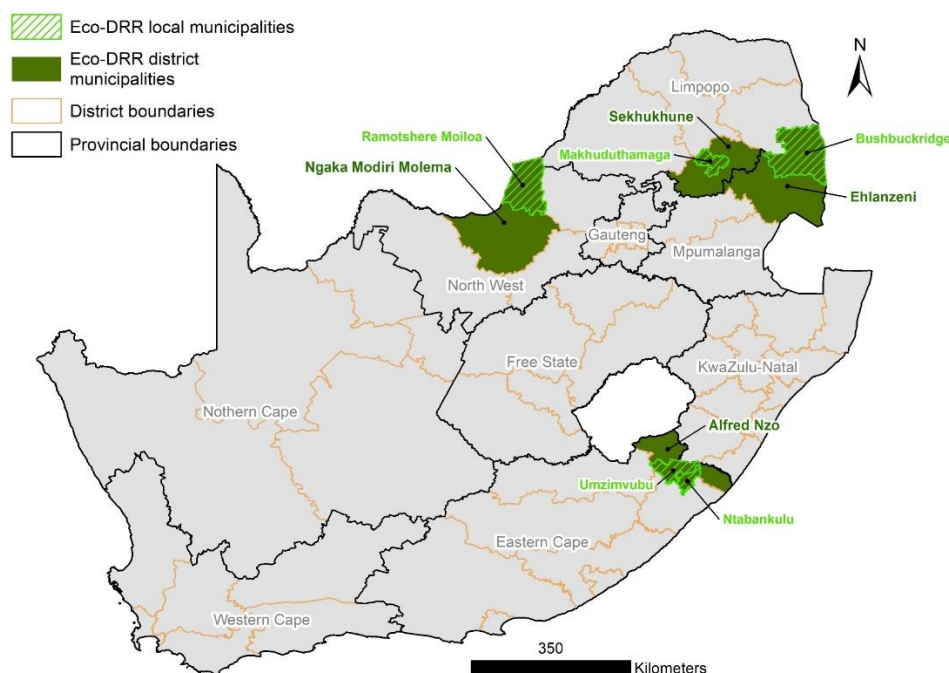


Figure 2-8: DMs that form the focus of the Eco-DRR project.

OUTCOME 1: THE INCORPORATION OF ECO-DRR STRATEGIES INTO INTEGRATED LANDSCAPE MANAGEMENT ENHANCES THE RESILIENCE OF ECOLOGICAL INFRASTRUCTURE AND CLIMATE-VULNERABLE COMMUNITIES.

Outcome 1 focuses on the mainstreaming of disaster risk and climate change considerations into landscape management approaches, and the implementation of EbA and Eco-DRR measures in Alfred Nzo, Ehlanzeni, Ngaka Modiri Molema and Sekhukhune DMs. These efforts will enhance the ability of ecosystems, catchments and landscapes to act as natural buffers and provide essential protection services against droughts, floods, and wildfires, thus reducing community vulnerabilities to climate change. This Outcome will support transformative approaches to landscape management and generate learning that can support both replication and upscaling. The Outcome will also explore how gender-inclusive and sustainable ecosystem-based livelihoods can be enabled or improved in support of locally-led adaptation. Additionally, the outcome will focus on youth and the criticality of ensuring that the skills deficits that frequently exist within rural contexts are addressed. The upskilling of youths through job creation linked to sustainable ecosystem-based livelihood options by looking at SMMEs and the eco-champs model, will provide opportunities for youth to innovate and to support in developing sustainable and climate resilient futures

The CRVA and feasibility study has outlined the potential for interventions in the four DMs at identified sites with a suite of Eco-DRR interventions focused on reducing the risk of local community lives and livelihoods to the impacts of drought, flood and wildfire. At the outset of the Eco-DRR project an Operationalisation Phase will be undertaken to provide a more detailed baseline assessment of the environmental, social and economic conditions in support of the monitoring and evaluation framework. This will reassess these sites and a suite of eligibility criteria will be used to ensure that these sites

and interventions are a best for the support of this project and GCF funding. These eligibility criteria are provided in Table 4-1.

Output 1.1. Ecosystems are rehabilitated, maintained and sustainably managed for Eco-DRR.

In Output 1.1, in the identified sites within the two target DMs (Alfred Nzo and Ehlanzeni), the project will aim to reduce the vulnerabilities of communities to climate change through the rehabilitation of degraded ecological infrastructure and the adoption of sustainable land management practices including IAP removal and associated biocontrol, control of bush encroachment, changes in grazing management, revegetation with indigenous species and a combination of hard and soft erosion control measures. While there have been programmes to undertake these kinds of interventions, the scale of the landscape degradation and challenges, the ability to sustain these and the failure to assess the impact of these environmentally and socio-economically has left a deficit in an understanding of how to ensure these interventions can become sustainable in the long-term (Van Wilgen, Wannenburgh, & Wilson, 2022). These methods will augment landscape productivity by improving soil health and water infiltration, and enhance the capacity of critical ecosystems, such as grasslands, savannas, and wetlands, to withstand and recover from extreme weather events. An important focus will be the implementation of an approach to climate change and DRR inclusive landscape management, that responds to the implementation challenges and inefficiencies that have been experienced in the DFFE:EP interventions to date.

Additionally, site-based demonstration projects will be implemented within Ngaka Modiri Molema and Sekhukhune DMs to demonstrate how investments in the rehabilitation and management of ecological infrastructure can protect built infrastructure assets from climate change hazards, in support of Outcome 2.

Activity 1.1.1. Establish local-level project delivery hubs, governance arrangements and capacity for implementation.

Focusing on target sites in the Alfred Nzo and Ehlanzeni DMs, this activity will establish local level 'landscape/ catchment convener' teams in project delivery hubs and the necessary governance and coordination arrangements for Output 1.1. These arrangements will build on and leverage off existing structures already present in the DMs to prevent duplication and ensure alignment with district-level priorities. *Activity 1.1.2. Undertake community-level engagements towards the co-development of a vision, strategy and implementation plan for improved Eco-DRR within the targeted* Once in place, catchment conveners will lead a social learning process that supports the co-development of vision, strategy and implementation plan for the site based work and associated social and capacity building processes in each DM. This will be critical to ensure that communities, traditional authorities and landowners are empowered to work with national and sub-national government, that local knowledge and priorities inform the programme of work, that benefits accrue to local communities and that the work is ultimately sustained. Implementation plans will provide clear guidance on the agreed upon interventions as well as roles and responsibilities. Local-level facilitators (Eco-Champs) will assist with knowledge exchange and project facilitation, and community engagement platforms will be sustained throughout project implementation.

Activity 1.1.3. Implement collaborative rehabilitation and management programmes for ecological infrastructure to improve ecosystem condition.

Drawing on the outcomes of Activity 1.1.2 and informed by the baselines and tools of Activity 1.1.4, costed rehabilitation and management plans will be developed and implemented in each of the DMs, in collaboration with local stakeholders

(particularly youth). These will include intensive and extensive rehabilitation work. Stewardship and collaborative community-based grazing management interventions will be important approaches in this regard. Results of collaborative learning through implementation will be documented in support of Activity 3.2.1. It is envisaged that Non-governmental organisations (NGOs) that are already active in the DMs and have working relations with communities and traditional leadership in these areas will be responsible for leading the implementation of the activities for rehabilitating and sustainably managing the targeted ecological infrastructure. Working with a range of stakeholders in the design of the Eco-DRR project, several elements of degradation were identified in the priority DMs. These elements include reduced productivity of rangelands, soil compaction and reduced infiltration, soil erosion and the undermining of built infrastructure, degradation in the condition of ecosystems and loss of ecological goods and services including the lack of flood attenuation. These can all be linked to the impacts of climate change, as illustrated in

Figure 2-1.

Proposed interventions to address these challenges include:

- **Clearing of IAPs:** The removal of non-indigenous herbaceous IAPs and woody plants (including trees and bushes) to enhance the hydrological functioning of rivers and wetlands, especially winter baseflows, improves the water yield (Le Maitre, et al., 2020). Removal of this biomass can develop various value-adding opportunities (Irlich, Richardson, Davies, & Chown, 2014).
- **Improved landscape management in upper catchment areas:** Improved management of upper catchment areas to reduce erosion and siltation, improve groundwater recharge, and improve downstream hydrological response.
- **Improving rangeland management practices:** Improvement in rangeland management to reduce overgrazing through rotational grazing and resting with benefits in terms of livestock productivity, increasing infiltration and reducing runoff, and increased biodiversity in rangelands. Where the condition of rangelands is particularly poor, interventions including revegetation, reseeding, brushpacking and zai pits to facilitate water ponding are also used to improve the condition of grassland and soils.
- **Rehabilitating wetlands and riverine infrastructure:** The use of brushpacks and vegetative strips, fencing and revegetation as well as harder approaches such as earth berms or gabions can be used to ensure infrastructural integrity is re-established and hydrological functioning is improved in rivers and wetlands impacting on water security within communities and across landscapes

The geographic extent and location of indicative interventions within Alfred Nzo and Ehlanzeni DMs are provided in the Section 2.2, see Table 2-2.

Activity 1.1.4. Develop innovative Eco-DRR tools to support adaptive management of the site-based programme of work.

This activity will establish the protocols that guide the biophysical activities within the target landscape and monitor implementation to inform adaptive management and scaling. It will support a review of existing information on standards-based restoration and rehabilitation and the development of tools and protocols that will guide implementation in the DMs. These approaches and tools include new techniques linked to land and environmental management (including methods

from such programmes as Herding for Health³ and Living Catchments (Tau, Cindi, Layne, & Marsh, 2020) and others), the development of protocols and methods for sustained interventions including the use of participatory citizen science tools (using tools such as CRiSTAL, the Umzimvubu Catchment Partnership approach, the methods developed by Rhodes University through the Tsitsa project (Weaver, J, Mtati, & Palmer, 2023), and others), as well as the introduction of technologies to support regularised monitoring and information exchange to support adaptive management (building on the lessons of such tools as the Mini-SASS⁴ and others).

Baselines, that include ecosystem, hydrology and infrastructure indicators, and associated long-term monitoring systems will be developed for each of the DMs. These will track the impacts of project interventions in support of adaptive management and to improve the understanding of how investments in ecological infrastructure reduce the impacts of droughts, floods and wildfires on infrastructure, communities and their livelihoods. Results and lessons will be documented in support of Activity 3.2.1, within the context of enabling processes of 1.1.2 and 1.1.3.

Focusing in the Ngaka Modiri Molema and Sekhukhune DMs, this activity will demonstrate the linkages between climate change impacts and the condition of the natural environment. In this regard, it will seek to rehabilitate ecological infrastructure to protect selected priority municipal assets from floods and wildfires, as well as improve the functioning of these assets during times of drought. Using the lessons learned from the intervention, a policy brief will be created that will support replication and upscaling nationally. Interventions have been identified within these two DMs at specific sites that can integrate Eco-DRR interventions with localised concerns regarding droughts, floods and wildfires and the impacts of these hazards on local built and ecological infrastructure. These sites and intervention maps for Ngaka Modiri Molema and Sekhukhune DMs are provided in the Section 2.2.

Output 1.2. Local, gender-inclusive and sustainable ecosystem-based livelihoods support locally led adaptation.

In Output 1.2, resilient and sustainable economic frameworks for local communities will be strengthened through the introduction of gender-inclusive, ecosystem-based livelihood stacking strategies in Alfred Nzo and Ehlanzeni DMs. These will enable local community members to secure and diversify their income sources, thereby reducing their vulnerability and improving their resilience to the adverse impacts of climate hazards. Enhancing the resilience of community and gender-inclusive livelihoods through sustainable ecosystem-based practices addresses immediate climate adaptation needs and creates a compelling value proposition for private-sector investment. This approach mitigates risks and builds resilience against climate hazards, creating a safer investment environment. Furthermore, successful ecosystem-based adaptation can potentially facilitate public-private partnerships, leveraging additional funding and offering financial incentives to investors.

Activity 1.2.1. Identify and assess opportunities to develop sustainable ecosystem-based livelihoods in support of locally led adaptation. This activity will focus on conducting baseline assessments on ecosystem-based livelihoods and locally led adaptation, with specific attention on the gender dimensions in Alfred Nzo and Ehlanzeni DMs. As part of the project design, these assessments were undertaken superficially through engagements with key government officials and NGOs. This will therefore entail a detailed baseline assessment of community livelihoods, their dependencies on natural, physical and social

³ <https://www.peaceparks.org/h4h/>

⁴ <https://minisass.org/>

capital and their vulnerability to climate change, and an analysis of market opportunities for the various commodity value chains linked to ecosystem-based livelihoods and opportunities linked to green job creation. This will pay particular attention to gender aspects, as well as that of youth and the disabled. This process will include substantive community engagement as enabled by capacities developed through 3.2.3.

Activity 1.2.2. Support the further development and/or establishment of small, medium and micro enterprises (SMMEs) for sustainable ecosystem-based livelihoods

This activity will include reviewing business cases that have been developed for existing SMMEs in the targeted DMs and revising or refining them where necessary. This will be accompanied by the development of new business cases to support the establishment of ecosystem-based SMMEs, with a specific focus on women and youth led business. To ensure the success of the newly established SMMEs, support will be provided to take the business cases to market⁵ through market soundings and providing support to engage with local business chambers and industry associations, as well as giving mentorship support to engage with the associated value chains. Lastly, small business-related communities of practice will be established to promote lesson learning and information sharing coupled with learning platforms. Linkages between the SMMEs in the differing DMs will be arranged to share lessons learned and will also have a specific focus on the gender and youth aspects.

OUTCOME 2. THE INCORPORATION OF ECO-DRR INTO TRANSFORMATIVE DISASTER PREPAREDNESS AND RESPONSE REDUCES THE ADVERSE IMPACTS OF CLIMATE-INDUCED HAZARDS ON BUILT INFRASTRUCTURE AND CLIMATE-VULNERABLE COMMUNITIES.

Outcome 2 aims to enhance the resilience of communities and critical built infrastructure against climate-induced hazards by capacitating local governments, municipalities and community-based organisations in all four target DMs to develop and implement effective strategies, plans and responses, that are inclusive of Eco-DRR. The Outcome Task Teams will play a key role, with the DM Task Teams, to structure the many engagements being mindful of the potential for stakeholder fatigue. Importantly, value-add will be gained by exchange of lessons learned between the DMs as well as with Provincial and National Departments. The project's governance arrangements (described in Chapter 3 hereunder) provide opportunity for this exchange.

This outcome will be achieved using a comprehensive approach that includes supporting and capacitating local government and communities to incorporate Eco-DRR into disaster preparedness and response, implementing innovative approaches to improve the dissemination of early warning messages in support of Eco-DRR and by mainstreaming Eco-DRR into municipal spatial planning, asset management and associated budgetary processes. Possible implementation partnerships

⁵ The approach will similar to what was done with Thekga Industries, a SMME that has been supported by private businesses to enable secondary industry projects linked to climate change markets.

with the NBI's Technical Assistance, Mentorship and Development Programme (TAMDEV)⁶ and Municipal Infrastructure Support Agent (MISA)⁷ will be explored during the Operationalisation Phase of the project.

Output 2.1. Local governments and communities implement improved Eco-DRR preparedness and response measures.

Output 2.1 is designed to enhance the capacity of the target DMs and local communities to adopt more proactive responses to climate-induced hazards that are inclusive of Eco-DRR. It will include establishing a foundation for the incorporation of Eco-DRR into transformative disaster preparedness and response in the DMs, and capacitating municipalities (using the TAMDEV and MISA skill sets) to include Eco-DRR in disaster risk management strategies and plans. This will be supported by the development of technologies and approaches that improve the dissemination of early warning products and messages, and the updating of the Green Book so that updated climate change information is accessible to inform adaptation responses beyond the project sites.

Activity 2.1.1. Establish a foundation for the incorporation of Eco-DRR into transformative disaster preparedness and response in the target DMs.

Led by South African Local Government Association (SALGA) and the National Disaster Management Centre (NDMC), as part of their emerging municipal support programme, this activity will establish the necessary foundations and baselines for the execution of activities 2.1.2 and 2.1.3. It will build and strengthen the partnerships that are needed to support the improved disaster management and dissemination of early warning information. These will include the South Africa Weather Service (SAWS), the Provincial Disaster Management Centres (PDMCs), and all relevant actors at the local government level including DM disaster management officials, local municipality (LM) officials, ward councillors, traditional authorities and community structures.

A baseline assessment will be undertaken collaboratively to determine the current state and associated challenges and gaps in disseminating early warnings about floods, droughts and fires to communities in the target DMs. The assessment will also review the current DRR strategies and plans to assess how these can be strengthened to better incorporate Eco-DRR. Lastly, an assessment of the capacity gaps regarding disaster preparedness and avoidance will be undertaken to inform approaches to building the requisite capacity both at municipal and community levels.

Activity 2.1.2. Develop and implement a municipal capacity and support programme towards the mainstreaming of Eco-DRR into disaster risk management strategies and plans in the four DMs.

SALGA, together with NDMC, the PDMCs for the four provinces and the four DMs will drive efforts to build capacity and mainstream Eco-DRR into disaster risk management strategies and plans. The activity aligns with SALGA's existing work to

⁶ The TAMDEV programme matches highly skilled retirees and semi-retirees to relevant senior civil servants within local government for the transferring of skills (mentoring) and/or technical assistance to unblock catalytic projects that have been jointly identified by NBI, DMs, LMs, private sector funders and other relevant players

⁷ The Municipal Infrastructure Support Agent (MISA) is a national government component constituted in terms of Section 7(2) Schedule 3 of the Public Service Act of 1994 (as amended), accountable to the Minister for Cooperative Governance and Traditional Affairs. This initiative is an integral part of the Department of Cooperative Governance's programme towards improving municipal infrastructure provisioning and maintenance for accelerated service delivery, in line with the objectives of the Back to Basics Strategy

support and build capacity of municipalities and will contribute to ensuring that there is a project footprint beyond the target DMs. This will specifically leverage the skills and expertise that is provided through the TAMDEV programme.

Utilising the baseline assessment that is completed in Activity 2.1.1, this activity will develop a framework for assisting DMs to strengthen Eco-DRR in their disaster management plans, and tools for supporting LMs to improve their disaster contingency plans for floods, droughts and wildfires. Training materials and related participatory learning processes will be developed and/ or strengthened and a capacity building and training programme will be implemented to strengthen the ability of relevant officials to understand the importance mainstreaming Eco-DRR into disaster risk management strategies and plans, while providing support to the DMs to ensure that Eco-DRR principles are integrated into existing disaster management plans.

Activity 2.1.3. Develop and activate innovative technologies and approaches that improve the dissemination of early warning products and messages about droughts, floods and wildfires in the four DMs.

Informed by the assessments and supported by the partnerships that are built in Activity 2.1.1, Activity 2.1.3 will support capacity building and institutional strengthening processes, and the development and implementation of a suite of practices that improve the dissemination of early warnings for slow onset droughts and sudden onset floods and wildfire in the target DMs. These will include impact-based communication materials and messaging that are designed for the anticipated receiving environment, and establishment of effective communication channels for disseminating real-time climate and weather alerts and advisory services to support communities, using new approaches. Such approaches could use technological innovations such as the use of mobile telephone networks to issue warnings irrespective of airtime and data capacity, automated signage to issue warnings, and the possibility of mobile phone applications. Equally important are the social innovations and the support of community-based communications. These people-centred early warning systems (PEWS) empower individuals and communities threatened by hazards to act in sufficient time and in an appropriate manner to reduce the possibility of personal injury, loss of life and damage to property and the environment. These approaches recognise the role of people in reducing the community vulnerability to the hazards they face and as such will be structured and adapted for the community's needs. These real-time climate and weather alerts and advisory services will be developed, activated and maintained and tested through simulation drills in which communities are supported to practice evacuation routes, communication procedures and emergency response actions. These will be undertaken working an identified area and community, as determined with the DM staff and community leaders. The response of communities will be assessed to ascertain approaches to improve understanding and response. These approaches the DM staff can then upscale across the entire DM. The Training materials and related participatory learning processes on Eco-DRR, including climate risk communication and emergency procedures, will be developed and used to build capacity across the DM.

Activity 2.1.4. Update the Green Book

Developed by the Council for Scientific and Industrial Research (CSIR), the Green Book supports climate change adaptation in South Africa by providing an online repository of downscaled, baseline and future, municipal climate risk data and

insights, as well as adaptation information that can be integrated into broader settlement planning⁸. The Green Book is currently used widely and is the focus of ongoing municipal capacity building efforts. The climate projects that are currently reflected in the Green Book are outdated and require updating aligned to more recent analysis. Downscaled DM climate projection data has recently been developed through collaborative initiative between SANBI and the Global Change Institute at the University of the Witwatersrand. This data, together with the latest census data, will be used to update the Green Book through a partnership with the CSIR including updating population profiles and projections, vulnerability indices, climate change projections, hazard assessments, water supply vulnerability, ecosystem conditions and climate adaptation actions. Once updated, the updated Green Book will be mainstreamed amongst targeted DMs and LMs to ensure local government climate change responses are fully informed by the latest climate data. Options for the development of a mobile telephone-based Application, to make this data and information more accessible, will be explored.

Output 2.2. Eco-DRR is mainstreamed into national and sub-national asset risk management, environmental policy and spatial planning.

National and sub-national environmental policies, management, development and spatial plans, and supporting instruments in South Africa generally recognise the threat of climate change, and at the national level, EbA and Eco-DRR are recognised as important climate change adaptation responses. Despite this, the translation of EbA and Eco-DRR into local-level policies and plans is scant, with EbA and Eco-DRR on measures remaining under-prioritised and underfunded.

The Eco-DRR Project has considered the enabling environment in which the project interventions are best suited to take place and has ensured that the project placement is appropriate with the municipality's needs. It should be noted that provinces and municipalities in the country have their own spatial planning bylaws, disaster management policies and environmental regulations, tailored to local needs and contexts. Prior to commencement of proposed project activities, a thorough desktop review of any relevant provincial legislation and municipal by-laws in the targeted district and LMs must be done. Examples of the kinds of laws that may be relevant to the Eco-DRR project include bylaws related to stormwater management, spatial planning, biodiversity, waste management, fire safety, disaster risk management and others. Bylaws may require any person undertaking activities in that area to obtain a consent, authorisation or licence before doing any work in that jurisdiction. The municipal and provincial officials should therefore be engaged in the Operationalisation Phase of the project to determine whether any applications should be made by the consultants of the Eco-DRR project, with the view to obtaining necessary permissions to undertake work in the area. If consents, authorisations or licences are required, then the turnaround for obtaining these permissions must be factored into the timeframes of the Eco-DRR project to ensure that there are no undue delays. Led by SANBI in partnership with the DMs, Output 2.2 will address this by building the capacity of policy and decision makers to understand the linkages between ecological infrastructure and vulnerability to climate change and engaging collaboratively towards the mainstreaming of EbA and Eco-DRR measures into sub-national policy, planning and budgetary processes.

⁸ CSIR's Green Book. <https://greenbook.co.za/>

Activity 2.2.1. Identify the risk of critical built infrastructure and settlements to droughts, floods and wildfires.

This activity focuses on evaluating the vulnerability of both built infrastructure and community settlements to droughts, floods and wildfires within the target DMs. As a first step, ecological infrastructure and the targeted built infrastructure and community settlements in the four DMs will be mapped collaboratively, and a baseline assessment of existing risk management frameworks, tools and approaches for ecological and built infrastructure will be compiled. This will be followed by risk assessments of current and planned built infrastructure, and the mapping of linkages between these risks and the condition of ecological infrastructure to identify high-risk areas that are susceptible to the adverse effects of droughts, floods and wildfires and that can most benefit from investments in ecological infrastructure. Thereafter, processes that advocate for the reflection of ecological infrastructure investment priorities in DMs' infrastructure master plans and asset registers will be supported. Identifying funding sources for these costed plans will be necessary and will explore the range of financial instruments that are available to municipalities such as the Municipal Infrastructure Grant and others⁹. This will include a more holistic assessment of the municipal financing framework to develop an approach that leverages government fiscal support, economic policy instruments, market-based instruments and support to access donor funds. This activity links with Output 3.1.

Activity 2.2.2. Mainstream Eco-DRR and ecological infrastructure principles and priorities into national and local environmental policies, spatial plans and supporting instruments.

This activity will support the mainstreaming of Eco-DRR and ecological infrastructure principles into relevant policies, spatial plans and other instruments at national and sub-national levels. A baseline assessment will be conducted to identify gaps in policy coherence, stakeholder capacity, cross-sectoral alignment, and institutional arrangements for integrating Eco-DRR principles into national and local plans, policies and supporting instruments, including the DDM. A programme of work will then be co-created with key role players to build capacity and support the updating and mainstreaming of Eco-DRR into identified national and local plans, policies and supporting instruments. Tools, guidelines and knowledge products will be developed to support the mainstreaming work, and processes will be supported to facilitate the uptake of knowledge towards the integration of Eco-DRR principles into national and local plans, policies and supporting instruments nationally.

OUTCOME 3: AN ENABLING ENVIRONMENT IS CREATED FOR INVESTMENT IN ECO-DRR THROUGH A STRENGTHENED EVIDENCE BASE AND IMPROVED LEARNING AND KNOWLEDGE MANAGEMENT.

In Outcome 3, the evidence base that emerges from Outcomes 1 and 2 of the project will be used to inform processes to enhance private and public sector investment in EbA and Eco-DRR. In so doing, this output will also contribute to ensuring a viable exit strategy for the project. This Outcome will also focus on strengthening the evidence base for Eco-DRR, to support learning and adaptive management and ultimately scaling.

⁹ SANBI, 2020. Feasibility study for municipal investment in ecological infrastructure in proposed GCF projects, Cape Town: South African National Biodiversity Institute.

Output 3.1. Financial mechanisms developed and strengthened to enhance private and public sector investments in Eco-DRR.

This Output will focus on understanding and improving the enabling environment for private and public sector investments in Eco-DRR and developing appropriate financial mechanisms that enhance investment. For the private sector, this will be achieved by strengthening the policy and investment environment, and through the development of financial mechanisms and investment packages. For the public sector, focus will be placed on the development of a transformed and sustainable public sector employment funding model that supports Eco-DRR. A private-public community of practice will support capacity building, learning and engagement around financial mechanisms for the biodiversity economy and Eco-DRR. Towards this end the project will leverage the experience of the NBI and the SFC.

Activity 3.1.1. Assess and strengthen the policy and investment environment to support private sector engagement in Eco-DRR.

This activity will assess the policy and investment environment for private sector engagement in Eco-DRR towards addressing gaps and barriers to such investments and areas for improvement. In so doing, it will identify and assess EbA and Eco-DRR-linked financial mechanisms, the financial sector's current integration of biodiversity and climate-related risks and opportunities into financial planning and decision-making and emerging opportunities such as the South African carbon credit and biodiversity and water credit policy landscape. This will link with the work being undertaken by the Taskforce on Nature-related Financial Disclosures Global and African Natural Capital Alliance.

The assessments will identify DRR-linked financial products that will be strengthened and/ or developed. The assessments will also identify where there are opportunities to strengthen the frameworks that financial institutions use to assess biodiversity and climate-related risks and opportunities.

Activity 3.1.2. Build capacity and facilitate the exchange of knowledge for public - private sector investment in Eco-DRR.

This activity seeks to build capacity and support the exchange of knowledge between the private and public sector by convening a community of practice for capacity building, learning and engagement around financial mechanisms for Eco-DRR. A strong business case that showcases the benefits of investing in Eco-DRR and a portfolio of potential investment mechanisms will be developed to support improved engagement and investment in ecological infrastructure and associated Eco-DRR.

Public and private sector (including financial institutions) capacity will be built to understand the investment environment, and private sector (including financial institution) capacity will be built to support the integration of biodiversity and climate considerations into their planning and operations with a focus on the adoption and implementation of the set of disclosure recommendations and guidance for organisations made by the Taskforce on Nature-Related Financial Disclosures and the Taskforce on Climate-Related Financial Disclosures.

Activity 3.1.3. Develop a portfolio of financial mechanisms and investment packages and unlock new revenue streams for Eco-DRR from private and public sector.

This activity aims to implement (with support provided to operationalise) a range of financial mechanisms for identified sites that will provide more comprehensive investments into Eco-DRR. Parallel to this, viable funding vehicles will be identified

and assessed to strengthen (where necessary) the development of investment options linked to outlined project opportunities. This will include the potential for seed finance through the on-granting experience of SANBI as well as other initiatives under the banner of the Department of Small Business Development and Small Enterprise Development Agency and Small Enterprise Financing Agency. This will build upon the experiences of the National Business Initiative (NBI), World Wide Fund for Nature (WWF)¹⁰, Sustainable Finance Coalition (SFC), Conservation South Africa and others to develop fit-for-purpose vehicles to support business development and matching these to the appropriate financial arrangements. This will include options such as the establishment of business accelerators, use of incubators to progressively take businesses to scale, providing support to establish cooperative arrangements, and the development of business partnerships linked to value chains. Investment packages will then be developed that aim to attract both public and private sector investment in Eco-DRR. These packages will outline project opportunities for potential funders / financiers.

Activity 3.1.4. Develop a sustainable public sector employment funding model to support the rehabilitation and maintenance of ecological infrastructure.

Activity 3.1.4 will develop a business case for a transformed operation model for public sector investment in natural resource management and Eco-DRR, that is informed by the activities of Outcome 1. In developing the proposed funding model, a review will be undertaken of the performance of the activities that are supported on Output 1.1, together with an assessment of relevant South African public sector employment programmes. Based on these findings, a business case will be developed for sustainable public sector funding operational model that supports the rehabilitation and maintenance of ecological infrastructure in support of the biodiversity/ climate change nexus and Eco-DRR. National government partners, such as the DFFE, the Presidency, COGTA, Department of Trade and Industry (DTI) and others, will be engaged to co-develop this model and reflect on how it might inform relevant national processes.

Output 3.2. Informed decision making for Eco-DRR is supported and promoted.

The activities of Output 3.2 will promote informed decision making on Eco-DRR by bridging existing knowledge gaps, enabling effective learning and facilitating the exchange of practice and experience, and highlighting the costs, benefits and impacts of investing in Eco-DRR.

This strategic approach will facilitate better-informed and integrated planning and decision-making processes, encouraging investment in Eco-DRR and ensuring that the value of ecosystem services is fully recognised and acted upon, preserving and enhancing these natural assets for DRR and contributing to the scaling up of Eco-DRR efforts nationally. Through these efforts, the project will contribute to a shift towards sustainable, resilient landscape management practices that are inclusive and beneficial to all stakeholders, including the youth, women and previously disadvantaged individuals. Growing effective learning facilitation practice will enable longevity beyond the project period.

¹⁰ WWF South Africa currently hosts the Africa hub for the Dutch Fund for Climate and Development which is a blended finance mechanisms aimed at developing bankable nature and climate solutions. WWF is also a founding partner in the Green Outcomes Fund.

Activity 3.2.1. Strengthen and improve data management platforms towards supporting adaptive management and informed decision-making by policymakers and market participants.

Investing in the foundational systems that are needed to produce the evidence that supports adaptive management and inform decision making is a crucial component of project. This activity will support the review and assessment of the current Eco-DRR data management environment and develop recommendations for system improvement. It will then strengthen and improve data management platform(s) in support of Eco-DRR and other elements of the biodiversity/ climate change nexus and develop protocols and standards for data collection to meet data needs and ensure consistency and quality across all project sites. It will enable ongoing collation of biophysical, social and economic data to support modelling of selected ecosystem services. These will inform data collection approaches in Outcome 1 and 2.

In support of project monitoring, evaluation, reporting and learning (MERL) and adaptive management of the project, biophysical modelling of selected ecosystem services will be undertaken, and validated and refined using field data and stakeholder inputs from Outcome 1.1. Monitoring networks, systems and protocols will also be established to track the effectiveness of Eco-DRR measures.

Activity 3.2.2. Compile spatially explicit ecosystem asset and biocarbon accounts.

This activity entails producing selected ecosystem service accounts and spatially explicit biocarbon accounts in biophysical and monetary terms using the System of Environmental-Economic Accounting (SEEA) Ecosystem Accounting Framework. The project will explore synergies between ecosystem asset and biocarbon accounts compiled and the air emission and energy accounts compiled by Statistics South Africa (SEEA Central Framework) to enhance integrated environmental-economic analysis. Beyond quantifying stocks and flows, this activity will explore the use of Natural Capital Accounting as a tool to analyse trends in natural capital use and dependencies across regions, user groups or communities and sectors, and potential hidden costs of ecosystem degradation. By doing so, this work seeks to identify where transformative policy or planning interventions could be needed and further develop Natural Capital Accounts in South Africa as a tool that informs sustainability and resilience strategies. Knowledge products will synthesize lessons learned and share insights to support rehabilitation efforts and encourage investment in ecological infrastructure.

Activity 3.2.3. Develop and implement a project level social learning programme in support of adaptive management and decision making.

This activity will support the development and implementation of a systematic approach to generating and recording project lessons, and for communicating these in support of adaptive management and scaling. A programme of work will be developed and implemented that captures learnings and emerging insights within and across the project as part of the evidence base for Eco-DRR. As part of the process of generating learning, project level forums, working groups, think tanks and other engagement platforms will be convened and learnings documented to foster partnerships and further knowledge exchange.

To support the social learning programme, deeper research will be undertaken to surface the learning that will emerge in the programme. To this end, SANBI partnerships with academic institutions and expert organisations in this field will develop the core social learning action research agenda, for a systematic research programme. A core group of graduate

researchers led by university-based academics in close collaboration with SANBI, would allow for the systematic, in-depth research proposed here. Post-graduates in relevant fields, with support from academics, practitioners and research programme administration, could make a significant knowledge contribution to guide project implementation as well as scaling and making the case for Eco-DRR. A series of research papers and journal articles will be developed out of the Eco-DRR evidence base.

Activity 3.2.4. Develop and implement a structured suite of approaches to enable access to Eco-DRR information.

The aim of this activity is to ensure easy access to Eco-DRR information and knowledge products that promote informed decision-making. In this regard, a project level information sharing mechanism will be established, ideally within an existing platform, and a communications strategy will be developed. This will be designed to complement and support the social learning process activities of Activity 3.2.3.

3 Project Governance

3.1 DESIGN ELEMENTS

The Eco-DRR project will be a pathfinder project linked to a number of projects that will address the development of climate resilience in South Africa. These other projects will work synergistically to provide support to other aspects of climate vulnerability that will be faced into the future. Noting the capacity and capability constraints that exist at municipal levels, the Eco-DRR project will be an important ‘proof of concept’ that will guide the development and upscaling of other Eco-DRR interventions into the future, across South Africa.

It is also important to recognise that there is significant scope for Eco-DRR projects to be undertaken in support of building climate resilience in communities. The needs at municipal level vary technically and in scale and, with many municipalities needing support across a range of technical, institutional and financial aspects of climate vulnerability and the development of adaptive response to droughts, floods and wildfires.

It is therefore necessary to have an approach to the governance and management of the project that progressively builds institutional capacity that will embed the principles of EbA and Eco-DRR into climate response strategies and actions, that addresses the national and local enabling environment aspects, and that facilitates the development of the business case and financial investment packages needed to upscale Eco-DRR. This requires a project design that provides local and regional support in working with both local and district municipalities as well as Traditional Leader and communities, as well as acting nationally in working with national government institutions to develop the enabling environment.

This will require, at a project level, effective operational structuring to facilitate the horizontal and vertical integration needed to achieve the project’s goals and objectives. As such, the structuring of the project design incorporates:

- Accountability and responsibility;
- Engagement and involvement;
- Risk management;
- Information management and knowledge exchange;
- Financial control and oversight; and
- Performance management including monitoring, evaluation, and reporting.

3.2 ECO-DRR PROJECT GOVERNANCE, MANAGEMENT AND COORDINATION

To provide effective, efficient and structured governance to the Eco-DRR project the proposed structure is required (**Error! Reference source not found.**). This provides for a clear division of accountability and responsibility for aspects of project oversight and implementation, while also providing sufficient levels of coordination needed.

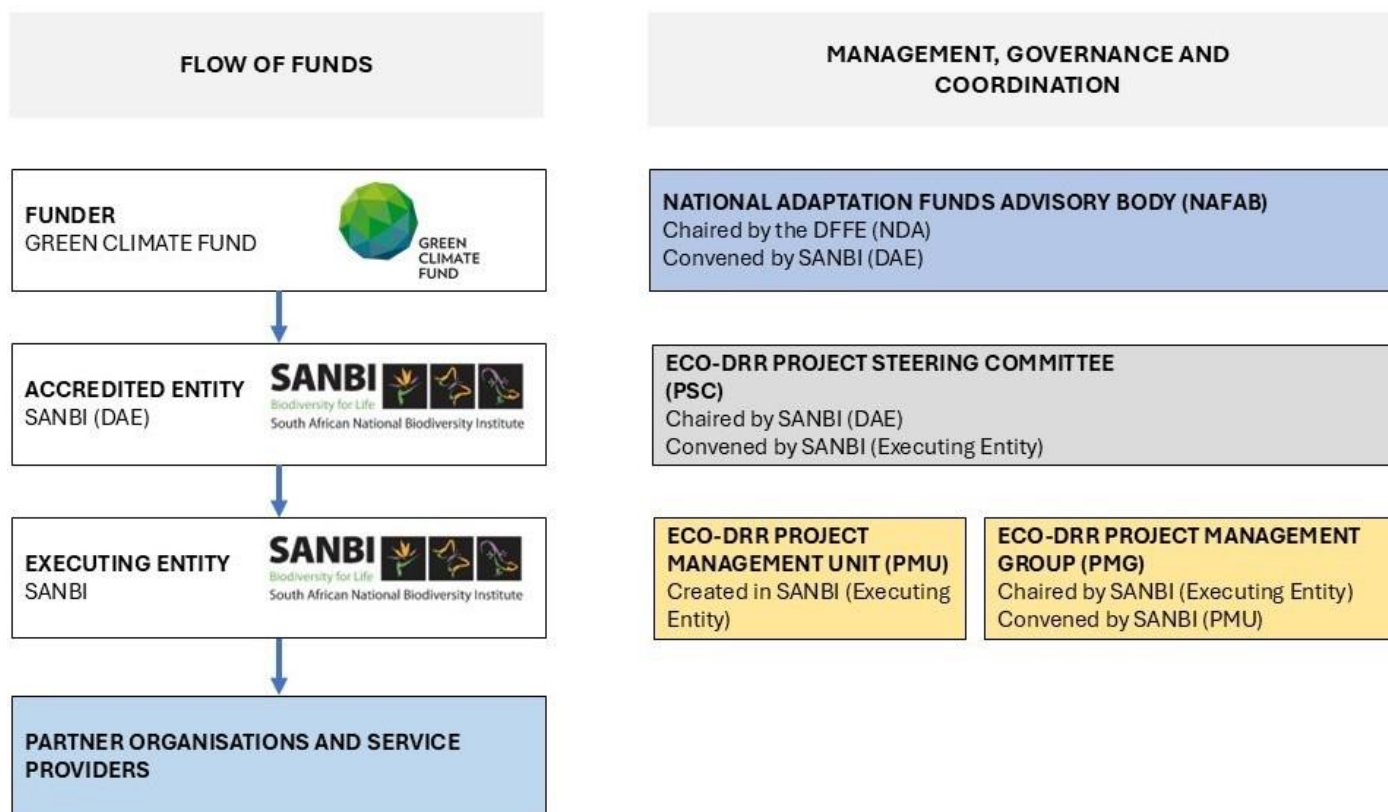


Figure 3-1: Eco-DRR Project governance structure

The broad Terms of Reference for the varying components of the governance structure are discussed hereunder.

The relevance of the governance and coordination structures in the Eco-DRR project as they relate to each other are described below. The National Adaptation Funds Advisory Body (NAFAB) and the Project Steering Committee (PSC) function at a supervisory level, and hold an oversight role. Other structures like the Project Management Group (PMG), the Project Management Unit (PMU) and Task Teams have a project operations and project implementation function.

- **NAFAB** is an advisory body that guides SANBI, as a Direct Access Entity, on whether projects align with national climate change adaptation objectives and communicates GCF expectations for projects based on the emerging environment.
- The **PSC** is an oversight committee that reviews the work of the project to ensure compliance with project deliverables and GCF requirements.
- The **PMU** is the central technical hub for the conceptualisation and execution of project activities. The PMU is supported by a **PMG**, which comprises technical experts from various institutions outside of SANBI. These experts weigh in with technical and strategic guidance in furtherance of the project's objectives. The PMG periodically convenes reference group meetings to strategically consult on the operationalisation of project activities.
- **Task Teams** support on thematic categories of work relating to the project.

3.2.1 NAFAB

NAFAB is a body that is constituted to support the SANBI programme of work with the Green Climate Fund (GCF) and the Adaptation Fund, as a national accredited entity of the fund, and in the context of unlocking a coordinated and programmatic response to climate change adaptation in South Africa. The purpose of the NAFAB is to facilitate coordination, engagement, alignment and integration, between SANBI (Adaptation Policy and Resourcing Division (D:APR)) and government, civil society and the private sector, contributing to the conceptualisation, design and execution of a transformative and systemic response to climate change adaptation in South Africa.

The NAFAB membership comprises of national partners who play integrative roles noting that adaptation responses require the support of the public and private sectors and civil society, as well as engagement across sectors. The NAFAB is chaired by Department of Forestry, Fisheries and the Environment (DFFE) as the National Designated Authority (NDA) and comprises of nominated individuals from relevant institutions and networks based on a formal invitation from the Chair. SANBI convenes NAFAB with SANBI D:APR functioning as the Secretariat.

Membership of NAFAB is as follows with meetings requiring a quorum, of at least 50% representation of member institutions.

- DFFE;
- SANBI;
- National Treasury;
- Department of Monitoring, Planning and Evaluation (DPME, as represented by the National Planning Commission);
- National Disaster Management Centre (NDMC);
- Department of Science and Innovation (DSI);
- National Business Initiative (NBI); and
- Adaptation Network.

The roles and responsibilities of NAFAB include:

- **Oversight of SANBI projects to ensure alignment with national emerging environment:** Support SANBI in its role as a nationally accredited entity of the GCF, to ensure that SANBI's project/programme portfolios are aligned with country needs and priorities, capitalise on emerging opportunities and leverage resources for climate change adaptation.
- **High level oversight of the performance of the contract** deliverables that the Eco-DRR project will be approved for.
- **Sector Leadership:** Promote complementarity, coherence and potential replication and scale up of climate change adaptation programmes and associated investments in South Africa.
- **Facilitate buy-in:** Foster collaboration between relevant South African Institutions and funding agencies, guided by the National Treasury as needed, to enhance synergies and avoid duplication in climate change adaptation programming and associated investments.

- **Support and guide on aspects of climate reform:** Support processes to share lessons learnt and best practice towards supporting South Africa's transition towards a climate resilient future through transformative and systemic response.

NAFAB will meet twice per year, with extraordinary meetings being undertaken as necessary to support the implementation of the project. SANBI provides status updates to NAFAB on its GCF proposal pipeline, including the Eco-DRR project which is currently under development. NAFAB plays a key role as institutional sponsor in that it assists in unlocking and supporting issues that are strategically important to SANBI. This would include, for example, notifying DFFE (as NDA) of project development (or implementation) progress and to garner the support of the NDA for official support of the Eco-DRR project due to its importance in supporting the national climate change adaptation objectives.

3.2.2 PSC

The main purpose of the PSC will be to provide oversight and strategic guidance to the Eco-DRR Project. The main functions of the PSC established for the project implementation phase will include:

- Provide strategic guidance and oversight.
- Review and approve documents produced during the project implementation phase.
- Share information and best practice.
- Review project progress, budgets and financial reports.
- Provide general strategic guidance and implementation to the oversight committee.
- Review and adopt the project work plan and budget and any changes thereto, in accordance with GCF guidelines
- Ensure adequate report back to their respective organisations

Institutions are requested to provide a primary and consistent representative throughout the project as far as possible and possibly also to have a second person that is also consistent. As the PSC will provide overall guidance to the Project it will not be expected to deal with day-to-day management and administration of the project. This will be handled by SANBI (as Executing Entity) in coordination with the Implementation Partners, and under guidance from SANBI (as Direct Access Entity) and DFFE.

The PSC is especially responsible for evaluation and monitoring of project outputs and achievements. In its formal meetings, the PSC will be expected to review the project work plan and budget expenditure, based on the overall project progress report. The PSC should be consulted for supporting any changes to the work plan or budget and is responsible for ensuring that the Project remains on target with respect to its outputs. Where necessary, the PSC will support definition of new targets in coordination with, and approval from, the GCF.

The role of the PSC has to be functional within the policies and conditions of SANBI and the GCF.

Membership of the PSC will include the following national-level actors:

- DFFE: Environmental Programmes (DFFE: EP);
- Department of Water and Sanitation (DWS);

- COGTA;
- SANBI: D:APR as Direct Access Entity;
- SANBI Division: Biodiversity Research, Assessment and Monitoring (BRAM) Division as Executing Entity
- NDMC;
- South African Local Government Association (SALGA); and
- South African Weather Services (SAWS).

Representatives on the PSC should be senior managers / high level officials from the above-mentioned organisations. Should a formal letter of request for representation to the PSC be needed, they will be availed upon request and a written confirmation of acceptance for representatives should be sent to SANBI (BRAM) for noting and documenting. The PSC may decide, at its absolute discretion, to vary this membership through the addition of representatives from other relevant stakeholder institutions.

National Treasury will possibly participate in the PSC due to its responsibility regarding national fiscal transfers and the annual Division of Revenue Act (and associated municipal grants) and regulatory oversight of municipalities. Furthermore, with Outcome 3 of the project focusing on the development of mechanisms to incentives private sector investment in Eco-DRR the support of the National Treasury's Government Transaction Advisory Centre (GTAC) could then be leveraged.

The PSC will be chaired and convened by SANBI as the Direct Access Entity and the Executing Entity. SANBI: D:APR, as the Direct Access Entity, will oversee project management, check for risks, ensure alignment with GCF requirements and provide guidance to the Executing Entity i.e. SANBI: BRAM. SANBI: BRAM, as the Executing Entity, will serve the reporting function to the Direct Access Entity by providing updates on progress of project implementation and alerting the Direct Access Entity to possible project risks.

The roles and responsibilities of the PSC will include:

- **Provide strategic direction:** Provides ongoing strategic guidance to the programme ensuring that linkages are made to a wider array of sectoral processes and projects, and institutions, as well as ensuring alignment with national objectives. In so doing the will be aware of programmatic risks and will guide the PMG in managing these.
- **Oversee operational management:** Oversee the establishment of the Eco-DRR PMG and the operational PMU. Review and validate annual work plans and budgets submitted by the PMG. Ensure compliance with government and National Treasury policies, priorities and budgets.
- **Maintain institutional linkages:** Report back to NAFAB in terms of programmatic progress as well as ensure there are ongoing institutional linkages that can assist the programme in its functioning and delivery.
- **Undertake periodic monitoring, evaluation and learning interventions:** Support in establishing the framework for this. Meet regularly to review the progress made by the Executing Entity in terms of annual work plans as well as aspects of quality of project deliverables. As such will advise on adjustments in approach and methods. SANBI D:APR will also ensure compliance with the policies, priorities and budgets of government and National Treasury.
- **Appointment of auditors:** Leads the appointment of external auditors and the approval of the financial statements with the objective of ensuring fiduciary accountability.

- **Stakeholder engagement and communications:** Support the project with strategic engagements and communications to support the achievement of the project outcomes.

The PSC will meet four times per year, with extraordinary meetings being undertaken as necessary to support the implementation of the project. It is expected during the Operationalisation Phase that the PSC will meet more frequently as the project's operational protocols, reporting frameworks and first round work plans are developed.

3.2.3 Project Management

To operationalise the Eco-DRR project and to manage the practical implementation of the project's activities, a **Project Management Unit (PMU)** will be established. The PMU that will be established within SANBI: BRAM will be the Executing Entity for the Project, with the PMG supporting and guiding the PMU in its structured approach to project delivery.

The PMG (and PMU) are to be established in such a way that there is a separation of powers and functions to the Direct Access Entity function in SANBI, to ensure effective governance and accountability. The PMG will provide transversal project support, to aid the implementation and coordination of intervention activities through the Task Teams.

The PMU, with the support of the PMG, will report to the PSC on all matters. The PMU will be staffed and housed by SANBI: BRAM and will leverage the corporate support systems such as administration, human resources management, and supply chain management. SANBI will be subject to any agreements and conditions imposed as the Executing Entity of the Eco-DRR project under the Funding Approval Agreement with the GCF. Whilst the PMU has no legal institutional status all contracts and bank accounts will be procured and managed by the SANBI as Executing Entity, as well as be overseen SANBI D: APR as the Direct Access Entity.

The PMG will be chaired by the PMU, and the PMU will also provide the Secretariat function to the PMG.

Membership of the PMG will include the following actors, largely at Provincial levels:

- SANBI (BRAM and Biodiversity Information and Policy Advice Division (BIPA));
- DFFE: EP and Climate Response (Provincial: Eastern Cape, Limpopo, Mpumalanga, North-West);
- COGTA (Provincial: Eastern Cape, Limpopo, Mpumalanga, North-West);
- SALGA (Provincial);
- SAWS (Provincial: Eastern Cape, Limpopo, Mpumalanga, North-West);
- DWS Regional Offices (for each Province);
- South African National Parks (SANParks); and
- NBI.

Other members may be co-opted to the PMG during the Projects Operationalisation Phase.

The roles and responsibilities of the PMG will include:

- **National project level management:** Manage and direct the day-to-day business of the project supported by prepared project level annual work plans and budgets.

- **Compliance:** Ensure that legislative and regulatory related issues are highlighted, and compliance is ensured where applicable and linked to the Environmental and Social Management Framework and Plan.
- **Quality Assurance:** Exercise duty of care for the project and take responsibility for all technical content of programmes.
- **Develop administrative standardisation:** Provide a range of appropriately standardised documentation, tools and instruments that support procurement, contracting, agreements, and monitoring and reporting templates.
- **Procurement:** Support Eco-DRR procurement processes in consultation with SANBI Supply Chain Management (SCM).
- **Review progress & report:** Implement project and intervention monitoring and reporting.
- **Guides interventions to unlock challenges:** Noting the complexity of local level implementation, takes actions to address project blockages.
- **Multi-partner representation:** Supports and guides alignment between multisectoral projects towards improved coordination towards implementation and the achievement of the project's objectives.

The PMG will meet 4 times per year, with extraordinary meetings being undertaken as necessary to support the implementation of the project. It is expected during the Operationalisation Phase that the PMG will meet on a monthly basis to support the operationalisation of the project and the development of the first work plans.

3.2.4 Project Coordination

The complexity of guiding and supporting a project of this complex nature should not be underestimated. The project will be implemented at various scale, will include a significant number of key stakeholders and implementation partners, and will technically traverse a range of important components that need to be addressed to ensure the mainstreaming and upscaling of Eco-DRR. While core governance structures will be established to ensure accountability supported by management, monitoring and reporting, there is still the need to ensure sound coordination across government sector departments, between a range of public entities and across the geographies where landscape focused interventions will take place.

To support this, the Eco-DRR project will establish a range of Task Teams to effectively enable this coordination of project interventions internally as well as externally with those actions being led by other partner organisations. Equally, these Task Teams will enable the members and partners to exchange data, information and knowledge. As such this will also create a conducive and collaborative environment for more open discourse and debate, as well as assisting to minimise any matters of conflict.

Falling under the auspices of the PMG the various Task Teams that will be established are presented in Figure 3-2, and described hereunder. These will meet on a bi-monthly basis supported by regular and ongoing communications.

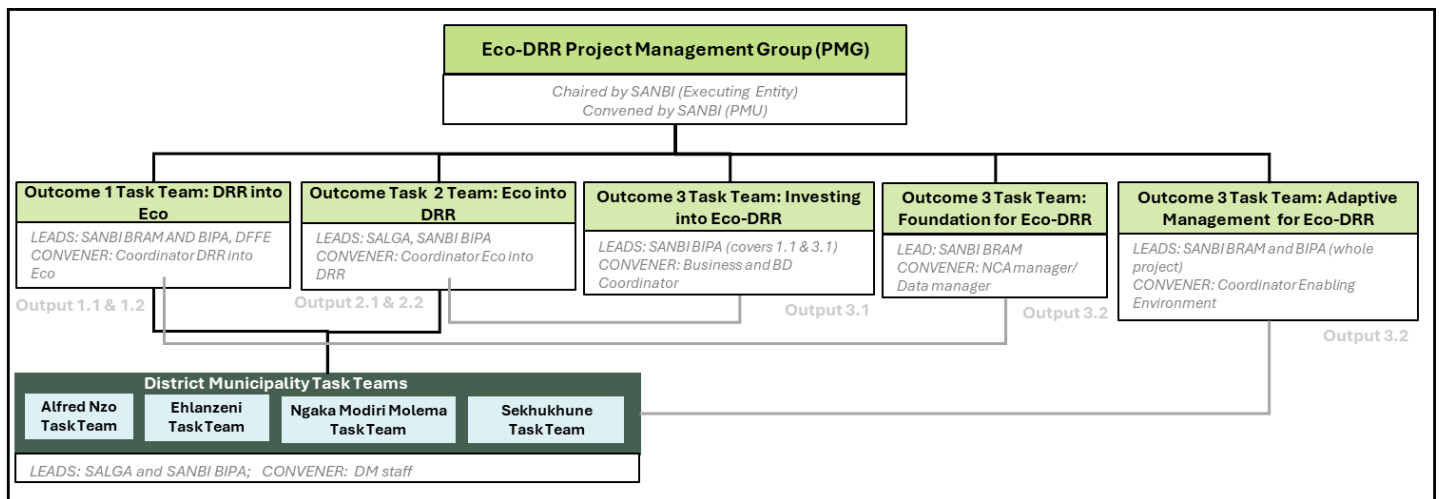


Figure 3-2: Eco-DRR Project Task Teams

- Outcome 1 Task Team: DRR into Eco:** Outcome 1 focuses on interventions that involve the rehabilitation of ecological infrastructure and supporting the improvement of local livelihoods linked to these landscapes and the various environmental value chains. This Task Team will focus in on ensuring that all landscape focused interventions adhere to standards using aligned and approved methodologies, as well as ensuring that all aspects of compliance are monitored. This would include the manner in which implementation teams' function and the approach used to facilitate and support the community and traditional leadership engagements. The Task Team will also ensure that the various aspects of the Environmental and Social Management Framework and Plan are coherently and consistently applied, especially regarding managing the potential for sexual abuse, exploitation and harassment; for the management of gender aspects and the implementation of the gender action plan, as well as ensuring transparent communications regarding grievance redress mechanisms (GRMs). This Task Team will be led by staff from the SANBI Biodiversity Research Assessment and Monitoring Division and will be convened by staff from the Biodiversity Information and Policy Advice Division. Core members of the Task Team will be from the DFFE: Environmental Programmes from each Province (Eastern Cape, Limpopo, Mpumalanga, North-West).
- Outcome 2 Task Team: Eco into DRR:** Outcome 2 focuses on interventions that involve improvements in early warning systems and supporting communications as well as the development of hazard avoidance practices. This will involve working with communities and staff of the District and Local Municipalities, in supporting training interventions and the running of drills. This outcome will also work with the municipal planning functions to assist in integrating ecological infrastructure solutions to de-risk the impacts of climate change induced hazards on built infrastructure. The TAMDEV programme will be leveraged to assist with capacity building in the municipalities. Lessons and approaches developed will be mainstreamed into various policy and planning instruments at both national and local levels. This Task Team will have stronger focus on disaster risk reduction and will aim to not only align approaches and methodologies, but also provide the platform for exchange of experience and lessons learned. Noting that the project will be working with communities, traditional leaders and municipal staff the Task Team will also need to ensure that the various aspects of the Environmental and Social Management Framework and Plan are coherently and consistently applied, especially regarding managing the potential for sexual abuse, exploitation and harassment; for the management of gender aspects and the implementation of the gender action plan, as well as ensuring transparent communications regarding GRMs. This Task Team will be led by staff from SALGA and will be

convened by staff from the Biodiversity Information and Policy Advice Division. Core members of the Task Team will be Provincial Disaster Management Centres, Provincial South African Weather Services (Eastern Cape, Limpopo, Mpumalanga, North-West); Municipal Infrastructure Support Agency, and National Business Initiative's TAMDEV programme.

- Outcome 3 Task Team: Investing into Eco-DRR:** Outcome 3 focuses on strengthening the enabling environment for enhanced public and private sector investments in Eco-DRR, through the development and strengthening of financial mechanisms. This will include working with a range of national actors to strengthen the policy and investment environment to encourage private sector engagement. Focus will also be on the development of a portfolio of financial mechanisms and investment packages that aim at blending both public and private funds. This will require coordinated engagement with a range of national sector departments and specifically National Treasury and the Department of Small Business Development. The insights surfacing from Outcome 1 in terms of the investments required and the benefits realised, as well as the small business development and livelihoods aspects will need to be fed through to this Task Team and as such the Lead for the Outcome 1 Task Team should be a member of this Task Team, to facilitate that exchange. This Task Team will be led by staff from the Biodiversity Information and Policy Advice Division and will be convened by a Business Development Coordinator. Core members of the Task Team will be National DFFE, National Treasury, National DWS, Department of Small Business Development National Business Initiative and the World-wide Fund for Nature (WWF).
- Outcome 3 Task Team: Foundation for Eco-DRR:** Outcome 3 also focuses on strengthening the enabling environment for informed decision making by bridging existing knowledge gaps, providing a solid evidence base, and highlighting the costs, benefits and impacts of Eco-DRR. This will support supports adaptive management and informed decision-making by policymakers and market participants. This will involve working with the Outcome 1 project delivery function being facilitated by the Outcome 1 Task Team, in order to collate and manage the data that is gathered from the project's landscape focused interventions. This data will be used to compile spatially explicit ecosystem asset and biocarbon accounts. This will require coordinating with various national stakeholders towards embedding the approaches towards the development of Natural Capital Accounts that support the upscaling of Eco-DRR. The SANBI Technical Managers responsible for leading Output 1.1 and 1.2 activities should participate in this Task Team to ensure alignment between the project activities, specifically those under Outputs 1.1 and 3.2. This Task Team will be led by staff from the Biodiversity Information and Policy Advice Division and will be convened by a Natural Capital Accounts / Data Manager. Core members of the Task Team will be Statistics South Africa, National DFFE, National DWS, Council for Scientific and Industrial Research, and the South African Weather Services.
- Outcome 3 Task Team: Adaptive Management for Eco-DRR:** The final focal area for Outcome 3 will be on supporting the development and implementation of a systematic approach to capturing and recording project lessons, and for communicating these in support of adaptive management and scaling. To support the social learning programme, deeper research will be undertaken to surface the learning that will emerge in the programme, including the underlying causal mechanisms that determine project successes and failures. To this end, a core social/learning research agenda and systematic research programme will be put in place. Noting the academic and research institutions that could be supportive of this, the Task Team will aim to coordinate this nationally in order to ensure that such knowledge contributions can guide project implementation, but also scaling and making the

case for Eco-DRR. This Task Team will be led by staff from the Biodiversity Research Assessment and Monitoring Division and the Biodiversity Information and Policy Advice Division and will be convened by an Enabling Environment Coordinator. Core members of the Task Team will be from a number of academic and research institutions as well as the Council for Scientific and Industrial Research.

- **District Municipality Task Teams:** The Eco-DRR project will be undertaking a range of interventions at municipal levels with some focused more on landscape-based actions to reduce the impact of climate change induced hazards, while others look to the enabling environment to improve policies, planning and institutional capacity. At the core of this will be the focus on communities and their vulnerabilities, with actions to reduce these vulnerabilities. Engagement with municipal leaders and staff as well as traditional leaders will be important part of the process to have a consistent and considered approach to the community engagements that need to be undertaken. Therefore, a Task Team will be established in each District Municipality to facilitate the approach to be used with these engagements as well as to ensure that the work undertaken under Outputs 1.1, 1.2, 2.1 and 2.2 all are aligned and well-coordinated. These will be led by SALGA staff in conjunction with the staff of SANBI Biodiversity Information and Policy Advice Division. As these are focused on each District Municipality, the meetings will be convened and managed by the staff of the District Municipality. Core members of each District Municipality Task Team will include representation from Provincial DFFE (Environmental Programmes), the Provincial Disaster Management Centre, the Municipal Disaster Management Centre and/ or municipal environmental officials, Traditional Leaders, Chairperson for the Municipal Forum on Climate Change, municipal planning, Tourism and Parks Agencies per province, Catchment Management Agencies and Water User Associations (where appropriate).

3.3 SANBI AND PMU INSTITUTIONAL FRAMEWORK

The SANBI plays distinct roles in the governance arrangements for the Eco-DRR project. In the first instance, SANBI is the Accredited Entity of the Green Climate Fund (GCF) and as such is a recognised developer of national programmes/ projects. This project preparation support is undertaken through the APR Division and has an established track record in designing and preparing such projects. If the application to GCF is successful, and SANBI sign the Funded Activity Agreement (FFA), it will be the APR Division that will represent the DAE function and as such will chair the PSC as well as be accountable for project level reporting through NAFAB.

SANBI will also undertake and manage the implementation of the project as the Executing Entity. The SANBI BRAM Division will lead the project as Executing Entity, being sure to keep its roles separated.

SANBI will provide all administrative services such as procurement of goods and services through the supply chain management processes, including the entering into legal contracts with service providers and employees. The financial competency of SANBI will provide support in managing funds, operating a ring-fenced bank account for the Executing Entity and making payments on behalf of the project. The SANBI will receive fees for these services on a cost recovery basis – approved annually by the PSC.

Key activities of SANBI as managing agent of the project will include:

- Assist with establishment of the PMU;
- The PMU will report to the PSC on all administrative matters, through the PMG;
- SANBI, through the PMU, will track, monitor and report on all finances accessed and utilised under the project, so that there is a record and accountability for every dollar of grant received.
- SANBI, through the PMU, will ensure alignment with national, provincial and local plans and objectives thereby promoting co-investment from government and other actors.
- Facilitate the appointment of the PSC;
- Finalise the job specs for the Head of the PMU and the appointment thereof;
- Assist PMU Head with staffing organogram;
- Provide administrative and legal mechanism for the appointment of human resources;
- Assist with procurement of goods and services through SANBI SCM;
- Enter into legal contracts on behalf of the Executing Entity functions (both staff and service providers);
- Support the PSC and PMG to oversee the operating budget of the PMU, through the financial reporting protocol inclusive of external audit;
- Provide ring fenced bank account for the project supported by regularised financial reporting; and
- Make payments on behalf of PMU.

3.3.1 Staffing

The implementation of a project as complex as the Eco-DRR project require an upscaling of staff appointments. The appointment of key staff will be important at the early stages of the project, in particular the appointment of the PMU staff, as they will be required to support in the various aspects of the project's operationalisation and regularise the various project management and reporting protocols, amongst others. In particular the appointment of the Head of the PMU would need to take place first, with the Head of PMU then swiftly appointing the second in command (TIC) and the Project Administrator.

The PMU structure is provided in Table 3-1.

Table 3-1: PMU Staffing requirement

Number of staff	Designation	Function	Level & Affiliation	Contract Type	Level
1	Head of PMU	Management	Executive - SANBI	FTEP	13
1	2IC, Monitoring & Reporting Manager	Impact	Senior - SANBI	FTEP	12
1	Procurement & Contracts Manager	Management	Senior - SANBI	FTEP	12
1	Financial Manager	Financial	Senior - SANBI	FTEP	10
1	Project Administrator	Administrative	Middle - SANBI	FTEP	8

A brief description of these positions, the required skills and experience, as well as the core task is presented in Table 3-2.

Table 3-2: PMU Staff complement tasks

Function	Core Tasks
PMU Head <ul style="list-style-type: none"> 15 yrs experience Environmental management/ Financial Management Post Graduate Qualification 	<ul style="list-style-type: none"> Develop PMU strategy, aligned to mandate from PSC Implement and maintain governance and organisational structures Ensure duty of care for the project Develop internal governance and administrative reporting measures PMU and project management and coordination Outline PMU capacity requirements to give effect to roles and responsibilities Develop Eco-DRR annual business plan Lead and oversee project execution Reporting to and engaging with PSC on project and its own internal activities
2IC, Monitoring & Evaluations (M&E) Manager <ul style="list-style-type: none"> 8 -10 yrs experience in programme / project management with implementing M&E systems Tertiary qualification in administrative management or M&E / risk management 	<ul style="list-style-type: none"> Support the development of project level M&E and reporting frameworks (incl. log frames, performance indicators, targets as well as MTR, impact assessments, gender action plan etc.) Work with PMU and other technical staff to ensure project baseline data is properly collated Manage and ensure monitoring and reporting compliance supported by M&E database management Develop gender action plan and monitor compliance Develop project guidelines for risk management Oversee and report on risk to PMU Head Prepare the monitoring and risk reports for PSC Support PMU and project with progress reporting Liaise with SANBI monitoring and evaluation staff to align monitoring and reporting requirements Support project level capacity building on M&E systems and reporting
Procurement and Contracts Manager <ul style="list-style-type: none"> 10 yrs experience in contract management or procurement (SCM) Tertiary degree in law, business management, contract management or procurement 	<ul style="list-style-type: none"> Lead and manage project procurement liaising with SANBI SCM services Prepare comprehensive project procurement plans Provide technical input for preparing tenders, supporting SANBI SCM with preparation of tenders for procurement of service providers Participate at selection process for service providers and assist with award of contracts Manage service provider contracts Develop and standardise procurement documents (Terms of Reference, Procurement Guides etc.) working with PMU Head, PMU 2IC and SANBI SCM Prepare all legal and contractual documentation Undertake monitoring and reporting on progress, working with M&E Manager to track progress and undertake reviews
Financial Manager <ul style="list-style-type: none"> 10yrs experience CA / Financial Post Graduate Qualification 	<ul style="list-style-type: none"> Lead financial planning for the PMU and project including long-term financial requirements, financial forecasts etc Develop project annual budgets and manage cash flows with support of SANBI finance Oversee project financial management and approve payments for each project Ensure compliance with financial systems of SANBI and GCF Work with PMU Head and SANBI to develop operational efficiencies Undertake financial analyses and comply with internal / external finance and resource reporting requirements Develop procedures and tools to support finance and resource management and reporting tasks Monitor and evaluate the project implementation in terms of financial indicators Provide support to project in developing appropriate blended finance solutions for projects
Project Administrator <ul style="list-style-type: none"> 8 yrs experience Tertiary qualification 	<ul style="list-style-type: none"> Coordinate administrative functioning of the office Maintain secretariat function for the PMU Head as well as PMG Support with archiving, filing and reporting Support PMU with arrangements and logistics

The staffing requirements to support the implementation of project activities under each of the Outcomes is provided in Table 3-3, Table 3-4 and Table 3-5.

Table 3-3: Staffing requirement for Outcome 1

Number of staff	Designation	Function	Level and Affiliation	Contract Type	Level
Outcome 1					
4	Technical Manager	Technical	Senior - DFFE	PTEP	13
1	Technical Manager	Technical	Senior - SANBI	FTEP	12
1	Project Officer	Technical	Junior - SANBI	FTEP	8
Outputs 1.1 and 1.2					
4	Technical Manager	Technical	Senior - DFFE	PTEP	12
2	Technical Manager	Technical	Senior - SANBI	FTEP	11
2	Process Manager	Technical	Senior - SANBI	FTEP	11
4	Environmental Programmes and Safeguards Officer	Technical	Senior - DFFE	PTEP	10
2	Local Economic Development Expert	Technical	Senior - DFFE	PTEP	12
2	Project Officer	Technical	Junior - SANBI	FTEP	8

Table 3-4: Staffing requirement for Outcome 2

Number of staff	Designation	Function	Level and Affiliation	Contract Type	Level
Outcome 2					
1	Technical Manager	Technical	Senior - SANBI	FTEP	12
1	Project Officer	Technical	Junior - SANBI	FTEP	8
Output 2.1					
1	National Technical Manager	Technical	Senior - SALGA	FTEP	11
1	Technical Manager (DRR)	Technical	Senior - NDMC	FTEP	11
4	Institutional Support Manager	Technical	Senior - SALGA	FTEP	10
Output 2.2					
1	Technical Manager - Risk and Planning	Technical	Senior - SANBI	FTEP	11
4	Project Officer -Risk and Planning	Technical	Senior - SANBI	FTEP	10

Table 3-5: Staffing requirement for Outcome 3

Number of staff	Designation	Function	Level & Affiliation	Contract Type	Level
Outcome 3					
1	Technical Manager	Technical	Senior - SANBI	FTEP	12
1	Project Officer	Technical	Junior - SANBI	FTEP	8
Output 3.1					
1	Business Development Manager	Technical	Senior - SANBI	FTEP	12
1	Project Officer	Technical	Junior - SANBI	FTEP	8
Output 3.2					

Number of staff	Designation	Function	Level & Affiliation	Contract Type	Level
1	Natural Capital Accounts Manager	Technical	Senior - SANBI	FTEP	12
1	Data Manager	Technical	Senior - SANBI	FTEP	12
1	Data Scientist	Technical	Senior - SANBI	FTEP	11
1	Geographical Information Systems (GIS) Specialist	Technical	Senior - SANBI	FTEP	10
1	Project Officer	Technical	Junior - SANBI	FTEP	8
1	Knowledge Officer	Technical	Senior - SANBI	FTEP	10

3.3.2 Implementation Support

While the staff appointed will take the lead in terms of the implementation of the project, there will be a need to engage with additional support to assist in the various technical aspects of the projects delivery. These take essentially two forms, namely, NGO implementation partners who are working within key subject areas and often within specific geographic areas, as well as the more typical technical consultants who will provide advisory services to the project.

A scoping of the procurement required to support the project is provided in Table 3-6. At this stage, all services will be procured in response to a call for proposal in accordance with the SCM policy of SANBI. This is further outlined in the procurement plan (Annex 10 to the Funding Proposal).

Table 3-6: Key requirements for outsourced support to project implementation

No.	Service Required	Commencement of Services time (weeks/ months after FP approval)
1	External Auditing Services	12 months
2	Consulting project support services to design and promote Eco-DRR approaches in Alfred Nzo and Ehlanzeni DMs	12 months
3	Consulting services to support Gender Action Plan, Environmental, Social and Management Plan (ESMF) and M&E	12 months
4	Consulting services to develop and support sustainable livelihood options and community mobilisation measures to strengthen the adaptive capacity of communities	24 months
5	Consulting services to develop and support sustainable livelihood options and community mobilisation measures to strengthen the adaptive capacity of communities	18 months
6	Consulting services to support the update of the Green Book Municipal Climate Vulnerability Tool	20 months
7	Consulting services to support the mainstreaming of Eco-DRR into policy and plans	20 months
8	Consulting services to support the development of financing mechanisms and investment packages towards the upscaling of Eco-DRR	20 months
9	Consulting services to support the development of Natural Capital Accounts	18 months
10	Consulting services to facilitate the consolidation of learnings towards improved adaptation	18 months
11	Consulting services to support the development of Eco-DRR knowledge products	20 months

In addition, to this support the Catchment Convenors that have been utilised by an array of community and landscape focused projects, will also be deployed to support the project implementation.

4 Implementation

Effectively the Eco-DRR project will move through three core phases:

- **Phase 1: Inception** – an initial phase to enable the development of the various governance structures.
- **Phase 2: Operationalisation** – an initial phase to enable the development of the various governance structures as well as undertaking suite of actions to prepare the project to move into the next phase focused on project implementation
- **Phase 2: Implementation** – the core of the project, this phase sees the various activities under the various Outcomes and Outputs being rolled out. The establishment of a robust monitoring and reporting procedure during phase 1 will be critical during this phase to track progress. This phase will involve a mid-term review process.
- **Phase 3: Closure** – the final stage of the project with SANBI as the DAE working closely with GCF to ensure that all the reporting requirements are diligently covered. This phase will include the end-of-term evaluation process.

The timelines for the overall implementation of the Eco-DRR project are outlined in the Annex 5 – Implementation Timetable

4.1 PHASE 1 – INCEPTION

This 6-month phase will establish the foundations for the project, including the establishment of the governance structures, the appointment of staff and the development of a workplan for Phase 2: Operationalisation of the project.

This phase will include the following activities:

- Establish PMU
- Appoint staff and operationalise the PMU
- Establish PSC and PMG and develop governance modalities
- Establish Task Teams and develop governance modalities
- Develop a workplan for the Operationalisation Phase of the project – the workplan will be approved by the project governance structures

The Inception Phase will be concluded through the writing of an Inception Report.

4.2 PHASE 2 – OPERATIONALISATION

This 18-month phase will include the development of the various implementation protocols and procedures as well as the development of the monitoring, evaluation, reporting and learning approach.

During this period all contractual arrangement will be developed, discussed and agreed upon, building upon the more detailed insights of project implementation requirements, processes and targets. Additionally, all criteria for site selection, beneficiaries, Eco-Champs, partner organisations and service providers will be finalised during this phase, and included in an Operations Manual.

Alignment of these processes with internal SANBI systems will be important. This will include the following activities:

- Develop project implementation plan and annual workplan and budgets
- Finalise the project's Operations Manual, which will include operational protocols and supporting tools,
- Establish financial arrangements and reporting regimes
- Develop and implement monitoring and evaluation and reporting regimes

The establishment of the MERL approach is an essential part of the Operationalisation Phase. This approach needs to combine the value of monitoring against indicators with reflective process monitoring and more open-ended processes for obtaining explanatory data and evaluative insights. Key design features will include:

- A collaborative approach to MERL, where staff and MERL team members interact regularly around monitoring, evaluation, reflection and planning.
- Innovations in reporting to increase its value for reflection and learning.
- Regular meetings and shared learning events with a dedicated reflection component.
- Collaborative, evaluative case studies for formative evaluation (rather than leaving evaluation to external experts at end of project).
- Working with standard M&E elements such as indicators, targets and logic models in non-standard ways – in particular, creating space for ongoing learning and refinement of these tools.
- An iterative approach to the design of the MERL system itself, recognising (as in Patton's concept of Developmental Evaluation¹¹) that a program or organisation will need different things from its M&E framework at different times in its life.

The undertaking of a mid-term review at the end of Year 4, will be a key moment and as such the development of the MERL framework will need to carefully consider the data and information needs of that review. The ongoing tracking of the key performance indicators (KPIs) is clearly important, but equally important will be tracking how the project continues to achieve the GCF investment criteria.

Critically important during this period will be to re-engage with the intervention sites for each DM, under Output 1.1 focused on ecosystem rehabilitation, maintenance and sustainable management, towards Eco-DRR. The feasibility showed that the implementation of Eco-DRR interventions will have impact on vulnerable communities living in these areas. However, during the complex series of engagements through the course of the project preparation, there was concern from the local DM staff that there should not be engagement with Traditional Leaders and local communities until such time as the project has been awarded. This was to not only avoid the creation of expectations with communities and their leadership, but also to avoid conflict over priorities. As such, the experience of LM, DM and Provincial staff assisted in the project design as it stands, aligning with priorities.

¹¹ Patton, M (2010). Developmental evaluation: Applying complexity concepts to enhance innovation and use. New York, NY: Guilford Press.

During this Phase it will be essential to not only re-affirm the scope and intended impact of the interventions as well as initiate the working partnership with these local communities. This will require a number of meetings to ensure effective alignment and the engagement of local partners NGOs or Civil Society Organisations (CSOs) will be imperative. This would include such as aspects:

- **Scope:** What activities will be undertaken, scale and location, noting that this influences the risk allocation, determination of roles and responsibilities etc.
- **Key objectives:** Aligning with the project objectives and KPIs and clarifying how activities will attain and be monitored.
- **Parties:** How will support be contracted to undertake the various Eco-DRR interventions, the roles for communities and other key actors including municipal support.
- **Regulatory:** All licensing and permit requirements will be determined and finalised during Operationalisation Phase.
- **Social and environmental safeguards:** What are the social and environmental requirements for the intervention including gender dimensions and Sexual Exploitation Abuse and Harassment (SEAH) aspects. This would involve sharing and discussing GRMs so as to ensure these are fit for purpose.
- **Performance:** Linked to the monitoring and evaluation framework, it will be important to be clear on how performance will be monitored and measured. This will include the technical elements of impact on drought, flood and wildfire as well as the socio-economic and environmental aspects. The requirements for baselines to ensure assessment of impact will need to be determined and a plan this developed as necessary.
- **Project Sites:** Where will the project be undertaken including aspects of tenure. More detailed mapping will be required, linked to the scope of activities. This will include the various risks linked to the implementation of the interventions inclusive of aspects of occupational health and safety, the potential for environmental impacts as well as the broader social and gender risks, as outlined in the ESMF and the Gender Action Plan.

Linked to the above an initial suite of eligibility criteria have been developed. As with all GCF supported projects the locations and suite of interventions selected must address climate change induced hazards. For the Eco-DRR project the Climate Risk and Vulnerability Assessment has demonstrated that geographically the four locations are under increasing levels of risk to climate change induced hazards into the future, and communities in these areas will be increasingly vulnerable. However, to finalise these sites and the interventions during the project's Operationalisation Phase, additional criteria will be utilised and included in the projects Operations Manual, once a more comprehensive baseline assessment is completed. These initial eligibility criteria are outlined in Table 4-1.

The DM Task Teams will work with the Outcome Task Teams to develop an Operationalisation Report for each of the three Outcomes. Staff from the PMU will also support this process and provide guidance to ensure both accuracy as well as consistency across these reports that will be submitted via the PMG to the PSC for endorsement. These reports will need to provide:

- Final sites including accurate spatial data linked to the suite of interventions to be undertaken. This would incorporate an updated costing of the interventions as well as clarity on implementation arrangements. This would outline the support requirements linked to the activities as well as budgets for this support.
- Clarity as to how the environmental and social safeguards, as well as gender aspects will be monitored and reported as the interventions are undertaken. Importantly, clarifications on the GRM will be supported for each Outcome, and most specifically where site based interventions will be undertaken.
- Detailed stakeholder analysis including a more accurate assessment of the number of beneficiaries.
- Management and engagement arrangements, linked to the broader project governance arrangements.
- Outcome level monitoring, evaluation, learning and reporting arrangements, linked to those of the broader project.

Table 4-1: Initial suite of eligibility criteria for the project outcomes (to be fully developed in the project's Operations Manual)

Outcome	Output	Activities	Responsibility	Eligibility Criteria
Outcome 1: The incorporation of Eco-DRR strategies into integrated landscape management enhances the resilience of ecological infrastructure, and climate-vulnerable communities.	Output 1.1: Ecosystems are rehabilitated, maintained and sustainably managed for Eco-DRR.	Activity 1.1.1. Establish local-level project delivery hubs, governance arrangements and capacity for implementation.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 1 Task Team DRR into Eco, DM Task Teams 	<p>Outcome 1 focuses on a site-based programme of work that improves ecosystem condition and supports locally led adaptation.</p> <p>In addition to the government arrangements that are set forth in the funding proposal, the project will aim to establish 4 stakeholder engagement forums (1 per DM), and 8 Community engagement working groups (2 per DM) with traditional leader meetings held in each DM.</p> <p>Governance arrangements and project delivery hubs will need to consider the following criteria:</p> <ul style="list-style-type: none"> Strong ownership and support from municipalities. Presence and capacity of NGOs / civil society within the targeted sites. Support from traditional authorities and ward councillors. Availability of key municipal staff. Willingness of communities to participate. Recent history of conflict or violence that may endanger staff, stakeholders or community members. <p>The initial eligibility criteria for selection of NGOs is presented below:</p> <ul style="list-style-type: none"> Local experience and knowledge linked to Eco-DRR. Previous experience working with communities and local government as well as working in the selected geographical areas. Evidence of financial, environment and social integrity and due diligence. Competent and experienced cohort of staff.
		Activity 1.1.2. Undertake community-level engagements towards the co-development of a vision, strategy and implementation plan for improved Eco-DRR.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 1 Task Team DRR into Eco, DM Task Teams 	<p>In addition to the government arrangements that are set forth in the funding proposal, the project will aim to establish 4 stakeholder engagement forums (1 per DM), and 8 Community engagement working groups (2 per DM) with traditional leader meetings held in each DM.</p> <p>The selection of communities to be involved in the engagements will depend on the final sites and project interventions which will be</p>

Outcome	Output	Activities	Responsibility	Eligibility Criteria
				<p>clarified during the Operationalisation Phase of the project. The geographic location and environmental suite of interventions that will determine the level of impact of Eco-DRR interventions will be primary criteria. These interventions will be undertaken in close collaboration with the different stakeholders at local level including municipalities, traditional leadership, communities etc. For the community-level engagements, the criteria includes commitment, ability and willingness to fully participate in the engagements. Women and youth participation will be prioritised, with an effort to have balanced representation. Thus the willingness and availability of women and youth to participate will be essential. Local social and community dynamics will be carefully considered in ensuring equitable representation. The request to participate in these engagements will be done through existing forums / channels currently being utilised by the municipalities, NGOs, civil society etc. as well as community notice boards (where applicable) and social media platforms.</p>
		Activity 1.1.3. Implement collaborative rehabilitation and management programmes for ecological infrastructure to improve ecosystem condition.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 1 Task Team DRR into Eco, DM Task Teams 	<p>The project will aim to rehabilitate, maintain and sustainable manage 68,010 ha of land.</p> <p>The geographic location and environmental suite of interventions that will determine the level of impact of Eco-DRR interventions will be primary criteria. These interventions will be undertaken in close collaboration with the different stakeholders at local level including municipalities, traditional leadership, communities, civil society, NGOs, academia etc. Thus, the willingness of communities, together with other key stakeholders, to engage with and support the project will be important.</p> <p>The selection criteria of sites and local beneficiaries for the project will be further refined during the Operationalisation Phase of the project when a baseline has been undertaken. The process of finalising the appropriate interventions will ensure prioritisation of gender-responsive and participatory approaches that will also target youth and other marginalised groups e.g. people with disabilities, elderly, child-headed households etc.</p> <p>The validation of these selection criteria of beneficiaries will involve all the relevant local stakeholders, Outcome 1 Task Team DRR into Eco, DM Task Teams and the PMGC.</p>

Outcome	Output	Activities	Responsibility	Eligibility Criteria
				<p>An initial list of criteria is presented below:</p> <ul style="list-style-type: none"> History of floods, wildfires and droughts coupled with vulnerable communities present at the site Community selection will prioritise youth and women as well as other vulnerable groups such as the elderly, people with disabilities, child-headed households etc. Communal and government-owned land with minimal land tenure conflicts. Strong ownership and support from municipalities Presence and capacity of NGOs / civil society within the targeted sites Support from traditional authorities and ward councillors. Absence of any cultural heritage sites or resources. Absence or a limited number of interventions that will trigger an environmental authorisation (unless deemed necessary by the PMG). Alignment with the municipalities' integrated development plans and/or District One Plans. Consistency with the environmental and social safeguard categorisation of the Eco-DRR project (Category B with some elements of Category C). <p>The selection of eco-champs will consider the following:</p> <ul style="list-style-type: none"> Location (to be based in the final sites and target communities). Commitment, ability and willingness to fully participate in associated project interventions. Commitment to raise awareness and build the capacity of additional community members through the project activities and beyond.
		Activity 1.1.4. Develop innovative Eco-DRR tools to support adaptive management of the site-based programme of work.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 1 Task Team DRR into Eco, DM Task Teams 	<p>This Activity is aiming to develop a suite of innovative tools and approaches that can be further upscaled to support the implementation of Eco-DRR. These tools and approaches will need to be:</p> <ul style="list-style-type: none"> Approaches that support co-creation and active engagement of communities and stakeholders.

Outcome	Output	Activities	Responsibility	Eligibility Criteria
				<ul style="list-style-type: none"> Approaches and tools that are pragmatic, cost effective and sustainable. Approaches and tools that facilitate engaged and cooperative outcomes between established commercial enterprises and communities. Approaches that enable progressive capacitation as well as knowledge exchange. Approaches that support the engagement of the most vulnerable and marginalised. Tools that build climate resilience, ensure sustainability and result in ecosystem based adaptation. Approaches and tools that recognise the convergence of environmental, developmental and socio-economic aspects to underpin sustainable and resilient growth and development.
		Activity 1.1.5. Protect critical assets with investments in ecological infrastructure.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 1 Task Team DRR into Eco, DM Task Teams 	<p>The validation of these selection criteria of beneficiaries will involve all the relevant local stakeholders, Outcome 1 Task Team DRR into Eco, DM Task Teams and the PMGC.</p> <p>An initial list of criteria is presented below:</p> <ul style="list-style-type: none"> History of floods, wildfires and droughts coupled with vulnerable communities present at the site Community selection will prioritise youth and women as well as other vulnerable groups such as the elderly, people with disabilities, child-headed households etc. Communal and government-owned land with minimal land tenure conflicts. Strong ownership and support from municipalities Presence and capacity of NGOs / civil society within the targeted sites Support from traditional authorities and ward councillors. Absence of any cultural heritage sites or resources. Absence or a limited number of interventions that will trigger an environmental authorisation (unless deemed necessary by the PMG). Alignment with the municipalities' integrated development plans and/or District One Plans.

Outcome	Output	Activities	Responsibility	Eligibility Criteria
				<ul style="list-style-type: none"> Consistency with the environmental and social safeguard categorisation of the Eco-DRR project (Category B with some elements of Category C).
	Output 1.2: Local, gender-inclusive and sustainable ecosystem-based livelihoods support locally led adaptation.	Activity 1.2.1. Identify and assess opportunities to develop sustainable ecosystem-based livelihoods in support of locally led adaptation.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 1 Task Team DRR into Eco, DM Task Teams 	<p>Output 1.2 will focus on people (youth and women) as well as small, SMMEs that adopt sustainable ecosystem-based livelihood options. The total number of people that will be targeted for adopting sustainable ecosystem-based livelihood options is 366,088 (F =193,594; M = 172,494). In addition, 8 SMMEs (4 per DM i.e. Alfred Nzo and Ehlanzeni) will be selected as beneficiaries as well as 200 youth (100 per DM i.e. Alfred Nzo and Ehlanzeni) and 300 females (150 per DM i.e. Alfred Nzo and Ehlanzeni).</p> <p>A detailed selection criteria of the local beneficiaries of the project for this output will be based on criteria developed during the Operationalisation Phase of the project when the final sites have been selected and a baseline undertaken of current SMME establishment and linkages to ecosystem-based livelihoods. This will be done in close collaboration with the different stakeholders at local level including municipalities, traditional leadership, communities, civil society, NGOs, academia etc. Discussions will also be held with the Department of Small Business Development to ensure that the appropriate SMMEs are selected. The validation of these selection criteria of beneficiaries will involve all the relevant local stakeholders, Outcome 1 Task Team DRR into Eco, DM Task Teams and the PMG. Women and youth participation will be prioritised, although some places will be filled by men. Some of the key criteria that will be considered when selecting SMMEs will include the following:</p> <ul style="list-style-type: none"> Business activities focus on and are linked to ecosystem-based livelihoods. Businesses are based in the final sites selected for Outcome 1. Businesses display entrepreneurial spirit and interest in developing sustainable ecosystem-based livelihoods in support of locally led adaptation.
		Activity 1.2.2. Support the further development and/or establishment of small, medium and micro enterprises (SMMEs) for sustainable ecosystem-based livelihoods.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 1 Task Team DRR into Eco, DM Task Teams 	

Outcome	Output	Activities	Responsibility	Eligibility Criteria
				<ul style="list-style-type: none"> Willingness to support local communities' livelihoods linked to ecosystems. <p>Eco-champs will support in monitoring and reporting on progress. The selection of eco-champs will consider the following:</p> <ul style="list-style-type: none"> Location (to be based in the final sites and target communities). Commitment, ability and willingness to fully participate in associated project interventions. Commitment to raise awareness and build the capacity of additional community members through the project activities and beyond.
Outcome 2: The incorporation of Eco-DRR into transformative disaster preparedness and response reduces the adverse impacts of climate-induced hazards on built infrastructure and climate-vulnerable communities.	Output 2.1: Local governments and communities implement improved Eco-DRR preparedness and response measures.	Activity 2.1.1. Establish a foundation for the incorporation of Eco-DRR into transformative disaster preparedness and response in the target DMs.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 2 Task Team Eco into DRR, DM Task Teams 	<p>Outcome 2 will rely on strong ownership and buy-in from municipalities and communities. A total of 5,481,886 people (F=2,883,003; M=2,598,883) will be covered by new or improved early warning systems including 32 hazard avoidance and disaster response drills (8 held in each of the 4 DMs).</p> <p>A detailed selection criteria of the local beneficiaries of the project will be based on criteria developed during the Operationalisation Phase of the project when the final sites have been selected and a baseline assessment of early warning preparedness and community vulnerability has been undertaken. This will be done in close collaboration with the different stakeholders at local level including municipalities, traditional leadership, communities, civil society, NGOs, academia etc. The selection criteria of beneficiaries will involve all the relevant local stakeholders, Outcome 2 Task Team Eco into DRR, DM Task Teams and the PMG. Women and youth participation will be prioritised, although some places will be filled by men.</p> <p>The criteria for site selection for hazard avoidance procedures and drills will be finalised during the Operationalisation Phase, but an initial list of criteria is presented below:</p> <ul style="list-style-type: none"> History of floods, wildfires and droughts coupled with vulnerable communities present at the site. Strong ownership and championing from municipalities and the Provincial Disaster Management Centres (PDMCs).
		Activity 2.1.2. Develop and implement a municipal capacity and support programme towards the mainstreaming of Eco-DRR into disaster risk management strategies and plans in the four DMs.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 2 Task Team Eco into DRR, DM Task Teams 	
		Activity 2.1.3. Develop and activate innovative technologies and approaches that improve the dissemination of early warning products and messages about droughts, floods and wildfires in the four DMs.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 2 Task Team Eco into DRR, DM Task Teams 	

Outcome	Output	Activities	Responsibility	Eligibility Criteria
				<ul style="list-style-type: none"> Support from traditional authorities and ward councillors. Alignment with the municipalities' integrated development plans and/or District One Plans. Consistency with the environmental and social safeguard categorisation of the Eco-DRR project (Category B with some elements of Category C). <p>The selection of beneficiaries and/or target communities will ensure prioritisation of gender-responsive and participatory approaches that will also target youth and other marginalised groups e.g. people with disabilities, elderly, child-headed households etc.</p> <p>The selection of participants for the municipal capacity and support programme will depend on the following criteria:</p> <ul style="list-style-type: none"> Commitment, ability and willingness to fully participate in the capacity building programme. Commitment to raise awareness and build the capacity of additional municipal staff through the project activities and beyond. Target of 50% females from municipal staff.
		Activity 2.1.4. Update the Green Book	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 2 Task Team Eco into DRR, DM Task Teams 	<p>In improving tools that support municipalities to address local vulnerabilities and reduce the impacts of climate change induced droughts, floods and fires, the need is to have a tool that:</p> <ul style="list-style-type: none"> Web-based or App-based tool that enables municipal staff and stakeholders to have access to knowledge, information, and data regarding climate change impacts at municipal scale. Has the ability to incorporate the many aspects that drive climate change induced vulnerability. That can show the impacts of climate change on drought, flooding and fire over various climate change scenarios into medium and long-term futures. Provides the ability to easily download and use supporting reports, graphics and data. Is accessible to all without subscription and payment. Is user friendly and relatively easy to use despite levels of literacy and with English as a second or third language.

Outcome	Output	Activities	Responsibility	Eligibility Criteria
	Output 2.2: Eco-DRR is mainstreamed into national and sub-national asset risk management, environmental policy and spatial planning.	Activity 2.2.1. Identify the risk of critical built infrastructure and settlements to droughts, floods and wildfires.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 2 Task Team Eco into DRR, DM Task Teams 	<p>This will include risk assessments of current and planned built infrastructure and the mapping of linkages between these risks and the potential benefits that ecological infrastructure investments can provide in reducing these risks. To do this key criteria include:</p> <ul style="list-style-type: none"> The presence of an infrastructure masterplan or an Integrated Development Plan that provides current and planned infrastructure needs. Asset register and built infrastructure design plans. Records or data of the relative exposure of key / priority built infrastructure to drought, floods and fire. Spatial data to support the use of GIS mapping to link ecological and built infrastructure. Clear role of ecological infrastructure in reducing the relative risk of drought, flood and wildfires to built infrastructure. Hydrological, meteorological and climatological data to support a risk analysis of built infrastructure as well as the impact of ecological infrastructure of relative risk. Community and stakeholder inputs into prioritisation.
		Activity 2.2.2. Mainstream Eco-DRR and ecological infrastructure principles and priorities into national and local environmental policies, spatial plans and supporting instruments.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 2 Task Team Eco into DRR, DM Task Teams 	<p>South Africa has rich suite of policy, legislative and regulatory instruments. While there is a Constitutional imperative to ensure a cooperative government approach, this does not always translate into the various instruments that frame governance. In addressing Eco-DRR and ensuring these approaches are mainstreamed the selected instruments should:</p> <ul style="list-style-type: none"> Include water from a management, development and service provision perspective. Include environmental aspects linked to resilience, sustainability and ecosystem based adaptation. Disaster risk reduction and the intergovernmental approaches required to reduce risk and the impacts on lives and livelihoods. Land management and planning. Financial management and risk associated instruments (such as insurance) that may support the ability to leverage private and public sector finance.

Outcome	Output	Activities	Responsibility	Eligibility Criteria
				<ul style="list-style-type: none"> Institutional and governance dimensions.
Outcome 3: An enabling environment is created for investment in Eco-DRR through a strengthened evidence base and improved learning and knowledge management.	Output 3.1: Financial mechanisms developed and strengthened to enhance private and public sector investments in Eco-DRR.	Activity 3.1.1. Assess and strengthen the policy and investment environment to support private sector engagement in Eco-DRR	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 3 Task Teams 	<p>Outcome 3 aims to establish well-functioning coordination mechanisms at all levels of government to effectively coordinating climate change response through Eco-DRR that 4 investment packages developed in target landscapes; business cases developed; ecosystem service accounts (physical and monetary) developed; spatially explicit biocarbon accounts developed; 20 knowledge products disseminated (4 per DM and 4 national); 6 Eco-DRR learning platforms functional (1 per DM and 2 national); and 20 reflective social practice capacity development modules developed.</p> <p>The selection of participants for capacity building and knowledge exchange under Activity 3.1.2 will depend on the following criteria:</p> <ul style="list-style-type: none"> Line function staff that are from institutions that are engaged in the Eco-DRR project Commitment, ability and willingness to fully participate in the capacity building programme Commitment to raise awareness and build the capacity of additional municipal staff (i.e. train the trainer) through the project activities and beyond. Target of 50% females. <p>The criteria for the selection of sites for Activity 3.1.3 will be developed in the Operationalisation Phase of the project.</p>
		Activity 3.1.2. Build capacity and facilitate the exchange of knowledge for public - private sector investment in Eco-DRR.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 3 Task Teams 	
		Activity 3.1.3. Develop a portfolio of financial mechanisms and investment packages and unlock new revenue streams for Eco-DRR from private and public sector.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 3 Task Teams 	
		Activity 3.1.4. Develop a sustainable public sector employment funding model to support the rehabilitation and maintenance of ecological infrastructure.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 3 Task Teams 	
	Output 3.2: Informed decision making for Eco-DRR is supported and promoted	Activity 3.2.1. Strengthen and improve data management platforms towards supporting adaptive management and informed decision-making by policymakers and market participants.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 3 Task Teams 	
		Activity 3.2.2. Compile spatially explicit ecosystem asset and biocarbon accounts.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 3 Task Teams 	
		Activity 3.2.3. Develop and implement a project level social learning programme in support of adaptive management and decision making.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 3 Task Teams 	

Outcome	Output	Activities	Responsibility	Eligibility Criteria
		Activity 3.2.4. Develop and implement a structured suite of approaches to enable access to Eco-DRR information.	<ul style="list-style-type: none"> Executing Entity: SANBI (PMU) Project Partner: Outcome 3 Task Teams 	

The ESMF provides the framework and tools for ensuring that during the projects implementation all activities are undertaken in such a manner to adhere with regulatory requirements as well as that of the GCF safeguards. During the Operationalisation Phase the mechanics for this will need to be developed including the appointment of staff, the development of communications and training materials, as well as the establishment of the GRM. All of these will be in place prior to the initiation of implementation work.

This process to finalise the intervention sites and to gather additional data and information will be used as the basis for the development of a Terms of Reference for the implementation support that will be provided by localised NGOs that have the appropriate skills and experience. Due to the importance of this aspect of the project, in terms of really establishing the evidence base for Eco-DRR at community scale, this SCM process would be initiated within the first year of the project. Key process steps will be as follows:

- **Call for Expressions of Interest:** Within the first 12 months of the project the PMU will develop a high-level Terms of Reference that outlines the scope of the project and the core outcomes, as well as outline the broad areas of support that would be needed. This Terms of Reference will be approved by the PMG and then be endorsed by the PSC prior to release by Supply Chain Management. Prospective NGOs and Consultants who would like to provide support would be asked to provide a list of key experts, supported by Curricula Vitae as well as a capability statement that reflects the relative experience.
- **Establishment of the Project Support Panel:** The submissions received will be evaluated with the support of the SCM staff as well as staff from the PMU. These will be evaluated against agreed upon criteria utilising the procurement rules of SANBI and aligned to regulations for procurement set by National Treasury. This will include aspects of equity and diversity, with a specific focus on historically disadvantaged groups and gender representation.

It is important to note that over and above these appointments by SANBI to support project interventions, it will be essential during the Operationalisation Phase to put in place a number of collaboration agreements, which will not only outline the commitment of public sector entities to support the project but will also provide clarity as to the actual support that will be provided across the duration of the project. While it is understood that the project will evolve and adjust with time, it will be important to have the commitment of staff with some indication of levels of effort. This would include the DMs and SALGA, as well as others to be identified during the Operationalisation Phase.

4.3 PHASE 3 -IMPLEMENTATION

Under **Outcome 1**, the establishment of project delivery hubs in Alfred Nzo DM and Ehlanzeni DM will be a key departure point for the implementation of landscape level work in these areas. This will be initiated in Year 2, so that there is 6 months to prepare prior to the start-up of implementation activities. This will require the procurement of the support teams timeously (as mentioned above). To affect this efficiently, it is suggested that a call for Expression of Interest be released earlier (Month 6 after project approval) so that the Tender / Request for Proposal is smoother.

With the support team on-board it will be important to establish the project delivery hubs in Alfred Nzo DM and Ehlanzeni DM and establish the standards operating procedures for the hub. This will then provide the basis for the project team to undertake preparatory work with the communities prior to start-up of activities that support Activity 1.1.3: Implement collaborative rehabilitation and management programmes for ecological infrastructure to improve ecosystem condition. This will be started in Year 3, which provides sufficient time for the requirements to ensure environmental and social safeguarding, gender-focused actions and the GRM to be in place.

This will provide rich lesson learning for the actions to be taken for the implementation of projects in Ngaka Modiri Molema DM and Sekhukhune DM, which will utilise different delivery mechanisms. As indicated in the Feasibility Study, these areas require support to strengthen the receiving environment for such projects. The lessons being gleaned from Alfred Nzo and Ehlanzeni DMs will be instructive. Hence, the activities under Activity 1.1.5: Protect critical assets with investments in ecological infrastructure will only be initiated in Year 4, with these projects having a three-year lifespan compared to the other two locations where those projects will run for five years, to develop a sufficient evidence base.

Under **Outcome 2**, the efforts to support the incorporation of Eco-DRR into transformative disaster preparedness and response reduces the adverse impacts of climate-induced hazards on built infrastructure and climate-vulnerable communities will start in Year 2 with a baseline assessment of the levels of disaster preparedness across the four DMs. This will require considerable engagement with quite a group stakeholders as well as outlining spatially how hazards can be avoided. This will require a well-structured stakeholder engagement process that is fit-for purpose in each DM. Actions to introduce new and innovative technologies for early warning will only be initiated in Year 4 thereby providing sufficient time to develop a robust understanding of the challenges being experienced and to scope the kinds of solutions required. This will be accompanied by staff capacitation within the DMs.

While this aspect of the project is less about the environmental dimensions and is more focused on the social aspects, it is nevertheless critical to ensure compliance with the ESMF, particularly regarding social safeguarding, gender aspects as well as the Grievance Response Mechanism. Noting that the above-mentioned process will involve considerable stakeholder engagement, this is imperative and will be fed into the MERL system to track progress.

Activities under Outcome 2 focused on the mainstreaming of Eco-DRR into plans and policies, will largely focus on institutional engagements and as such it will be important during Year 3 to undertake a detailed stakeholder mapping exercise, as this will involve DM staff, staff across various LMs as well as staff in differing departments in each LM. This will be accompanied by a capacitation programme. The involvement of this group in identifying built infrastructure at risk (Activity 2.2.1) and the mainstreaming of Eco-DRR principles into policies and plans (Activity 2.2.2) will be critical and will be a key part of enabling upscaling into other areas across the DM.

Outcome 2 also includes the update of the Green Book Municipal Climate Vulnerability tool. It is important to note the technical complexity of this task, and as such the development of the Terms of Reference for this and associated Supply Chain Management process will be initiated in Year 3, with planned start-up in Year 4.

Under **Outcome 3** the focus of the project turns to the enabling environment for Eco-DRR uptake and as such is more nationally focused. Whereas stakeholder engagement under the previous Outcome will be on community and DM, these

engagements will aim to leverage existent national platforms. Updating the stakeholder database for this Outcome (during the Operationalisation Phase) will prove important. Many of the activities start in Year 2 and are ongoing until the end of Year 7. This being focused on how to replicate and upscale; this Outcome will need to leverage the data and information being gathered across Outcomes 1 and 2. A few aspects of implementation are important:

- **The development of investment packages** under Output 3.1 will be dependent on the data and information gathered through the site-based work under Output 1.1. It is therefore imperative that during the Operationalisation Phase and the site / intervention scoping and analysis, that the data and information requirements to support the development of investment packages is clarified. In other words, the teams will need to ensure that they are collecting the right data and information to support the development of these packages.
- **The compilation of spatially explicit asset and biocarbon accounts** will only be initiated in Year 5 but will be highly dependent on the data gathered during the site based intervention work under Output 1.1. It will be essential that the team leading on the development of these accounts ensure that the data and monitoring requirements are clarified.
- The implementation of the **project level social learning** programme will need to be dovetailed with the projects MERL framework and work together seamlessly. The principles behind these need to be aligned. For this reason, the work on the development of this programme is initiated during the Operationalisation Phase.

The appointment of support resources will be undertaken to supplement the skills and resources provided by SANBI, SALGA and partners. These will utilise a closed tender process asking teams that have been appointed to the panel to submit a tender bid, in response to a request for proposals.

- **Requests for Proposal:** These requests will be prepared timeously in advance of work to be undertaken and aligned with the programming that is outlined for each Outcome, incorporated into the Operationalisation Phase Report. The PMU will work closely with the SCM Unit of SANBI to develop the Terms of Reference and the supporting bid submission and compliance requirements. This will be reviewed by the PMG and will be signed off by the PSC.
- **Proposal Adjudication:** The adjudication of the proposal received will utilise the procurement protocols of SANBI that are aligned to the regulatory requirements set by National Treasury. The adjudication panel will include staff from SCM and technical staff from the PMU. For more strategic and financially larger appointments, representation of staff from SANBI would include more senior staff. As per South African regulatory requirements, these bids would have to meet a minimum technical hurdle after which the cheapest provider would be selected. Recommendations in terms of appointments would be signed off by the Chairperson of the PMG and the Chairperson of the PSC.
- **Project Management:** All appointments will require an inception phase prior to the initiation of project work. This will need to clarify all aspects of delivery as well ensuring alignment on how environmental and social safeguards will be adhered to, how projects are to be managed and the requirements in terms of reporting.

4.4 PHASE 4 – CLOSURE

The final phase of the project will take place in Year 8 and will involve the end of term evaluation. The mid-term review will have provided instructive guidance to the project team on how to further strengthen performance and as such the final evaluation will reflect on the performance thereafter. The evaluation itself will need to be based upon credible evidence towards making recommendations, particularly to informing future GCF investment decisions. Equally, this evaluation is important for the SANBI (as Direct Access Entity) to take lessons learned into future projects. The terms of reference (TOR) for this evaluation will be consistent with the GCF results management framework in terms of information and data requirements.

The role of the GCF Secretariat in terms of the evaluation is noted and in this regard the Project Management Unit, working closely with the Project Steering Committee will liaise regularly regarding the TOR for the evaluation, the quality and completeness of the mid-term review and the final evaluation, as well as the findings and feedback from the evaluation.

It is also noted that the Secretariat also encourages real-time project assessment as well as the use of mixed method approaches that involve both quantitative and qualitative data collection methods and assessment. These approaches are aligned with those methods typically employed by SANBI, and that will be used in the projects MERL framework and approach.

5 Monitoring, Evaluation, Reporting and Learning (MERL)

5.1 APPROACH

The Eco-DRR project is a complex undertaking that consists of numerous outcomes and interventions interfacing at multiple points during implementation. In addition, the relative originality of the programme in South Africa means that quantitative indicators for climate resilience-related projects need to be applied together with a range of qualitative indicators as part of a tailored MERL framework for the project.

The purpose of the MERL framework developed is to:

- Present consolidated information to assess and track implementation and outputs systematically;
- Ensure accountability and transparency at all levels of the project;
- Identify areas for improvements and learning (internal and external) and share lessons learned / case studies; and
- Support effective project management of the Eco-DRR project.

The Eco-DRR project aims to support the adoption of ecosystem-based approaches as a strategic measure to mitigate the risks posed by climate-induced hazards such as droughts, floods and wildfires, so that the resilience of ecological infrastructure and communities that are vulnerable to climate change will be enhanced. This has both a quantitative and qualitative dimension to its reporting. While there are a number of quantitative indicators that can apply to the project, it is equally important to report on the qualitative achievements and opportunities during implementation. The project touches on a number of sectors and has a broader impact that cannot be solely assessed through quantitative indicators. As such, the MERL framework adopts a dual approach to monitoring and evaluation that looks at both quantitative and qualitative indicators. The quantitative indicators provide information regarding the scope of the project and can indicate the success or failure of an intervention, thereby highlighting areas for improvement that lead to better implementation. On the other hand, qualitative indicators can provide in-depth information on changes at key strategic points during implementation and allows more open-ended processes that take into consideration complexity and non-linearity. It must be noted that this dual approach of qualitative and quantitative indicators should not be viewed as two separate processes but rather an integrated approach to monitoring and evaluation where both elements complement each other towards the betterment of the programme's monitoring and evaluation.

Since the GCF reporting looks primarily at quantitative indicators, the qualitative information will be captured and reported on at a project-level and outcomes-level. This will be supported by the fact that much of the qualitative information required for reporting is closely linked to on-the-ground implementation processes and will require ongoing reporting which will help to inform project-level and GCF reporting. In addition, there is a wealth of knowledge that can be gleaned from qualitative information which can provide key learnings to both the internal project team as well as broader stakeholders. This has resulted in the MERL framework having both a quantitative and qualitative component.

5.2 FRAMEWORK

The MERL framework helps to support an integrated approach that then ensures continuous learning and improvement. Thus the MERL framework must be fit-for-purpose and appropriate for the project and its objectives. As such, the tools used to support the MERL framework must be cognisant of the following:

1. The project's overall impact and objective;
2. The target beneficiaries that the project seeks to benefit;
3. The extent that monitoring and evaluation will be involved in the project management;
4. The assumptions that link objectives to interventions/activities, and
5. 5Project scope, budget and duration.

The project cycle incorporates a number of stages, with each stage having specific MERL requirements.

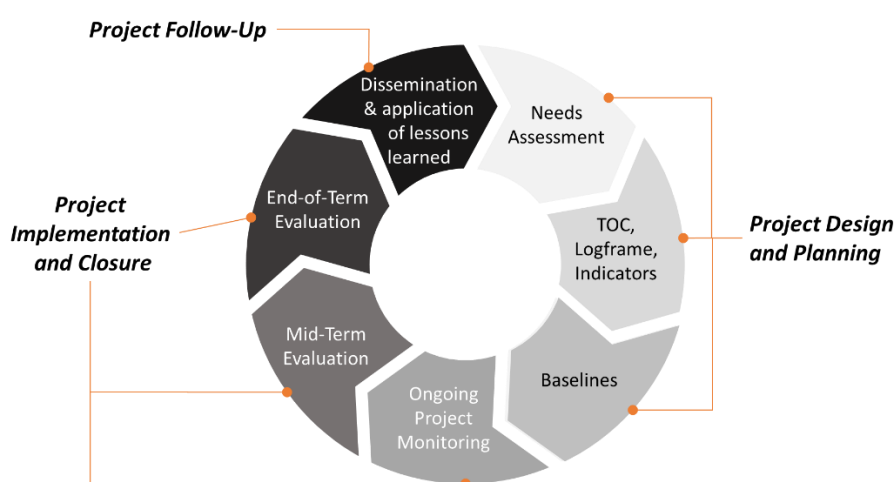


Figure 5-1: MERL and the project cycle

During the project design and planning phase, a needs assessment has been conducted as part of the projects feasibility study, followed by development of a Theory of Change and a logical framework. These two components interlink and provide the overarching goal and vision for the project. Following this, indicators and baselines have been established, and these will be revisited during the Operationalisation Phase leading into project implementation supported by ongoing project monitoring. Mid-term and end-of-term evaluations are key points during both the project and MERL cycle. Mid-term review will allow for project implementation to be assessed at the half-way point using the results framework, Theory of Change (ToC) and indicators. This stage also offers the opportunity to refine the ToC and results framework, noting that project implementation can encounter a range of unexpected challenges that requires adaptation and appropriate responses. End-of-term evaluation is the final evaluation of a project and assesses the overall project and whether goals and objectives have been achieved. However, this does not represent the end of a project as project follow-up is still necessary. This component focuses on the dissemination and application of lessons learned during project implementation. As is often the case, many projects produce valuable lessons that can be implemented and/or shared after the project is completed. This step is essential in ensuring that the project has a long-lasting impact that is felt beyond the duration of the

project. SANBI, together with key partners such as DFFE will take responsibility for this information and knowledge dissemination.

5.3 ONGOING PROJECT MONITORING AND REPORTING

The PMU will take the lead in establishing and operationalising the monitoring and reporting protocols, with the PMU having a dedicated monitoring and evaluations manager. These protocols will interface with the systems of SANBI and will align in order to ensure that these then support the reporting to GCF, by SANBI as Direct Access Entity. The dedicated monitoring and evaluations manager will be responsible for monitoring the project's outputs and outcomes, including on-going data collection and baseline reviews. A project-level monitoring budget has been provided for the staffing budget and associated activities. This includes the manager, and any additional capacity required to undertake tasks such as location and site visits, surveys and regular reporting. The project's M&E manager will be closely aligned with the SANBI's M&E staff, particularly during the Operationalisation Phase to conduct surveys for outcomes which require on-the-ground baseline assessments.

Building on the experiences and approaches developed by SANBI, the project will use a participatory monitoring approach (Figure 5-2) that will involve communities, local stakeholders, traditional leaders, governmental staff as well as civil society organizations. The governance arrangements of the project are structured as such to support this and are built upon the principles of participation, negotiation, trust, flexibility, learning and adaptive change.

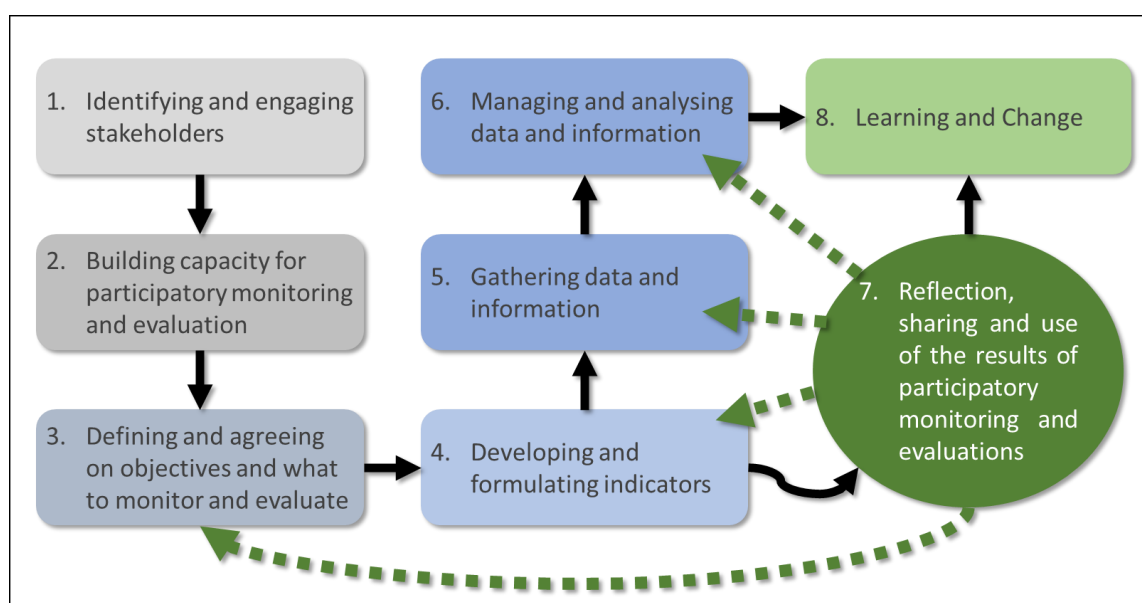


Figure 5-2: The participatory monitoring and evaluation approach (after (Njuki, Kaaria, Chitsike, & Sanginga, 2006))

The MERL framework for the project outlines the approach to be used at project and outcome levels to track progress against indicators, baselines, mid-term and end-term targets. The approach to project monitoring and reporting provides for the different “levels” of reporting that is required for the project, and will underpin ongoing project management, will track progress towards impact as well provide the basis for lesson learning. These levels are given in Figure 5-3.

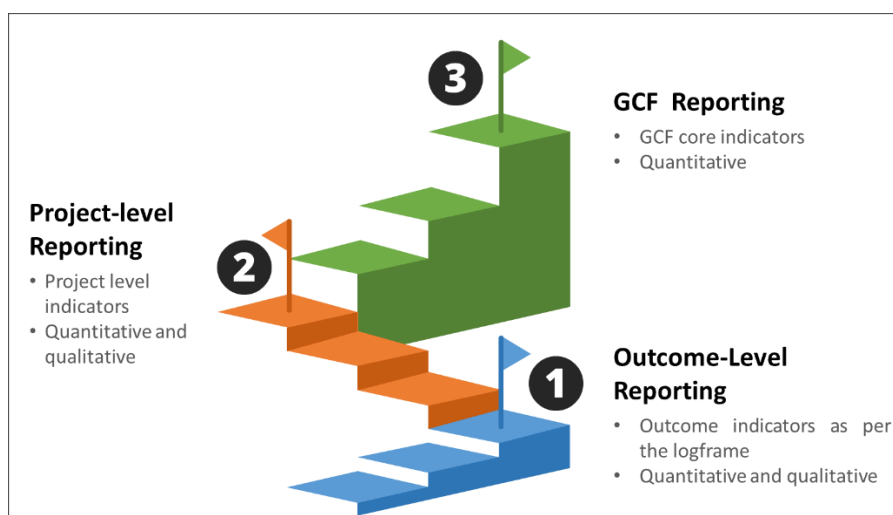


Figure 5-3: The three levels of monitoring and reporting for the Eco-DRR project

1. Outcome-level reporting

This refers to reporting for each of the outcomes and the output deliverables to be produced for each of the three outcomes. The teams working on the various Outputs will report to the Outcome Team which will make adaptive management decisions to support effectiveness and efficiency. The PMU will provide assistance where needed to ensure reporting protocols are adhered to and that there is consistency in approach across the District Municipalities. The PMU and PMG will step in to support on project management decisions where needed, particularly where decisions have budgetary implications. The monitoring of performance regarding environmental and social safeguards, as well as gender aspects will be critical with any red-flag issues being reported to the PMU and PMG as a matter of urgency. To support the roll-out of activities and sub-activities a range of reporting needs must be met. The PMU's monitoring and evaluations manager will work with the Outcome Task Teams to determine the most appropriate levels of reporting. The possible range of reporting requirements are provided in Table 5-1.

Table 5-1: The suite of project activity reports

Report Name	Report Scope and Contents	Frequency / Who
Operationalisation Report	Agreed approach to site specific issues prior to commencement of work. Safeguards requirements as well as GRM Confirms agreed upon KPIs	Once (follow up on action points) Outcome Technical Manager / PMU /Contractor
Daily/ Weekly Site Report	Progress, issues including any complaints under GRM.	Daily Contractor / NGO Implementation Supervisor
Site Report (Weekly)	Summary of daily reports, issues, progress against programme of works and safeguards summary including GRM.	Weekly Environmental Programmes and Safeguards Officer / NGO Implementation Supervisor
Notices	Details activities required to bring service / works up to ToR / specification.	As per ESMF Environmental Programmes and Safeguards Officer / NGO Implementation Supervisor
Ad Hoc/ Audit Report	Audits for compliance and verification of safeguards, project progress and systems.	Ad Hoc Environmental Programmes and Safeguards Officer / PMU
Works Completion Report	In two parts: 1. Confirmation of completion of physical works 2. Confirmation of completion and demobilisation of Contractor.	PMU Technical Manager / Supervising Consultant / NGO

Report Name	Report Scope and Contents	Frequency / Who
Monthly Report	Progress of all Activities	Outcome Technical Manager / PMU
Activity Final Report	Confirms all works completed and lessons learned for future VIRIP activities.	Outcome Technical Manager / PMU

2. Project reporting

The second level represents overall monitoring of project level performance. The submission of reports by the Outcome Task Teams through the PMU, who will consolidate all reports received prior to submission to the PMG. Noting that the PMG will meet on a bi-monthly basis this report will be prepared accordingly in advance of the meeting. The PMG will make decisions on the ongoing management of the project to attain the targets set. Only matters of strategic importance and urgency will be passed through to the PSC which only meets four times per year. Importantly, for the PMG the PMU must also ensure that it reports on overall progress against the appropriate GCF Result Areas and IRMF Indicators and for the enabling environment the IRMF core indicators for the project.

The PMU will consolidate this report for the PSC, and this will be prepared every three months, in advance of the PSC meeting.

3. GCF reporting

The third “level” of reporting requirements are to meet the reporting requirements as set out by GCF. The requirements for this reporting will be outlined in the project Term Sheets, and these reports will be reviewed and approved by the PSC prior to submission to GCF.

Table 5-2 below outlines the method for collecting and analysing project outputs, outcomes and impacts, and the indicative budget to do so.

Table 5-2: Project Monitoring Plan

Monitoring				
Data/Source	Collection Tool	Frequency	Indicator	Indicative Budget (USD)
Project Progress, monitoring and completion reports, baseline studies and surveys	Baseline study	Once off	Supplementary 2.1: Beneficiaries (female/male) adopting improved and/or new climate-resilient livelihood options	100,000
	Survey/questionnaire	Determined project stage gate		80,000
	Key informant interviews	Determined project stage gate		10,000
	GIS data	As per project reporting cycles and spatial data update needs	Supplementary 2.4 Beneficiaries (female/male) covered by new or	10,000
	Document review	Monthly / Annually		10,000

			improved early warning systems ¹²	
Project Progress, monitoring and completion reports, baseline studies and field visits	Baseline study	Once off	Hectares of land under increased protection from droughts, floods and wildfires through Eco-DRR interventions	90,000
	Field observation visits	Determined project stage gate		800,000
	GIS data	As per project reporting cycles and spatial data update needs		10,000
	Document review	Monthly / Annually		10,000
Project Progress, monitoring and completion reports, spatial mapping	GIS data	As per project reporting cycles and spatial data update needs	Number of Eco-DRR interventions undertaken.	100,000
	Field observation visits	Determined project stage gate		130,000
	Document review	Bi-annually		10,000
Meeting records Project Progress and monitoring reports / interviews	Stakeholder map	Determined project stage gate	Number of community and stakeholder engagement forums/committees established	20,000
	Key informant interviews	Determined project stage gate		15,000
	Document review	Annually		10,000
Project Progress, monitoring and completion reports, interviews	Key informant interviews	Annually	Number of SMME's supported	15,000
	Document review	Annually		10,000
Project Progress, monitoring and	Focus groups	Determined project stage gate	Number of youth supported to develop	25,000

¹² All the data collection instruments will be used to address the various beneficiary related indicators including both Supplementary Indicators 2.1 and 2.4

completion reports, focus group discussion and interviews	Key informant interviews	Determined project stage gate	ecosystem based livelihoods	15,000
	Document review	Annually		10,000
Project Progress, monitoring and completion reports, surveys, group discussions and interviews	Survey/questionnaire	Determined project stage gate	Number of females supported to develop ecosystem-based livelihoods	180,000
	Focus groups	Determined project stage gate		25,000
	Key informant interviews	Determined project stage gate		15,000
	Document review	Annually		10,000
Project Progress Reports, Baseline studies, surveys, mapping and stakeholder engagement	Baseline study	Once-off at project start	Change in the effectiveness of initiatives in enhancing local capacities for Eco-DRR preparedness and response measures	95,000
	Survey/questionnaire	Determined project stage gate		130,000
	Stakeholder map	Determined project stage gate		45,000
	Focus groups	Determined project stage gate		15,000
	Document review	Monthly / Annually		15,000
Project Progress Reports/ Stakeholder interviews	Document review	Annually	Number of hazard avoidance and disaster response drills undertaken	10,000
	Key informant interviews	Annually		15,000
Project Progress Reports/ Document review and Focus group discussions	Government data/records	Annually	Change in national and sub-national policies and plans that incorporate Eco-DRR	10,000
	Focus groups	Determined project stage gate		10,000
	Document review	Annually		10,000
Project Progress Reports/	Document review	Annually	Number of new investment packages developed	10,000
Project Progress	Government data/records	Mid-term and end of term	Improved public sector funding model	10,000

Reports/ Document review and stakeholder focus groups	Focus groups	Mid-term and end of term	to support restoration and maintenance of ecological infrastructure	10,000
	Document review	Annually		10,000
Project Progress Reports/ Interviews	Key informant interviews	Determined project stage gate	Improvements in levels of Natural Capital Accounting	30,000
	Document review	Determined project stage gate		10,000
Project Progress Reports / Survey/ Web analytics	Other (website or platform analytics)	Annually	Number of knowledge products disseminated	10,000
	Document review	Annually		10,000
Website or platform analytics, surveys, key informant interviews	Document review	Determined project stage gate	Enhanced uptake and usage of knowledge products	10,000
	Survey/question naire	Determined project stage gate		50,000
	Key informant interviews	Determined project stage gate		10,000
Project Progress Reports / Field surveys / Analytics	Focus groups	Determined project stage gate	Number of project- level forums, working groups, think tanks and other engagement platforms to foster partnerships and further knowledge exchange	10,000
	Field observation visits	Determined project stage gate		50,000
	Document review	Annually		10,000
Project Records and Progress Reports	Document review	Annually	Number of reflective social practice capacity development modules hosted	10,000
Project Records and Progress Reports, baseline study and survey, stakeholder interviews	Baseline study	Determined project stage gate	Ease of accessing information relating to assessments, ecosystem service valuations and knowledge products relating to the economic value of Eco-DRR practices.	80,000
	Survey/question naire	Determined project stage gate		75,000
	Key informant interviews	Determined project stage gate		20,000

	<i>Document review</i>	<i>Annually</i>		<i>10,000</i>
<i>Restoration/ rehabilitation Progress, baseline study and survey monitoring report</i>	<i>Baseline study</i>	<i>Once off</i>	<i>Number of ha of previously degraded land rehabilitated/restored representing increased suitable habitat for fauna and flora</i>	<i>70,000</i>
	<i>Survey/questionnaire</i>	<i>Determined project stage gate</i>		<i>90,000</i>
	<i>Document review</i>	<i>Determined project stage gate</i>		<i>10,000</i>
<i>Project Progress, monitoring and completion reports, stakeholder interviews</i>	<i>Focus groups</i>	<i>Determined project stage gate</i>	<i>Increase in adaptation solutions that respond to females' priorities in local planning tools or through design thinking workshops</i>	<i>20,000</i>
	<i>Key informant interviews</i>	<i>Determined project stage gate</i>		<i>20,000</i>
	<i>Document review</i>	<i>Annually</i>		<i>15,000</i>
			<i>TOTAL</i>	<i>2,005,000</i>

Indicative budgets for monitoring are dependent on the nature and context of each intervention and all costs outlined here have been included in the detailed budget plan, Annex 4 to the Funding Proposal. This total cost is 4,05% of the total budget and 5% of the GCF proportion.

Noting the importance of monitoring progress on the number of beneficiaries, the Eco-DRR project will be required to undertake a number of surveys to assess progress against determined targets and indicators. This will require localised surveys to determine baselines as well as assess the level to which targets have been achieved. To undertake these surveys the catchment convenors and local Eco-champs will be used to undertake each of these surveys based on a statistically representative sample and noting that these will be trusted in these engagements. The costs associated with these surveys have been incorporated into the project support costs and include consultant support to ensure the M&E approaches used are robust and rigorous.

These surveys will be complemented by those household surveys and undertaken by Statistics South Africa as part of the Sustainable Development Goal (SDG) Country Reporting.

Importantly, a mid-term review and final, end-of-term evaluation have been included with these costs being included in the AE Fees, Annex 12 to the Funding Proposal. These are outlined in the table below.

Table 5-3: Breakdown of Evaluation Costs

Evaluation			
Type	Timing	Independent/Self-evaluation	Indicative Budget (USD)
Formative	Start of term and baseline data collection	Self-Assessment	Included as part of the M&E budget
Process	Ongoing – Annually	Self-Assessment	Included as part of project M&E-
Outcome	Midterm	Independent	100,000
Impact	End of term	Independent	150,000

6 Financial Flows

6.1 GRANT FINANCE

The Eco-DRR project will be financed by GCF Grant funding as well as co-financing from the Government of South Africa.

Grants provided by GCF are resources that are generally channelled to fund investments without the expectation that the money be repaid. However, all grants will be subject to an obligation for repayment if the recipient of the funding is found to be in material breach of its contractual obligations towards the Fund or involved in a material violation of the Fund's integrity or fiduciary standards, including those on corruption and fraud (B.09/04).

Grant funding can be used, inter alia, to:

- Cover all or part of the cost of the externality when the abatement cost is not covered by the internal revenue generation of the investment;
- Cover the incremental cost of climate change investments;
- Provide technical assistance and capacity building;
- Undertake feasibility studies;
- Offer capacity building to financial intermediaries to leverage resources through other instruments. 13. Often, grants are used to complement other instruments, such as concessional loans, to maximize the impact of investments. Grants can be provided up-front or disbursed through an incentive-based schedule after achieving specific goals.
- Grants can: contribute to information generation, data analysis, development and dissemination of knowledge products; enhance the capacity of national institutions for a robust policy reform and priority setting; and build a strong and sustainable pipeline. (GCF/B.04/06)

6.2 FINANCIAL FLOWS

The Eco-DRR project is proposing the use of significant GCF grant capital, which is US Dollar denominated (USD). This capital will be managed by the SANBI as the DAE, which is a South African domiciled entity. Furthermore, the Eco-DRR project's underlying activities and interventions are to be financed in South African Rand (ZAR), which is overseen and managed by the SANBI. As there is no repayment required, GCF is not exposed to exchange rate risk, while SANBI will be. As such, the SANBI will need to carefully consider its approach to the timing of requests for drawdown but does not hedge itself against foreign exchange fluctuations. The SANBI does have experience in managing hard currency denominated funding provided by International Finance Institutions, and as such has the operational and institutional capacity in managing the USD exposure at a balance sheet level.

The GCF does not directly finance the underlying interventions and will provide the funds to the Accredited Entity (the SANBI), who will manage and facilitate the financial flows in support of project implementation. The underlying

requirements in terms of the drawdown, management, and reporting will be stipulated in the Funded Activity Agreement and the Term Sheet. Co-financing will be provided by the DFFE and SALGA, using funds from the fiscus supported by a co-financing agreement (Figure 6-1). This co-financing will be provided through in-kind support, rather than through transfers to the ring-fenced project account. This will be supported by contractual arrangements that will be finalised during the Operationalisation Phase, while letters of co-finance commitment have been secured and submitted as part of the submission to GCF.

SANBI has the authority to directly receive funds into its own bank account. SANBI can receive funds directly from GCF without funds first flowing through a particular ministry or body in the government. According to Section 10(2) of NEMBA, SANBI is established as a juristic person, and Section 12(d) grants it the ability to open and manage its own bank accounts to carry out its responsibilities. Section 13(5) of the PFMA stipulates that funds received by a national public entity listed in Schedule 3A must be deposited into the bank account of the respective institution.

With regard to fund transfers between the GCF and SANBI, no approvals, licences or permits are required. SANBI has previously opened a US\$ bank account to receive GCF Readiness grant funds. SANBI will transfer funds from the US\$ bank account to SANBI's ZAR account as and when funds are expensed and or disbursed onwards. The project funding flows are given in Figure 6-1.

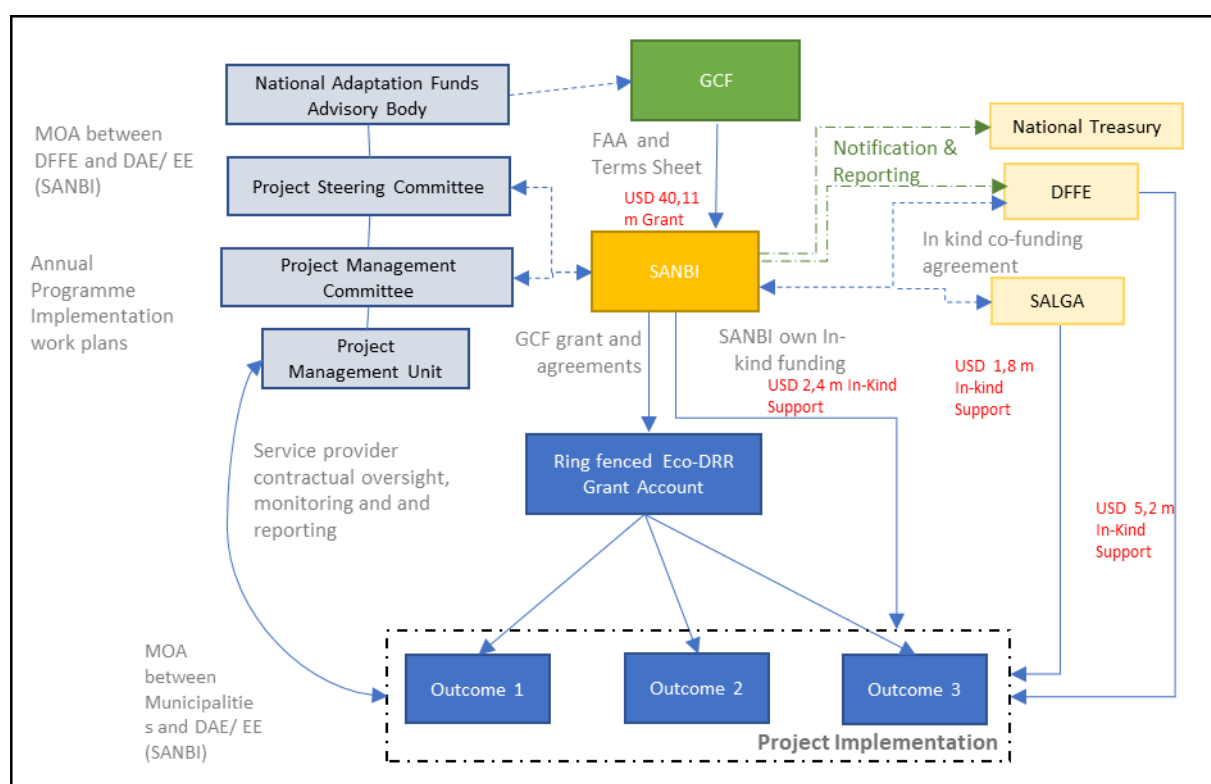


Figure 6-1: Eco-DRR funding flows

Any unused funds will remain in the US\$ bank account until such time as the project ends and they are returned to GCF. This applies equally to any investment income earned. The grant finance will be accessed in US Dollars, this will be translated into South African Rands (ZAR), and ZAR will be used for all projects implementation activities. Depending on the tranche arrangements for the grant – this could potentially impact the actual ZAR funds available for project's implementation by SANBI.

The rand has consistently depreciated against the USD for the last 10 years (Barker, 2023), and as such, the use of the current exchange rate in the project's budget is believed to be a conservative approach. Any significant changes that have a material impact on the project will be reflected on together with GCF management and programmed accordingly. The Eco-DRR project, specifically SANBI through the PMU, will track, monitor and report on all finances accessed and utilised under the project, so that there is a record and accountability for every dollar of grant received.

All project support activities will be procured and contracted by SANBI, with the technical oversight of the PMU / PMG. The SANBI's SCM Policy 5.6 will underpin the approach used by the project, with the support of the SANBI SCM team. This policy aligns with the National Treasury Regulations as well as a suite of other pieces of legislation.

Financial expenditure will be reported to the PMG and the PSC, as well as to GCF and the National Designated Authority. This reporting on progress and expenditure will be a prerequisite for future drawdowns.

7 Alignment to the GCF Investment Criteria

It is critical that the design and scope of the Eco-DRR project meets the GCF's six investment criteria, as outlined in Figure 7-1. The sections hereunder present how the project addresses these various criteria.



Figure 7-1: Synthesis of the GCF Investment Criteria

7.1 IMPACT POTENTIAL

The Eco-DRR project will primarily contribute to two of the eight results areas outlined in the GCF's Integrated Results Management Framework, these being:

Adaptation Results Area (ARA) 1: Most vulnerable people and communities; and

ARA 4: Ecosystems and ecosystem services.

In this regard, the Core Indicator 2: Direct and indirect beneficiaries reached will be used to quantitatively track the climate-focused outcomes of the GCF funding provided to the project.

The project will directly benefit an estimated 366 088 people (approx. 54% female) from vulnerable rural and peri-urban communities in focal landscapes including household members of adults participating in project activities. There will be specific attention paid to women and youth at intervention levels where women play a critical role in securing livelihoods and addressing water and food security. With the project providing support to the development of livelihoods options, the focus on youth is important, given the high rate of youth unemployment. In this regard, the project aims to involve 65% young people.

Direct beneficiaries are community members who are better able to cope with the impacts of climate change intensified droughts, floods, and wildfire at the close of the GCF-supported project. This also includes community members in the focal landscapes who: i) are employed on environmental public works programmes in the focal landscapes with new climate

impact measures (e.g. slope management, IAP removal, erosion reduction, river bank stabilisation, wetland rehabilitation, rangeland management, environmental monitors etc.), co-financed by the South African government (e.g. Working for Water, Working for Wetlands etc); ii) are participants in GCF-supported climate-adaptive livelihood opportunities through SMME or cooperative opportunities including such aspects as initial processing of cleared biomass for bio-refineries or for biochar, and sustainable livestock production (with associated animal products) and marketing on rehabilitated rangelands; iii) are participants in GCF-supported and Government co-financed initiatives for communities; and iv) are employed on projects for municipal built and ecological infrastructure co-financed by the South African government. In particular, the community members from group i) and group iv), through employment via the Eco-DRR project, will have improved livelihoods to better cope with flood events (more details will be unpacked in feasibility). The discussions with private sector actors and with communities regarding the livelihoods options will impact upon the number of direct beneficiaries and early-stage engagement with the private sector will be critical.

Equally, important will be the impact that interventions focused on improvement of early warning systems and disaster response preparedness in each of the four District Municipalities. This will have direct impact on the lives of all residents in these districts and as such these have been included as direct beneficiaries.

Indirect beneficiaries are vulnerable people who are better able to cope with the impacts of climate change intensified floods as a result of the scale up activities of the project, including through the DFFE: EP programme, the Community Works Programme and improved integration of Eco-DRR into settlements planning across South Africa. The ability of the programme to share the evidence base and build knowledge in other landscapes where increased climate resilience is evident, will impact on the uptake of these approaches in new locations. It can be expected that other communities within the local municipalities, where site-based interventions have taken pace, will likely indirectly benefit from the improved capacity developed locally through the site based interventions. However, these indirect beneficiaries will also be direct beneficiaries of the projects efforts to improve early warning systems.

The development of innovative financing mechanisms under Outcome 3 will impact on the ability to upscale and as such will have profound impact on the number of indirect beneficiaries. At this stage, this is not possible to quantify with any level of accuracy.

A core aspect of the project design is the recognition of the importance of addressing barriers in the enabling environment that serve to hinder the upscaling of Eco-DRR approaches. As such these aspects are important in providing the basis for the paradigm shift that is required in South Africa. This includes working institutions to support transformational change in policy and planning, as well as in building capable institutions and organs of state, this is supported by the projects efforts to build an evidence base and share knowledge and experience. These two aspects will be supportive of developing transformational shifts in the manner in which Eco-DRR is taken to scale. As such, the project will track the following core indicators.

- Core indicator 5: Degree to which GCF investments contribute to strengthening institutional and regulatory frameworks for low-emission climate-resilient development pathways in a country-driven manner;
- Core indicator 7: Degree to which GCF investments contribute to market development/transformation at the sectoral, local or national level; and

- Core indicator 8: Degree to which GCF investments contribute to effective knowledge generation and learning processes, and use of good practices, methodologies and standards.

7.2 PARADIGM SHIFT POTENTIAL

The productivity of South African rural landscapes has decreased over the past two centuries in part due to changing conditions in the climate and landscape, as well because of poor or exploitive environmental management practices at localised levels. The proposed GCF project will catalyse impacts beyond the four target sites by developing the business case for major public and private sector investments, as well as community buy-in, into restoring the functionality of these ecosystems, thereby restoring the environmental goods and services that reduce the prevalence and impacts of droughts, floods and wildfires. This will be achieved by quantifying the ecological and financial benefits of adapting ecosystem-focused management practices to increase rangeland quality, improve soil health, increase ecosystem carbon stocks, increase rainwater infiltration and support surface water availability and regulation, and reduce wildfire frequency and intensity. The quantification of benefits will comprise collating existing information and collecting primary data from the project sites as well as that from other projects and programmes that are being undertaken across South Africa.

The potential for climate adaptive land management to build climate change resilience is currently not commonly integrated into land management plans by government or rural communities. By contrast, there are private sector initiatives that focus on enhancing adaptive approaches which result in increased community resilience as well as ecosystem services support. The proposed GCF project will bridge the gap between the communities, governance agencies, and the private and public sectors by building trust, sharing knowledge, and facilitating contractual arrangements between rural communities, government where applicable, and private companies, especially in areas where local practices already have been applied in an adaptive manner toward increased climate resilience. Such contracting will showcase a model for co-creating solutions where communities and the private sector may scale up and replicate activities across South Africa. These approaches would reduce the impacts of droughts, floods and wildfires as well as support enhanced productivity of the ecosystems and enable commercially viable outcomes that benefit communities, private sector, and government alike.

Each location where contractual relationships will be established between rural communities and private companies will have specific local barriers to investment to overcome. These are likely to include a range of operational elements, the need for practice support and the capacity of local communities to negotiate appropriate contracts with private companies. The Eco-DRR project will, via local NGOs and/or community-based organisations, address these barriers and facilitate an upscaling of private sector engagement in the development of various and appropriate financing mechanisms that will catalyse a major shift in how these ecosystems are managed across the country.

Assessing the policy and investment environment for private sector engagement in Eco-DRR towards addressing gaps and barriers to such investments will identify areas for improvement that will create an improved enabling environment for investment. The identification and assessment of EbA and Eco-DRR-linked financial mechanisms, the financial sector's current integration of biodiversity and climate-related risks and opportunities into financial planning and decision-making

and emerging opportunities (such as the South African carbon credit and biodiversity and water credit policy landscape) will also be an essential part of shifting the investment paradigm.

Lessons learned in the engagement between rural communities and private sector communities through the local site-based work under Outcome 1 will be shared nationally and be integrated into the approaches developed under Outcome 3. These lessons will also be used by the proposed GCF project to adjust government plans, policies, legislation and strategies to ensure that there is an enabling environment for private sector investment into the upscaling of Eco-DRR interventions.

7.3 SUSTAINABLE DEVELOPMENT POTENTIAL

Under the South African governance framework, municipalities have a critical role in driving local socio-economic development. The Eco-DRR Programme is designed to deliver a range of benefits to beneficiaries such as households (rural, peri-urban) and industries, and to municipal governments, and thereby to South Africa. The intended co-benefits include:

- **Co-benefit 1: Environmental.** Through the implementation of the Eco-DRR project there will be improvement in the health of both terrestrial and aquatic ecosystems. These benefits include rehabilitation in support of ecosystem services, including improved groundwater retention, increased surface water and river baseflows, regeneration of soil health and fertility, enhanced soil stability and soil horizon depth, increased soil organic carbon, and improved agricultural produce and grazing productivity. It is important to note that beyond the rehabilitation efforts that are needed to support climate change resilience, where feasible, the project will also support ecosystem restoration. The biodiversity will be strengthened by providing additional suitable habitat and increasing landscape connectivity, this includes both terrestrial and aquatic species. These co-benefits together with the projects core benefits all contribute towards achieving SDG 15: Life on Land, SDG 2: Zero Hunger, SDG 3: Good Health and Wellbeing, SDG 6: Clean Water and Sanitation, and SDG 13: Climate Action.
- **Co-benefit 2: Social and Gender.** Climate change disproportionately impacts upon people in low-income and impoverished communities. In rural communities, women and girl children are responsible for a range of productive activities, as well as taking care of the family unit. Climate change impacts upon women most significantly yet they are often excluded from decision making processes that impact upon them, most typically in communal areas where Traditional Leadership is a key part of the governance framework. Women are also vulnerable within peri-urban conditions as women control fewer resources than men in informal settlements and are frequently exposed to gender-based violence (Patel, et al., 2018). Furthermore, women in these settings often lack access to sanitation and face disruptions to paid work as a result of climate change events (Patel, et al., 2018). The Eco-DRR project will actively engage with women within communities to fully understand their needs and to leverage their local knowledge into site-based actions, will design these local interventions to facilitate their participation and involvement, as well as support the development of commodity value-chains that support the economic empowerment of women. This will contribute to attaining SDG 1: No Poverty, SDG 3: Good Health and Wellbeing, SDG 10: Reduced Inequalities and SDG 5: Gender Equality.

Contribution to the achievement of SDGs: through support to a number of SDGs, the Eco-DRR will primarily help South Africa make progress towards:

- SDG 5 – promote gender equality and empower all women and girls (specifically targets 5.5 and 5.A);
- SDG 6 – ensure availability and sustainable management of water and sanitation for all (specifically targets 6.1, 6.2, 6.3, 6.4, and 6.b);
- SDG 13 – take urgent action to combat climate change and its impacts (specifically targets 13.2); and
- SDG 15 – Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss (specifically targets 15.1, 15.3, 15.5, 15.6, 15.8, and 15.A).

7.4 NEEDS OF RECIPIENT

As in most under-resourced countries, climate change will disproportionately burden the poor and most vulnerable communities in South Africa. Large populations living in impoverished circumstances, in informal settlements that are located in sites vulnerable to extreme weather and natural hazards, further perpetuating socio-economic fragility through the lack of adequate infrastructure and services, including access to water. Nearly 20% of the country's population lives on less than US\$2.00 a day, and almost 60% of the entire country subsists on US\$5.50 a day. South Africa has been one of the most unequal countries in the world in recent years, based on the Gini coefficient. Compared to all other emerging markets, income inequality has remained high in South Africa, decoupled markedly from the average for such markets.

Unemployment levels in South Africa are exceptionally high, at 28%, but even higher at a staggering 53% for youth. South Africa has been one of the most negatively affected emerging economies by COVID-19 related economic contraction, with a GDP growth rate reduction of 7.2%. The country's budget deficit is at an estimated 11.2% of GDP. Its credit rating has been reduced to less-than investment grade, or speculative (junk status) by all major ratings agencies, with a negative outlook. Its debt-to-GDP-ratio of 81% is regarded as approaching unserviceable levels. This has severely constrained alternative sources of financing — especially for climate change adaptation measures, which are regarded as having high risk and negligible returns on investment — from commercial or private lenders.

While South Africa has retained its institutional capacity in some areas, over the last decade there has also been a steady decline in institutional capacity, efficacy, and governance. The National Planning Commission recognised that in many areas service delivery has fallen dramatically short of expectations. As municipalities face challenges in meeting even basic service-delivery needs, they are not well-placed to develop and roll-out new approaches that see EbA approaches being translated into integrated ecological and built infrastructure solutions. This requires national government, with key partners such as SANBI, NDMC, SALGA and others, to strategically guide a project that pulls together complex technical, institutional and financial solutions to establish a new approach that is supportive of EbA.

The pressure on Municipalities to deliver services in support of local economic development is profound. In the large Metropolitan Municipalities these challenges exist linked to very rapid urbanisation and the need to expand services to meet the growth. However, in more rural contexts these challenges are notably different where the size of indigent communities

is significant and the need to provide basic services is difficult in landscapes that are disparate and sizeable. The Municipal Infrastructure Grant that is provided to Municipalities has to finance a range of infrastructural solutions and with the funds available being insufficient to meet all the needs. This is worse in rural contexts where the ability of communities to pay for services is limited due to weak livelihood options.

In many instances the capacity of Municipalities is weak with many not having the technical skills and competencies to work with infrastructure and develop integrated solutions. In these institutions the understanding of the benefits accrued from well-functioning ecosystems is frequently limited. Often, in rural municipalities there is not a town-engineer and there is a dependency on the procurement of technical skills. With limited understanding of how to develop technical Terms of Reference or with insufficient finance to support such procurement, there are often delays in process and an inability to progress the solutions needed to build resilience. Building municipal understanding of the importance of Eco-DRR and the ways in which built and ecological infrastructure can be used conjunctively will assist in developing climate adaptation responses that are more sustainable.

7.5 COUNTRY OWNERSHIP

The Constitution of South Africa (1994), Section 24, guarantees the rights of everyone to an environment that is not harmful to their well-being as well as a right to have the environment protected. In terms of Section 9, the equality of all individuals is guaranteed, including the full and equal enjoyment of all rights and freedoms. This provision prohibits direct or indirect discrimination based on several grounds, including gender.

The country's NCCAS supports South Africa's ability to meet its obligations in terms of the Paris Agreement on Climate Change by defining the country's vulnerabilities, plans to reduce those vulnerabilities and the required resources for such action. The strategy seeks to reduce the vulnerability of society, the economy and the environment to the effects of climate change and provides a common reference point for climate change adaptation efforts in South Africa in the short to medium-term.

In addition, the country has promulgated its first Climate Change Act (Act 22 of 2024) which guides the development of an effective climate change response and a long-term, just transition to a low-carbon and climate-resilient economy and society for South Africa in the context of sustainable development. The Act recognises the urgency in addressing the threat of climate change and emphasises the need for an effective, progressive, coordinated and integrated response. A key focus of the Act is alignment of policies, establishment of provincial and municipal forums, establishment of the Presidential Climate Commission (PCC), development of adaptation strategies and plans, and placing greater obligations on provincial governments and municipalities.

Furthermore, South Africa, in recognition of the urgency to not only respond to climate disasters but to build and entrench climate resilient approaches to mitigation and adaptation, has established the Presidential Climate Commission, responding directly to Conference of the Parties (COP) 27, in pursuing a Just transition. This commission is an independent, statutory, multistakeholder body whose primary purpose is to oversee and facilitate a just and equitable transition towards a low-emissions and climate-resilient economy. Part of this transition is to meet the Nationally Determined Contributions targets

by establishing transition pathways are adequately funded and invested in. Equally important is the PCC's commitment to track, monitor and report on any climate financing invested in the country to meet its targets and objectives. Commitment to achieving the proposed revised target ranges of 398 to 510 Mt CO₂-eq for 2025, and 398 to 440 Mt CO₂-eq for 2030, as identified by the DFFE.

The proposed GCF project is closely aligned with the mid- and long-term climate change adaptation priorities in South Africa, including priority activities outlined in multiple national and sectoral climate change strategies, such as NCCAS, NCCR Policy, National Disaster Management Framework under the Disaster Management Act of 2002, and National Strategy for Dealing with Biological Aliens in South Africa, 2014. South Africa's TNC under the UNFCCC shows that "Alien invasive plants use considerable amounts of water which is then not utilisable to downstream users with the water reduction in some primary catchments in as high as 8 percent". The Implementation Framework for the NCCAS includes "Intervention 1: Reduce Human and Economic Vulnerability, Ensure Resilience of Physical Capital and Ecological Infrastructure and Build Adaptive Capacity", with three highly relevant action areas to which the project responds: 1.1.20 Adopt climate resilient approaches to natural resource management to restore and maintain ecosystem goods and services; 1.1.23 Protect and conserve South Africa's most vulnerable ecosystems and landscapes; 1.1.24 Monitor and control the spread of alien invasive species that benefit from climate change; and 1.1.4 Capacitate and operationalise South Africa's National Disaster Management Framework to strengthen proactive climate change adaptive capacity, preparedness, response and recovery.

In addition to addressing climate change adaptation priorities, the proposed project supports South Africa's socio-economic development goals, including those in the National Strategy towards Gender Mainstreaming in the Environment Sector, and as outlined in the National Development Plan 2030. These include: i) poverty alleviation; ii) job creation; iii) growth in the green sector; and iv) development of rural economies. The project's focus on rural communities is of particular importance, as alleviating rural poverty is a high priority of the South African government but has proven remarkably challenging because of a number of systemic socio-economic challenges. Furthermore, the proposed GCF project is aligned with the government approved District Development Model, which aims to improve integrated planning and delivery across the spheres of government, and result in a single, strategically focussed "One Plan" for each District and Metropolitan geographic spaces in the country.

7.6 EFFICIENCY AND EFFECTIVENESS

The theory of change involves enhancing the efficiency and effectiveness of environmental public works programmes so that they are more effective in reducing disaster risk. In addition, it involves harnessing existing sources of public finance that are currently not being utilised for rehabilitation and maintenance of ecological infrastructure, in order to be more effective in reducing climate risk. The actual methods to be used for landscape rehabilitation and maintenance to reduce the risk ecosystem degradation will be based on approaches used for the past 25 years through the DFFE: EP programmes (including Working for Water, Working for Ecosystems, and Working for Wetlands), and on international best practice for Eco-DRR. This will also build upon the methods outlined in standard-based restoration approaches. The project will facilitate the new application of these methods in the context of municipal finance, providing assistance to develop missing

technical and financial capacity, and most importantly providing a model of how investment in ecological infrastructure can help municipalities meet their targets for climate change adaptation, disaster risk reduction, and job creation.

Piloting new approaches to integrate ecological and built infrastructure investment through co-financed technical assistance to communities and municipalities, and inclusion of private sector to move projects from planning to execution will enable the development of cost-effective models that can be widely disseminated and scaled up. There are also efficiencies to be gained through utilising the currently largely unused potential in value addition to the estimated ~160 million tons of woody biomass currently available from standing invasive alien and encroacher vegetation across the country, and in supporting small-scale livestock farmers to maintain rehabilitated rangelands in good condition through sustainable co-management practices and selling excess livestock through enhanced market access.

It is estimated that the cost of the proposed project will be US\$49.51 million. Of this, the contribution from the GCF sought is US\$40.11 million. The proposed project will entail co-financing of US\$9.40 million. GCF intervention into this project is critical, as outlined in Section B.5 above. In the absence of GCF funding it would be impossible to implement the proposed project given the limited institutional capacity for Eco-DRR interventions in the relevant district municipalities combined with insufficient municipal budget for such programmes and the rising national debt of the Government of South Africa.

In the absence of this project, substantial loss and damage due to increased levels of flooding would be brought about in the district municipalities. To underscore the potential avoided damages for Eco-DRR projects aimed at mitigating flood impact in South Africa, in the 10-year period between 2009 and 2019 alone the country experienced physical loss and damage from flooding in the order of US\$ 827,264,000 **Invalid source specified..** In addition, the proposed project will help minimise the knock-on effects of flooding events on the livelihoods of the rural communities who make up the majority of the populations in the target area and help spur local economic growth.

The efficiency of the Eco-DRR can be assessed using several Value for Money metrics. Traditionally, the GCF seeks to understand how the project under consideration compares to similar projects in the region, for which the GCF has provided funding. Accordingly, the table below sets out the total cost and GCF cost per beneficiary for the proposed project. Given the availability of data, at this stage we have assumed that the total number of direct and indirect beneficiaries can be represented by the population of the DMs as at the most recent census, which are set out in Table 7-1.

Table 7-1 Potential total project beneficiaries

DM	No. of direct beneficiaries	No. of indirect beneficiaries	Total per DM
Alfred Nzo DM	43,628	892,833	936,461
Ehlanzeni DM	249,124	2,021,773	2,270,897
Ngaka Modiri Molema DM	3,268	934,455	937,723
Sekhukhune DM	70,068	1,266,737	1,336,805
TOTAL	366,088	5,115,798	5,481,886

Table 7-2. Potential cost per beneficiary

	Cost/Beneficiary
GCF Cost per Beneficiary (Across the Total Including Direct and Indirect)	US\$ 7.32
Total cost per Beneficiary	US\$ 9.03

The potential cost per beneficiary is provided in Table 7-2. These metrics demonstrate that the proposed Eco-DRR project is an efficient use of GCF funding, with a total cost to each person affected, directly or indirectly, by the project of under US\$ 10. This represents an efficient use of GCF resources, given the scale of avoided damages alone (as described above) as well as the positive benefits that are likely to flow from the project, including i) contributing to the climate resilience and disaster preparedness of communities, ii) ensuring enhanced eco-system service delivery within and around the programme areas, and iii) building the capacity of communities and government to plan and implement EbA for disaster risk reduction. Comparing this metric to similar projects elsewhere further highlights the efficiency of the proposed project. For example, a similar project — Improving Climate Resilience of Vulnerable Communities and Ecosystems in the Gandaki River Basin, Nepal — which also focused on ecosystem-based solutions to disaster risk reduction, had an estimated total project cost of between US\$ 18.4 and US\$ 24.4 per beneficiary.

Another metric that can be used to assess the cost effectiveness of the proposed project is the project benefit-cost ratio. In the economic analysis (Annex 3), an economic cost benefit assessment was undertaken on the sites selected during feasibility within each of the four DMs. The outcomes of the analysis are shown in the table below, considering the 50th and 90th percentile climate change projection. (Table 7-3).

Table 7-3 Cost-benefit outcomes (base case) – 2024 values at the 50th and 90th percentile projections

	Totals (50th percentile)	Totals (90th percentile)
Total costs of interventions (US\$, million, undiscounted)	18.75	18.75
Net present Value (NPV) (US\$, million, discounted)	14.69	65.16
Benefit cost ratio (BCR)	1.94	5.19
EIRR %	16.89%	49.65%

At the 50th percentile, the proposed interventions and sites selected during feasibility deliver a Net Present Value (NPV) of USD 14.69 million and a Benefit-Cost Ratio (BCR) of 1.94, demonstrating that every dollar invested yields 1.94 times the return. An Internal Rate of Return (IRR) of 16.89% reflects a robust and economically efficient investment that modestly exceeds typical discount rates. At the 90th percentile, the proposed interventions and sites selected during feasibility deliver a Net Present Value (NPV) of USD 65.16 million and a Benefit-Cost Ratio (BCR) of 5.19, demonstrating that every dollar invested yields 5.19 times the return. An Internal Rate of Return (IRR) of 49.65% reflects a robust and economically efficient investment that modestly exceeds typical discount rates. These metrics highlight that the proposed interventions and sites selected during feasibility remain economically viable and delivers value for money. The interventions collectively avoid damage costs of 44 million and 142 million USD (undiscounted). The provisioning of ecosystem services are the largest contributor to benefits amounting to 15 million USD (undiscounted), underscoring the value of sustainable management practices for long-term natural resource availability.

Impact of GCF funding

DFFE, together with DWS, has implemented several projects aimed to improve the country's water security and seeks to remove invasive species to improve the resilience of South Africa's water and biological reserve to increased climatic stresses. However, this is still not sufficient. In the past few years the country has seen a significant advancement of invasive species. In 2017, new estimates indicated that a condensed invaded (by IAPs) area of 1.50 million hectares (ha) of South Africa's landscape, will see a reduction of water flow by 1,444 million cubic metres per year, equivalent to 2.9% of the

naturalised mean annual runoff. Equally, these species often block up water courses hence exacerbating the impacts of flooding.

Currently, R2 billion is budgeted for Environmental programmes in South Africa. This number falls short by 83% of the R12 billion required to make a substantial difference. There are concerns that these budgets will be further cut due to fiscal constraints. Private sector investment and partnerships in the sector continue to be limited owing to competing developmental priorities, a limited awareness of the water security risks posed by increases in climate risk and invasive plants, and constrained knowledge regarding the commercial and ecological investment opportunities that exist in various environment initiatives looking to combat climate change. This has resulted in limited or non-existent sustainable funding models and partnerships that can really leverage the work already undertaken to scale of the country-wide impact so desperately needed.

A key outcome of this project is to develop, strengthen and implement new models with the primary outcome of upscaling the role of private sector in Eco-DRR. Considerations around partnerships with financial institutions as well as private sector will need to be carefully facilitated to achieve this. Off-take agreements will also be facilitated to ensure that both the SMME and the project is protected.

Government is a necessary conduit for supporting pilot projects that benefit rural isolated areas. A developmental project of this nature focused on a holistic approach to influencing various levels (micro to macro-level and across the value chain) supported by public sector funding has the ability to leverage more private sector funding. However, this will require adjustments to the enabling environment to make it more conducive for private sector engagement. The GCF funding will therefore be catalytic in developing a more financially sustainable model for EbA and the implementation of Eco-DRR. Without the GCF funding, the current situation in terms of sustainable EbA is likely to only get worse.

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