

A Framework to Support Investment in Ecological Infrastructure: How to Bring Investors into the Funding Landscape

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GroundTruth

Report to the
Water Research Commission
As part of the Ecological Infrastructure for Water Security Project

WRC Report No. 3183/1/24

ISBN 978-0-6392-0685-1

March 2025



Obtainable from

Water Research Commission

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The publication of this report emanates from a project entitles *Empirical and User-Appropriate Evidence to Support DFIs and Private Sector Investment Towards Managing Ecological Infrastructure* (WRC Project No. C2023/2024-01502)

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Printed in the Republic of South Africa

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EXECUTIVE SUMMARY

An overview of the framework

Ecological Infrastructure (EI) offers a variety of essential ecosystem services, including improved water quality, reduced flood risks, and opportunities for recreation, thus enhancing human health and well-being. With the ongoing degradation of EI, there is a growing need for investment in interventions aimed at protecting, rehabilitating and maintaining EI and the valuable services it provides to society. Further contributing to this need is South Africa's status as a water-scarce country, together with the global threat of climatic extremes resulting from climate change. Investment in EI is also crucial for sound urban planning, as it contributes towards the enhanced disaster management and climate resilience of a town or city.

In the past, EI investment in South Africa was predominantly from government. However, there has been a growing need to source investment finance more broadly, including a variety of Development Finance Institutes (DFIs) and the private sector. In response to this tremendous need for EI investment, this framework (this document) has been developed to support DFIs and the private sector with investment in EI.

There is no 'one size fits all' approach to developing an EI initiative that will be attractive to multiple investors. Each initiative or project requires an approach suited to its specific context. However, some key elements have been identified in the framework which, when in place, will likely increase the potential for securing investment in EI. These elements are arranged into three main sections.

- Section 3 outlines key factors enabling and inhibiting investment in EI.
- Section 4 elaborates upon key overarching parameters needed to support EI investment.
- Section 5 provides specific guidance for project design, set-up and articulation.

Each of these sections provides practical guidance as well as making frequent reference to real-life examples drawn from South Africa, with several of these given as briefcase-description boxes within the framework. In addition, the framework should be read in conjunction with its "sister document" titled '*A review of target case studies to inform a framework for supporting investment in ecological infrastructure*' report (Sithole et al., 2024), which provides an overview of a variety of EI initiatives.

Key factors enabling and inhibiting investment in EI

Enabling factors

EI investment can potentially be leveraged off a great variety of sources, including:

- **Building on existing partnerships/initiatives** rather than starting from scratch.
- **Hybrid investments**, in particular those involving both grey (built) and green infrastructure.
- **The pressure to respond to risks**, in particular to droughts and floods.
- **The need to meet national commitments** (e.g. to poverty alleviation through public works programmes) and international commitments (e.g. Convention on Biological Diversity).
- **The need to meet legal mandates**, particularly in the public sector, including disaster, risk and cost reduction, protection of built infrastructure, and service delivery.

- **Strong and well implemented environmental legislation, which will compel EI investment** (e.g. if required as part of impact mitigation) as well as creating a more favourable environment to encourage voluntary investment in EI, just as law and order helps enable societal flourishing generally.
- **Effective sustainability reporting, which may compel participating companies to invest in the EI for which they have responsibility**, with a key motivator being avoidance of penalties and the reputational risks which accompany being penalised/prosecuted.
- **Forward-thinking entities seeking reputational benefits with consumers, clients, and other stakeholders** to increase brand loyalty and better market positioning.

EI investment is further enabled through sound social processes (e.g. to promote transparency) and structures (e.g. collaboration platforms) which support the building of: (1) trust and long-term relationships; (2) a shared understanding by the funders/stakeholders/role-players of their specific catchment/water impacts and vulnerabilities/risks; and (3) an EI investment plan which draws on this shared understanding to recommend appropriate EI interventions, and which is aligned with the particular interests or mandates of funders/investors.

Also, of influence is how one articulates the benefits of the EI investment and how these benefits align with the funder's objectives/mandates/challenges. This generally involves developing a value proposition and business case that are supported by science and data, and which include a systematic appraisal of, and elaboration on, the anticipated benefits and costs of EI investment and the risks to the long-term sustainability of the investment outcomes.

Inhibiting factors

- **Poor access to funding for developing the case and plan for EI investment:** When considering proposals, funders often require a sound evidence-base and strong business case, the development of which itself requires resources and expertise that may not be available to the team developing the proposal. This may be aggravated where funders require co-funding as a condition of approval for their funding. Put crudely, "it takes money (and human resources) to access money".
- **Poor use of language to convey the EI investment 'story' to donors/funders:** It can be a challenge to express the costs and benefits of a proposed EI initiative in a manner that investors/funders can relate to.
- **Lack of predictable and long-term financial resourcing:** EI project implementation and maintenance timeframes need to extend beyond a typical 1–3-year funding cycle. However, few investors, provide consistent investment for longer than five years (typically shorter) despite many wanting to know that the EI investment gains will be secure into the future.
- **Lack of platforms for collaboration for EI investment:** The lack of existing effective institutional mechanisms or platforms for effectively leveraging and coordinating EI investment is a key barrier. This is exacerbated by inconsistent regulation, bureaucratic hurdles, and concerns around land ownership and land use.
- **Perceptions regarding limited responsibility for EI investment:** Investment in EI may be perceived by the private sector, for example, as the responsibility of government alone rather than the shared responsibility which it should be.
- **Lack of shared alignment and goals amongst key role-players:** Misaligned interests and inadequate buy-in from key role-players can stall or derail an entire EI initiative. Throughout

the process, relationships among funders/investors, implementors and other stakeholders may be destabilised by inadequate transparency, communication and accountability, and misuse of funding (actual or perceived).

- **A high administrative burden:** A high level of bureaucracy and red tape (e.g. relating to procurement and supply chain processes in the public sector and obtaining the necessary legal agreements and approvals) places a heavy administrative burden on the EI investment team.
- **Gender equality and social inclusion requirements:** The global Gender Equality and Social Inclusion (GESI) policies that are required for certain sources of finance can create discord with local cultural values and norms.

Key overarching parameters needed to support EI investment

Social processes, social justice and a just transition

Social processes are the interactions between individuals and/or groups, potentially involving *constructive processes* such as cooperation, accommodation and adaptation/assimilation, as well as *disjunctive processes* such as competition (usually over funding) and conflict (e.g. resulting from misaligned interests). These processes fundamentally influence the willingness and capacity to engage in EI management and investment. Key approaches and interventions for building constructive social processes and overcoming disjunctive processes towards investment in EI should consider including the following principles:

- **Build a shared understanding** of the importance of EI management and the benefits from funding and investing in it. Information to build this shared understanding needs to ‘talk’ to funders in a language that they relate to and understand.
- **Establish champions** (e.g. high-profile, respected, trusted individuals and/or organisations) to develop relationships with investors/funders in leveraging financing and investment.
- **Build strategic partnerships and successful collaboration** based on trust and transparency. This helps to ensure that everyone is aligned and committed to shared goals, even in the absence of strict formal mechanisms. Partnerships should not only focus on like-minded actors, as diversity in partners is crucial for leveraging and pooling expertise and resources.
- **Effective stakeholder engagement and communication** are critical to establishing conjunctive social processes. Stakeholder engagement should extend beyond information sharing and should incorporate stakeholder empowerment and co-design of project interventions. This can improve the sustainability of the EI initiative by enhancing stakeholder buy-in and long-term participation.
- **Commitment to social justice and a Just transition** are fundamental principles for equity and sustainability of EI investment. A key consideration is reconciling socio-economic needs and objectives with EI management objectives and recognising the influence that financing and investment has on these objectives. A just transition implies greening the economy (e.g. through investing in EI management) in ways that are equitable and inclusive.
- **Promoting GESI** should be a fundamental requirement in EI management, but EI management implementors have acknowledged challenges in incorporating these criteria and recognise that trade-offs are made in some situations.

Key role-player relationships

Collaboration amongst a diversity of role-players aids in identifying innovative responses needed to address the often-complex challenges of EI, together with contributing a diversity of expertise and resources that each role-player contributes. Securing and managing investment in EI requires flexible, innovative institutions, partnerships and management, and financial arrangements amongst a range of groups, including DFIs and the private sector. Relationships are typically influenced positively by: (1) strategic alignment and shared goals; (2) clearly defined and communicated objectives; (3) background research of projects funded in the past to help identify shared goals/objectives; and (4) transparency and trust building.

The roles and responsibilities of key role-players will generally evolve over time as a specific project progresses through project phases. For example, in some cases a private sector investor's principal role will be to provide capital for the EI investment, with a secondary role in planning and no involvement in implementation. In other cases, the private sector investor may be much more actively involved in the planning and/or implementation of the EI investment.

Mechanisms for collaboration

Structured collaboration mechanisms that are established around strong leadership and effective governance structures (to enhance decision-making and conflict resolution) are essential. Examples of mechanisms for collaboration include:

- **Special Purpose Vehicles (SPVs):** A specific organisation separate from its parent organisation/s that is dedicated to managing or financially supporting a project, often operating independently with its own management team and financials. SPVs are particularly useful for large-scale projects, allowing for pooling of financial, technical and human resources from various sources. SPVs can isolate, and therefore minimise, the financial risks to the parent organisation/s linked to EI projects.
- **Public-Private Partnerships (PPPs):** Are long term agreements or partnerships between the public and private sectors, in which the private sector takes on the financial, operational and technical costs associated with a project that is relevant to them. The payments provided by the public party to the private entity, is generally only upon delivery of quality service, thus holding those private entities accountable for delivering quality service. PPPs are not a universal solution and require several parameters to be in place, e.g. the contracting authority needs to have adequate budget and capacity to manage the PPP procurement process.
- **Public-public Partnerships (PuPs):** Are long term agreements or partnerships between different public entities with complementary and/or overlapping mandates in relation to particular EI e.g. wetland ecosystems, which are transitional between terrestrial and aquatic ecosystems.
- **Community public private partnerships (CPPPs):** Also known as Community-Based Public-Private Partnerships, CPPPs are partnership agreements between the local governments, public sector and community stakeholders. Like PPPs, this collaborative agreement leverages off resources (technical skills and labour capacity) offered by the private sector to provide public needs. In addition, the public sector ensures that the EI project meets compliance requirements and societal needs. The involvement of community stakeholders potentially provides many opportunities (see below).

- **Networks, working groups, steering committees, multi-stakeholder partnerships and less formal platforms:** Collaboration can happen through various arrangements that bring stakeholders together such as multi-stakeholder partnerships, project steering committees, networks and existing partnerships e.g. conservancies.

Developing the value proposition

A value proposition is a concise description of value that summarises the benefits of an initiative, and how they are delivered to address the interests of the target customer (i.e. funders and investors). It identifies clear, measurable and demonstrable benefits of a particular initiative and communicates why a funder or investor should choose to support the initiative.

A value proposition provides evidence on the benefits that can be derived from EI, and the potential losses or risks if degraded EI is not restored, i.e. it addresses benefits from the perspective of avoided cost and risk management. In addition, it provides details on where the benefits can be delivered and how they can be maximised. The value proposition also needs to address contextual factors (e.g. time, spatial, social and institutional context).

An effective value proposition cannot be all things to all people, or it will become watered down. Therefore, it needs to be prepared for a specific EI initiative and with a focus on specific funders and/or investors using language that is understood by the intended audience. Further, a value proposition is not an endpoint but the beginning of a process, directed at building a common understanding around which detailed engagement on financing and investment can be built.

How a value proposition (and proposal) is developed and communicated and *by whom* may be just as important as the proposition itself. Instead of a one-way process of “feeding” the potential funder hard evidence of the returns on investment in the hope that they will be convinced, a more interactive two-way process is generally appropriate, involving co-learning and incremental co-development. In terms of the “by whom?”, attention is drawn to the effectiveness of *peer-to-peer/business-to-business communication*.

Building the evidence base

Building a sound evidence base for an EI investment requires relevant evidence relating to how the investment interventions affect the EI and the ecosystem services provided by the EI. While it is important, where possible, to seek quantitative evidence, qualitative evidence is also valid and can be extremely valuable - just because one cannot quantify something does not necessarily mean that it is not important.

Physical outcomes may potentially include: (1) visual evidence represented with before and after photos of the site; (2) a qualitative description of the outcomes; (3) a semi-quantitative rating of the effect of EI investment on a variety of different ecosystem services; and (4) quantification of key physical outcomes, e.g. volume of water which has been freed up as a result of clearing IAPs with high water use. As far as possible, the evidence base should comprise direct evidence, but may need to be inferred, e.g. using a model. From this a cost-benefit evaluation can be undertaken, which may include both monetised and non-monetised valuation of the outcomes.

The evidence base should include: (1) the costs of the interventions; (2) the specific changes to the EI resulting from the interventions; (3) the benefits (and costs) of these interventions; and (4) changes in risk (to the EI and its beneficiaries) resulting from (2) and (3).

A monitoring and evaluation (M&E) framework should be developed and applied to build the evidence base, and should cover before, during and after the EI investment rather than only being undertaken after implementation. The helps to timeously identify problems and their causes. M&E can also play a critical role in providing the evidence base on which to motivate for expanding an initiative and to motivate for investment in other EI initiatives.

Securing resources

Target multiple streams of funding: Many potential funders are encouraged by EI initiatives with matched funding or some level of existing funding. In addition, it may not be within the mandate of a single investor to fund the range of activities required for an EI investment. Thus, by bringing together multiple funders and/or types of funds, the likelihood is increased of covering all the required activities, and therefore sustaining the benefits into the future.

Give explicit attention to implementation, outcome and financial risks: Investors generally seek projects with well-identified risks and plans to manage and minimise these risks.

An outcomes-based funding model: This is an effective means to ensuring initiatives are designed and implemented to achieve outcomes in a cost-effective way. In some cases, payments are provided only once the outcomes have been demonstrated. Although increasing the assurance of achieving the intended outcomes, this poses the challenge of how to cover the costs of the initiative in the meantime.

Clearly identify the investable entity

Investors require a clearly defined, credible investable entity responsible for ensuring that designated funds are safely managed and used effectively. To start, this requires making clear how the funds will be transferred from the investor to the entity and then how the funds will be managed and administered.

The credibility of the entity is essential to securing funds. Entities with an existing track record of successfully managing implementation projects and the associated funds will be more attractive to potential investors. Credibility can be enhanced through promoting diverse stakeholder representation, and demonstrating accountability, transparency and fairness. The entity must also demonstrate the requisite capacity to manage multiple funding sources and fulfil the associated conditions of use, monitor contracts, and ensure financial compliance.

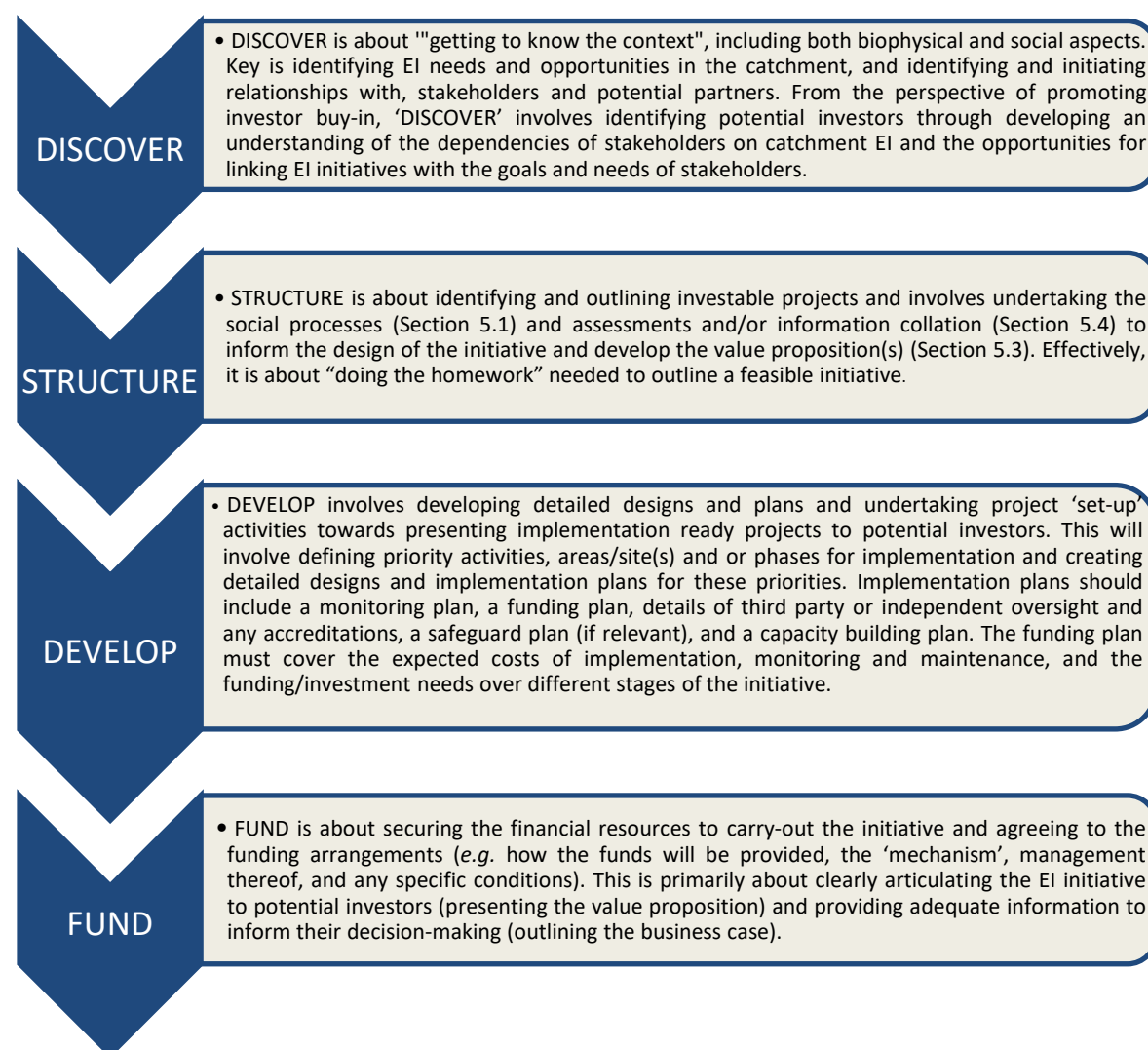
Furthermore, the entity must be agile and responsive, having flexibility within its strategy and systems to respond to new funding opportunities and emerging needs. For these reasons, public organisations may not be the best suited 'investable entity'.

Formalising agreements and financial arrangements

This applies to agreements both with funders and with other partners e.g. implementers, landowners. 'General standards' of doing business apply, together with additional conditions, e.g. demonstrating progress where subsequent tranches of funds are conditional on agreed targets being met, recognising that EI interventions require an adaptive management approach, and agreements with some flexibility within targets and funding arrangements. Clearly defining the processes to be followed in such cases can alleviate investor reluctance.

Specific guidance for project design, set-up and articulation

Investors are more likely to invest in EI initiatives that are well structured. The following 'DISCOVER', 'STRUCTURE', 'DEVELOP' and 'FUND' framework is given as a guide for project design, set-up and articulation.



ACKNOWLEDGMENTS

The project team wishes to thank the following reference group meeting attendees for their contributions to the project.

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|---------------------|---------------------------|
| Roderick Juba | Water Research Commission |
| Aimee Ginsburg | SANBI |
| Alex Marsh | SANBI |
| Alex McNamara | NBI |
| Anele Ketshana | SANBI |
| Bonani Madikizela | WRC |
| Brian Wright | UrbanMGT |
| Caroline Gelderblom | WWF |
| Deshni Pillay | SANBI |
| Dineo Makama | SANBI |
| Elkerine Rossouw | BOCMA |
| Eureta Rosenberg | Rhodes University |
| Faye Bronwell | DUCT |
| Futhi Vilakazi | uMngeni-uThukela Water |
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| Reuben Thifulufelwi | WWF |
| Samir Randera-Rees | SANBI |
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| Shanna Nienaber | WRC |
| Tammy Smith | SANBI |
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LIST OF ACRONYMS

| Acronyms | Explanation |
|-----------------|--|
| AfDB | African Development Bank |
| BLU | Biodiversity and Land Use |
| CAPEX | Capital Expenditure |
| CEDAW | Convention on the Elimination of all forms of Discrimination against Women |
| CFF | Cities Finance Facility |
| CI | Conservation International |
| CIF | Climate Investment Fund |
| CPPP | Community-Public-Private Partnership |
| DBSA | Development Bank of South Africa |
| DFFE | Department of Forestry, Fisheries and the Environment |
| DFIs | Development Finance Institution |
| EI | Ecological Infrastructure |
| GCF | Green Climate Fund |
| GEF | Global Environment Facility |
| GESI | Gender Equality and Social Inclusion |
| GHGs | Greenhouse Gases |
| IAPs | Invasive Alien Plants |
| M&E | Monitoring and Evaluation |
| NDB | New Development Bank |
| NDCs | Nationally Determined Contributions |
| NGOs | Non-Governmental Organisations |
| NPO | Non-Profit Organisation |
| NRM | Natural Resource Management |
| OpEx | Operational Expenditure |
| PFMA | Public Finance Management Act |
| PPCPs | Public-Private-Community Partnerships |
| PPE | Personal Protective Equipment |
| PPPs | Public-Private Partnerships |
| PuPs | Public-Public Partnerships |
| ROI | Return On Investment |
| R&D | Research and Development |
| SANBI | South African National Biodiversity Institute |
| SDGs | Sustainable Development Goals |
| SME | Small and Medium-Sized Enterprises |
| SMMEs | Small, Medium and Micro Enterprises |
| SPV | Special Purpose Vehicle |
| TRMP | Transformative River Management Programme |
| UEIP | uMngeni Ecological Infrastructure Partnership |
| UNEP | United Nations Environment Programme |
| UNFCCC | United Nations Framework Convention on Climate Change |
| USAID | United States Agency for International Development |
| UUW | uMngeni-uThukela Water (previously Umgeni Water) |

| Acronyms | Explanation |
|-----------------|---------------------------------|
| WWF | World Wildlife Fund |
| WWUA | Wolseley Water User Association |

GLOSSARY OF TERMS

| Term | Definition |
|---------------------------------|--|
| Bankable | “A project is bankable, whether from public or private sources, when its risk-return profile meets investors’ criteria and can secure financing to implement the project. Key criteria for bankability include the probability of meeting the project’s financial, environmental, and social goals, sufficient estimated cash flows to cover costs and produce returns that meet investor expectations, and whether the project will be implemented by a creditworthy entity. Though the assessment of whether a project is bankable may differ between specific financiers, they all need confidence that the regulatory, environmental, social, and economic factors are unlikely to prevent the project from being completed (Rana, 2017; GPRBA, 2018). The risk-return profile of a project is the key to bankability (GPRBA 2018). Bankability is also sometimes phrased as investment-ready or finance-ready” (CCFLA, 2022). |
| Concessional loans or funding | “These are loans that are extended on softer terms than market loans, either through interest rates below those available on the market or by grace periods, or a combination of these. Concessional loans typically have long grace periods” (The Education Commission, 2024). |
| Cost-effective | Achieving the desired outcome(s) at the lowest cost. |
| Development Institutions (DFIs) | Finance DFIs also referred to as development banks are specialised financial institutions that are created to provide funding and technical support for infrastructural and economic growth. |
| Ecological infrastructure | Ecological infrastructure refers to natural systems that provide ecosystem services which are fundamental for human and environmental wellbeing. Natural ecological infrastructure works in conjunction with built infrastructure to deliver these ecosystem services (Cumming et al., 2014). |
| Ecosystem services | Ecosystem services refers to the natural benefits that natural resources such as wetlands and rivers, provide to humans and the environment which contributes to their overall wellbeing. Over the past 20 years, the concept of ecosystem services has gained increased attention within literature and has created awareness in society of the impact of harmful human activities on the environment, and subsequently the loss of indirect and direct benefits from ecosystems. Through this understanding, humans are now exploring sustainable land use practices that can be implemented to ensure the protection of ecosystem services (Kotze et al., 2020; Logsdon and Chaubey, 2013). |
| EI intervention | An EI intervention is an activity that can include a suite of activities aimed at improving the functioning of natural ecosystems, informed by environmental knowledge (Mbopha et al., 2021; Rebelo and Methner, 2019). |

| Term | Definition |
|----------------------|---|
| El investment | Ecological infrastructure investment broadly refers to the actions or activities undertaken through financial input to restore, rehabilitate or maintain the ecological health of an ecosystem (Turpie et al., 2014). |
| Financing | “Providing or raising funds” (Investopedia, 2021) |
| Funding | In this project ‘funding’ is used broadly and includes sources of capital where a repayment of the capital is not required (e.g. a grant) and where capital is provided with the expectation of repayment and, typically, a financial return or 'cost' in the form of interest or dividends (e.g. a loan). The latter is usually referred to as ‘financing’ in contrast to funding (OECD, 2022). |
| Green infrastructure | Green infrastructure refers to man-made systems that are semi-natural, which work in conjunction with nature and built infrastructure to deliver ecosystem services essential for human, environmental and economic wellbeing, within an urban or peri-urban context. These systems are aimed at enhancing, preserving, or restoring the natural functioning of natural capital such as wetlands, floodplains, and rivers, and their associated catchments. Green infrastructure contributes to building resilient urban areas that promote socio-economic wellbeing and economic development (Gulati and Scholtz, 2022). |
| Grey infrastructure | Grey infrastructure refers to engineered solutions which are hard, man-made structures such as wastewater treatment works (WWTW), reservoirs, embankments, and pumps. These engineered solutions are integrated within watersheds or ecosystems and work in conjunction with the natural environment (Browder et al., 2019). |
| Investment | “An investment is an asset or item acquired to generate income or gain appreciation” (Investopedia, 2021). |
| Safeguard | “A measure taken to protect from harm or risk; to prevent the causes or mitigate negative consequences; a measure taken to protect someone or something or to prevent something undesirable” (Nelson, 2018). |
| Value proposition | “A value proposition in marketing is a concise statement of the benefits that a company is delivering to customers who buy its products or services. It serves as a declaration of intent, both inside the company and in the marketplace” (Investopedia, 2021). |

1. INTRODUCTION

Given South Africa's status as a water-scarce country, protecting and maintaining existing Ecological Infrastructure (EI) has become a top priority. Climate change is expected to significantly impact the quantity and quality of water resources, affecting both rural and urban communities, who are directly and indirectly reliant on these resources (Gulati and Scholtz, 2020; Rebelo et al., 2021). Weather patterns are anticipated to change, influencing inter alia rainfall patterns and intensity (droughts/floods), and subsequently affecting the availability of surface and subsurface water resources. With the global rate of urbanisation, the demand for accessible and safe water has become a critical issue, which is receiving both international and national attention (Buytaert and De Bievre, 2012; Forero-Ortiz et al., 2020). In many instances, the expansion of the urban areas has been to the detriment of the environment and the current water-related climate challenges have not been considered.

The investment into EI has been highlighted as a crucial incorporation into existing and future urban planning, as it contributes towards building climate resilience within these areas. EI offers a variety of essential ecosystem services, including provisioning, supporting, cultural, and regulating services, which are crucial for the well-being of both humans and the environment (Rasmussen et al., 2021). Given the ongoing degradation of EI, there is a growing need for interventions aimed at protecting and conserving these ecosystems and the valuable services they provide. There is a need for innovative approaches, including investment in EI, maintenance and management of sewage infrastructure, and proper settlement planning (Gcanga et al., 2022).

EI interventions can be implemented through various methods, such as restoring degraded ecosystems or creating new ones to provide desired ecosystem services, like wetland creation for water quality enhancement. These interventions enhance ecosystem resilience to human activities and climate change (Rebelo et al., 2021). According to the OECD (2022), EI investment involves maintaining naturally functioning EI through resources like time, funding, or decision-making, aimed at protecting or restoring EI. This investment seeks to rehabilitate degraded ecosystems to optimal functionality, providing ecosystem services for society (Jewitt et al., 2020). Benefits include improved water quality, infrastructure preservation, and reduced flood risks, enhancing human and environmental health.

The report titled '*A review of target case studies to inform a framework for supporting investment in ecological infrastructure*' (Sithole et al., 2024), provides a detailed evaluation of four selected EI initiatives in South Africa: (1) the Wolseley Water User Association EI coordinator initiative in the Western Cape, (2) the Mpophomeni-Mthinzima (Upper uMngeni initiative) in KwaZulu-Natal (KZN), (3) the uMhlangane initiative in KZN and (4) the Klein Swartberg initiative in the Western Cape. The purpose of the evaluation was to provide evidence-based information of appropriate EI initiatives and management currently active in South Africa, which demonstrate the intangible and tangible benefits of EI investment. Based on the outcomes of the report by Sithole et al (2024), along with the literature review and stakeholder engagement process, key overarching parameters have been identified that are required to support the investment into EI. The enabling and inhibiting factors further emphasize fundamental components for consideration. Lastly, the final section provides guidance in terms of project design, set-up and articulation.

2. FRAMEWORK DEVELOPMENT PROCESS

This section provides an overview of the activities undertaken during the study which informed the development of this framework. An iterative approach was adopted through the project period allowing for the continuous development and eventual refinement of the framework. Some of the main activities linked to the framework development included a literature review, a detailed evaluation of four selected EI initiatives, and stakeholder engagement. **Figure 2-1** provides an overview of the overall approach. **Appendix 1** provides a more detailed outline of the overall approach, detailing how each activity was conducted and how the outcomes for each activity informed the development of the framework. Although the described approach is outlined as a step-by-step approach, it was an iterative process with each of the described steps being closely interwoven.

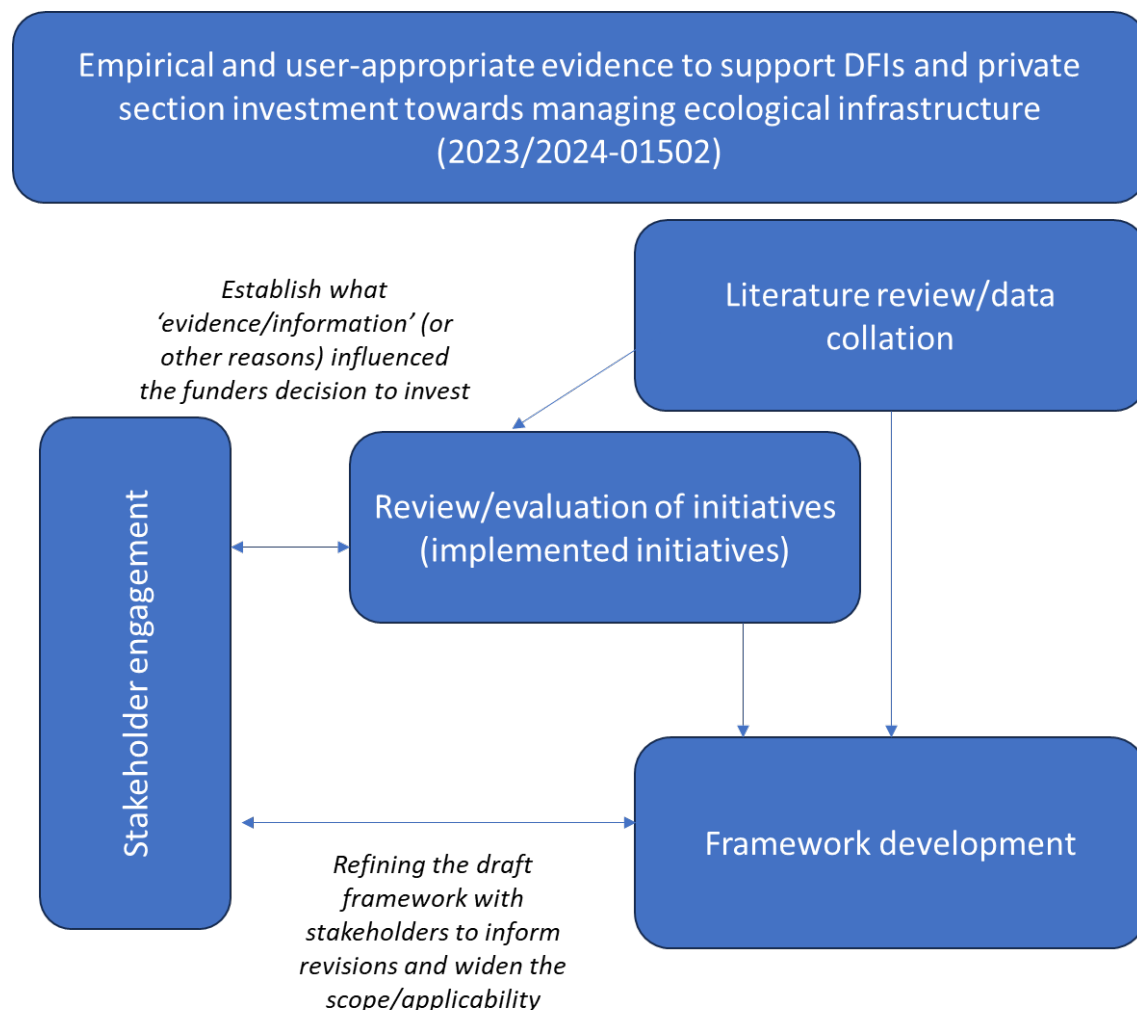


Figure 2-1. An iterative approach was adopted during the development of the EI framework

The framework development and refinement were founded on insights from the literature review, stakeholder engagement, and case study analysis. The insights gained from the stakeholder engagement and literature review process provided essential parameters to support ecological infrastructure (EI) investment, identifying both inhibiting and enabling factors and guidance of how to design, set-up and articulate an EI initiative to promote investment. The outcomes of these comprehensive reviews were meticulously analysed and integrated into the framework components. This methodical approach ensured that the framework was user-appropriate and thoroughly

supported by empirical evidence and stakeholder insights, forming a robust foundation for promoting EI investment.

3. APPROACH AND OVERALL STRUCTURE OF THE FRAMEWORK

There is no ‘one size fits all’ approach to developing an EI initiative that will be attractive to multiple investors. Each initiative or project requires an approach suited to the specific context. However, from the case, literature review and stakeholder engagements undertaken through this project, several key elements can be distilled that, when in place, increase the potential for securing investment in EI. It is recommended that this report be read in conjunction with Sithole et al (2024), which provides an overview of the EI initiatives this study focuses on and the diversity that exists among each of these case studies, highlighting the uniqueness of each project. The diagram below provides an overview of the sections presented in this report.

Section 3: Enabling and inhibiting factors

- Section 3 presents the enabling and inhibiting factors in terms of funding and investment in EI.

Section 4: Key overarching parameters needed to support EI investment

- Section 4 identifies key parameters that are required to support EI investment. These parameters highlight important elements in an EI initiative requiring careful consideration, and include the following topics:
 - Social processes, social justice and a just transition.
 - Key role-player relationships and mechanisms for collaboration.
 - Developing the value proposition.
 - Building the evidence base.
 - Securing resources *e.g.* multiple streams of funding, outcomes-based funding model etc.

Section 5: Specific guidance for project design, set-up and articulation

- Section 5 provides specific guidance on how to design, set-up and articulate an EI initiative to promote investment.

As can be seen from the preceding diagram, the framework is not structured as step-by-step guidelines, but instead is designed to alert the user to a series of key elements (overarching parameters) needing to be considered in any EI investment initiative. Each of these elements is described and practical guidance is given. In addition, the framework makes frequent reference to real-life examples drawn from South Africa, with several of these given as case description boxes.

Along with using the framework, users are also encouraged to engage with the report by (Sithole et al., 2024). Begin by reading through the overview given of the four cases in Table 2-1 of the case study report and identify which case/s appear to have relevance to their own context. For relevant case/s, read the full case description to see: (1) which role-players were involved; (2) the funding mechanism

applied and criteria for securing funding; (3) the business case which was developed; and (4) key lessons learnt. Finally, note those specific elements and lessons from the case that appear to have particular relevance to your situation, as well as any possibilities or sources of inspiration revealed by the case.

4. ENABLING AND INHIBITING FACTORS

The establishment of an EI initiative needs to consider the potential suite of enabling and inhibiting factors that may influence the investment into the initiative. The following sections outline these factors and are based on the case study report (Sithole et al., 2014), engagement with various stakeholders, and existing literature.

4.1 Factors enabling or encouraging funding and investment in EI

EI investment can potentially be leveraged off a great variety of potential sources (“pull factors”), including: (1) leveraging off existing partnerships/initiatives; (2) hybrid investments, in particular those involving both grey and green infrastructure; (3) the pressure to respond to risks, in particular to droughts and floods as a result of climate change; (4) the need to meet national commitments (e.g. poverty alleviation through public works programmes) as well as international commitments (e.g. Convention on Biological Diversity and Climate Adaptation); (5) the need to meet legal mandates, particularly in the public sector, including disaster, risk and cost reduction, protection of built infrastructure, and service delivery; and for which the contribution of EI may not currently be recognised, but for which there is great potential for EI investment alignment; and (6) forward-thinking entities seeking reputational benefits with consumers, clients, and other stakeholders so as to increase brand loyalty and better market positioning. The summary below provides further detail on several of these enablers.

- (a) Compliance and regulatory frameworks:** If environmental legislation and its implementation (“push factors”) are strong then development authorisations will encourage EI investment. For example, if a particular development is expected to have a certain level of environmental impact, the responsible entity can be required to invest in EI as a way to reduce or mitigate their impact. In addition, effective sustainability reporting may also compel participating companies to invest in the EI for which they have responsibility. This is attributed to the increased requirement by funders and investors for businesses to display their commitment to conserving and protecting the environment through sustainability reporting. This can potentially attract more investors, who have a shared commitment to sustainability. Those undertaking development or the business operations will be motivated by seeking to avoid penalties and the reputational risks which accompany being penalised. This is a strong motivator as compliance and regulatory incentives to avoid legal and financial penalties is prioritised by most companies. Furthermore, effective regulation creates a more favourable environment to encourage voluntary investment in EI, just as fair and effective law and order helps enable societal flourishing, generally.
- (b) Sound social processes:** Sound social processes and structures should be in place to support the building of: (1) trust and long-term relationships, e.g. between funders/investors, project implementors, land managers and community stakeholders; (2) a shared understanding by the role-players of their catchment impacts and risks; and (3) an EI investment plan that draws on this shared understanding to recommend appropriate EI interventions, and which is aligned with the particular interests or mandates of funders/investors. Furthermore, sound social processes should contribute to the just transition, i.e. greening the economy in a way that is equitable and inclusive for everyone concerned.

- (c) Strategic alignment and shared goals:** The benefits of the EI investment and how they align with the funder(s)' objectives should be well articulated (**Box 18**). This will generally involve the development of a clear value proposition and business case that is supported by science and data (e.g. catchment specific monitoring), and address identified impacts and vulnerabilities. Further, these should include a systematic appraisal of, and elaboration on, the anticipated benefits and costs of EI investment and the risks to the long-term sustainability of the investment outcomes. Aligning the benefits of investment in EI with the specific interests or mandates of funders and investors can be quite diverse.

For instance, some may focus on (1) nature-based solutions for climate adaptation and mitigation; (2) safeguarding investments in built infrastructure; or (3) voluntary investments by the private sector to address risks to business operations, brand, and corporate social investment. Private sector investment is frequently driven by such pressures. There is a growing recognition that healthy ecosystems play an essential role in adapting to and mitigating the impacts of climate change, particularly relating to water security. Recognising the long-term benefits not just for the environment but also from an economic aspect like business operations and social welfare, is an important motivator. Reputational benefits also play a role, as responsible and forward-thinking entities are favoured by consumers, clients, and other stakeholders, leading to increased brand loyalty and better market positioning.

- (d) Enabling environmental agreements:** Aligning with global, regional and national commitments, such as the Sustainable Development Goals (SDGs) or the Convention on Biological Diversity and Climate Adaptation; and supporting or adopting international efforts to promote sustainability and resilience and natural capital accounting, are important. For example, the SDGs encourage companies globally to make efforts towards, conserving, protecting and reducing harmful impact on the environment. SDG 6 has a particular focus on improving water quality for all, including improved sanitation through reducing levels of water pollution, illegal solid waste disposal, and reducing the amount of untreated wastewater. At a national level, the Blue Drop and Green Drop programme, is an incentive-based regulation program, which challenges municipalities against the established national (National Water Act No 36 of 1998) and global standards (SDGs), to improve the performance of their wastewater treatment plants (Green Drop) and quality of drinking water (Blue Drop), which ultimately contributes to SDG 6.

At a local level, initiatives should align with legal mandates, especially in the public sector, which may include disaster risk and cost reduction, protection of built infrastructure, and service delivery. Addressing the specific mandates of public sector institutions is key to investment, as it can be incorporated into the sectors operations.

- (e) Linking 'green' and 'grey' investments through project finance:** Hybrid type investments, which offer cross-cutting benefits such as green and grey infrastructure, social equity, environmental justice, and social investments aligned with organisational mandates, can among others generate co-benefits like job creation and data collection. But furthermore, co-funding and collaboration across sectors, such as public and private, may further contribute towards benefit sharing. Existing relationships between potential investors and project leads, long-term trust, and a track record of the project lead and implementers, form a sound basis for addressing shared impacts and vulnerabilities. Additionally, establishing a project steering committee, including private sector partners, ensures transparency from the start.

- (f) Developing a business case for EI investment through research:** A strong business case and/or the availability of implementation-ready projects, substantiated with measurable benefits and quantifiable data based on science, highlighting risks and benefits, and detailing short, medium, and long-term results, is essential. Initiatives proposed or implemented in recognised priority areas or issues are more likely to attract investment. Therefore, seed funding to initiate pilot initiatives can help demonstrate the business case. The relative influence of anticipated benefits, costs, and risks can vary, though all three factors are critically important. The emphasis can shift depending on the specific context and priorities of the funders and investors, and thus, a balanced and comprehensive business case that effectively addresses all three aspects is crucial for securing funding for EI projects.

The benefits or costs that most motivate investment include a solid risk appraisal of funding requests, which encompasses technical, financial, institutional, social, and environmental aspects. But also, the estimate and quantification of avoided costs and the long-term sustainability of the investment are also motivating factors.

- (g) Consistent source of public funds for EI projects to attract funders to invest in EI:** Public sector partners should look to establishing a model of localised funding that provides a foundational level of resources, this would also contribute to creating an environment that fosters additional investment in EI initiatives. As argued by Audouin et al., (2021:62):

“Being predominantly a public good and arguably a constitutional right, it is appropriate for a government to provide the resources for ecosystem protection, maintenance and restoration programs. Currently, resources are made available at national and provincial levels, but only indirectly, and not explicitly for delivering outcomes related to EI.”

A model of localised funding could consist of a combination of a government appropriation (an allocation from the national budget), funds through the water resources management charge and water tariffs, and the use of regulatory and financial incentives.

4.2 Factors inhibiting or challenging EI funding and investment

Although there are multiple enabling factors contributing towards EI investment, there are several inhibiting factors that include both existing and perceived challenges.

- (a) Poor access to funding for EI investment:** At the outset, funding is generally an essential component to an EI initiative, however, access to funds may prove to be challenging. This is often a double-edged sword in that investors and funders are often faced with a scarcity of strong and/or appropriate proposals, or there is insufficient data or evidence of the benefits of the investment in an EI initiative, thus making it difficult to build a strong business case and secure funding despite the availability of funds.
- (b) Poor use of language to convey EI investment story to donor/funder:** Moreover, there is a general inability to express the costs and benefits of the EI initiative in a manner that investors/funders can relate to. This is linked to the fact that there is frequently a poor understanding of these benefits and returns. Financial constraints, such as high initial costs and uncertain financial returns particularly in the short-term, further complicate matters. Differences in language and terminology used by EI practitioners and investors/funders poses a challenge for building a solid business case to secure confidence and buy-in. This contributes towards investors and funders being challenged in terms of identifying fundable projects.

- (c) **Lack of predictable and long-term financial resourcing:** Implementation and maintenance timeframes, as well as planning and project management, need to extend beyond a typical 1–3-year funding cycle. Few investors, particularly from the corporate sector, provide consistent investment for longer than five years (typically shorter); yet many also want to know that the gains made from their investment will be secure into the future.

Although funding is available, there is a perceived scarcity of implementers who can manage, administer (including financial management), and scale-up projects. Having a proven track record, especially when significant upfront investment is required, is crucial to an investor/funder. However, in saying that, funding streams generally only cover Operational Expenditure (OpEx) and not the associated management costs, which is required to maintain an implementor. Linked to this, in the event of successfully securing funding for an EI initiative, co-funding requirements can be difficult for project implementers to meet. There is a perceived need for a critical mass of funding before it is viable to initiate implementation, and challenges in reaching this required funding level. This coupled with the high perceived risks and inadequate risk sharing mechanisms can deter potential partners, but also perceived gatekeeping of EI investment opportunities by some actors inhibits collaboration.

- (d) **Lack of platforms for collaboration for EI investment:** The lack of existing effective institutional mechanisms or platforms for effectively leveraging and coordinating funding and investment in EI are also significant barriers. This is further exacerbated by regulatory barriers such as inconsistent regulation and bureaucratic hurdles, and ambiguity and concerns around land ownership and future land use pose risks to the investment and protection of the EI investment. In terms of the actual EI initiative itself there may be technical challenges, such as the complexity of EI projects and logistical difficulties in remote locations or a limited contribution to downstream users, leading to fewer potential investors.

- (e) **Lack of shared alignment and goals amongst key role-players:** Throughout this entire process, relationships among funders/investors, implementors and other stakeholders is key to the success however, misaligned interests or lack of community buy-in can stall the entire EI initiative. These relationships are key for the successful coordination of a project, to ensure that there are no conflict of interests or intellectual property issues that may hinder any progress of the project. Furthermore, components that may destabilise a relationship include the lack of transparency, communication, and accountability, along with a perceived risk of corruption and misuse of funding, particularly in the public sector. There is a general lack of trust between the private and government sectors, based on perceptions linked to government inaction, perceived failure of the government to uphold its commitments, and lack of leadership and governance by local government. Additionally, there is an ambiguity or lack of clarity on whose mandate it is to manage EI. Many benefits from investment in EI, like water security, are seen as the responsibility of the government, leading the private sector to not see the need or responsibility to invest.

- (f) **Lack of financial coordination and distribution of funds:** Linked to the above inhibiting factor, there are several constraints specifically relating to public sector funding, particularly bureaucracy and red tape in government. Channelling funding through the public sector is often an administrative burden due to the Public Finance Management Act (PFMA), procurement and supply chain processes. This is further complicated by having to obtain the relevant legal agreements and approvals, and the initiatives seldom fully align with the municipal/government departments mandates. Due to EI initiatives not forming a core-focus

of the departments, the capability and understanding of these types of initiatives is often lacking. These challenges, have an additional effect on securing long-term funding for the protection and maintenance of the EI investment thereby, greatly influencing the sustainability of these projects. A stagnant economy and higher costs of business erode the funding available for investment in EI, particularly from the private sector.

- **Weak understanding of global requirements for gender equity and social inclusion:** The complexity of global Gender Equality and Social Inclusion (GESI) requirements that typically accompany international financing present challenges to many EI management implementing agencies. A lack of awareness and understanding among implementing agencies on how to integrate GESI criteria into proposals and plans is acknowledged by many as inhibiting. This can also be compounded by the fact that many see global GESI criteria and standards as contradictory to local cultural values and norms and lacking recognition of local or indigenous knowledge. Discord between the legal frameworks on gender equity and traditional and cultural practices at project sites could challenge the achievement of the dual goals of gender equality and sustainable implementation of EI interventions.

5. KEY OVERARCHING PARAMETERS NEEDED TO SUPPORT EI INVESTMENT

5.1 Social processes, social justice and a just transition

Social processes are the interactions that occur between individuals and/or groups. Two broad categories of social processes are recognised:

- Conjunctive social processes, which involve cooperation, accommodation and adaptation/assimilation.
- Disjunctive social processes that involve competition and conflict.

Social processes can take place at the micro- and macro-levels and bring a different balance within a specific social context. These processes fundamentally influence the willingness and capacity of groups and/or individuals to engage in EI management. Key approaches and interventions to building constructive social processes, and overcoming disjunctive processes, towards increased investment in EI management should include consideration of the following:

- (a) Building a shared understanding** of the importance of EI management and the benefits from funding and investing in it. Information to build this shared understanding needs to ‘talk’ to investor/funders in a language that they relate to and understand, i.e. to tell a compelling ‘story’. It needs to be supported by strong evidence to clearly demonstrate benefits and impacts of funding and investment in EI management. Information needs to build a strong foundational understanding of EI management and restoration, as well as on specific contexts, e.g. by showcasing successful case studies. Information must address the specific mandates and priorities of target funders and investors and align with their specific values in order to be relevant. These may be varied and wide ranging for example, nature-based solutions to climate adaptation/mitigation, safeguarding investment in built infrastructure, voluntary investment by private sector to address risk to business operations, brand, and corporate social investment. There is thus no blueprint for all funders and investors, and generating information to build a shared understanding needs to be tailored to the needs and interest of the specific funder/investor. Creating opportunities for funders and investors to gain information first hand e.g. through curated field visits and in-field discussions with stakeholders, can provide powerful opportunities to build shared understandings and strengthen their relationships with EI management initiatives.
- (b) Establishing champions** (e.g. high-profile, respected, trusted individuals and/or organisations with proven track records) to develop relationships with investors/funders and to unlock funding. The importance of effective champions in leveraging financing and investment is recognised, for example through playing the role of an ‘honest broker’ between funders/investors and EI management implementors. The potential role of champions is typically built on trust and the establishment of long-term relationships with both funders/investors and EI management /project implementors.
Continuity (and dedication) of the people involved on the ground, and an established reputation that is based on international recognition and a demonstratable reliable and effective track record are important criteria for effective champions.

- (c) Building strategic partnerships and successful collaboration** based on trust and transparency. Trust and strong relationships can foster collaboration, innovation and resilience. They help ensure that everyone is aligned and committed to shared goals, even in the absence of strict formal mechanisms. This includes partnerships between, for example, funders/investors and EI management implementors, between EI management implementors and champions, and between EI management implementors and stakeholders at sites where management and rehabilitation are undertaken. Partnerships should not only focus on like-minded actors/organisations, as a diversity in partners is crucial for leveraging and pooling expertise and resources, to enhance collaboration and avoid competition and conflict (that deters investors and funders). Multi-sector partnerships are particularly important for ensuring that all parties are working towards common objectives, and that risks of malalignment of strategies and plans e.g. between government, private sector, and non-governmental organisations (NGOs), is minimised.
- Partnerships between funders/investors and EI management implementors needs to build trust and transparency. This requires sound communication systems and being truthful and realistic in terms of expectations and achievable goals. Successful partnerships also reflect a recognition of the need for flexibility in EI intervention design, planning and implementation to accommodate the vagaries and sometimes unpredictability of socio-ecological systems.
- (d) Effective stakeholder engagement and communication** are critical to establishing conjunctive social processes. Effective engagement and meaningful participation of a wide range of stakeholders has a significant effect on the social processes that affect the success of EI management initiatives. Stakeholder engagement should extend beyond information sharing and should aim to incorporate stakeholder empowerment to explore the roles of stakeholders through collaboration and co-design of project interventions. Effective stakeholder engagement can improve the sustainability of the EI initiative by enhancing stakeholder buy-in and long-term participation. Stakeholder engagement approaches need to build constructive relationships between implementors, investors and stakeholders, particularly those who have a role to play in the EI initiative and those that may be affected by it. Effective communication with funders and investors regarding impacts and outcomes is essential to promote accountability, build trust and confidence in the initiative, and effectively grow and maintain support.
- (e) Commitment to social justice and a just transition** are fundamental principles for equity and sustainability of EI funding and investment. A key consideration is reconciling socio-economic needs and objectives with EI management objectives and recognising the influence that financing and investment has on these objectives. A holistic approach is required that considers the broader developmental impact and incorporates pathways for improved livelihoods (not just jobs), and well-being through EI interventions. A just transition implies greening the economy (e.g. through investing in EI management) in ways that are equitable and inclusive and address the principle of leaving no one behind. This includes creating opportunities for everyone to benefit in equitable ways e.g. capacity building, skills development, jobs, incomes. EI initiatives that are “un-just” (e.g. result in job losses, abandon communities, deepen inequality and divide society) are not appropriate EI funding and investment opportunities.
- (f) Ensuring gender equity and social inclusion (GESI)** are also important criteria for achieving equity and sustainability. However, EI management implementors have acknowledged that

they experience challenges in incorporating these criteria and they recognise that trade-offs are made in some situations. There is an urgent need to raise awareness and develop a sound understanding among EI management implementors around how to incorporate global and national policies and guidelines for gender equity and social inclusion into EI initiatives (**Box 1**).

Box 1: Policies and Guidelines for Gender Equality and Social Inclusion

Several international instruments develop the mandate for human rights and gender equality, these include amongst others, the Convention on the Elimination of all forms of Discrimination against Women (CEDAW 1979), United Nations Conference on the Environment and Development and Agenda 21 (UNCED 1992), United Nations Conference on Women: equality, development, peace and Platform for Action (Beijing 1995), the 2030 Agenda for Sustainable Development and the SDGs. Regionally, the African Union's Gender Equality and Agenda 2063 sets gender equality as a key component of Africa's future, and the Gender Equality and Women's Empowerment Strategy 2018–2028 of the African Union is a multisectoral strategy.

The Constitution of the Republic of South Africa, 1996, states that all South African citizens have a right to be affirmed and enriched with democratic values of human dignity and equality. The national legal framework includes the National Gender Policy Framework for Women's Empowerment and Gender Equality (2010), and the Women Empowerment and Gender Equality Bill (2013). The National Development Plan 2030 prioritises several goals that affect women. The gender equity legal framework is actioned through the strategic plans of multiple departments at national and provincial levels, e.g. the Department of Forestry Fisheries and Environment (DFFE) developed a gender strategy that guides, supports, facilitates and promotes gender equality through all its DFFE programmes, including for example Working for Water.

International funders and donors have developed several policies and guidelines in efforts to support gender equality promotion of social inclusion and through projects fund. Examples of these materials include:

- Global Environment Facility (GEF):
 - Policy on Gender Equality.
 - Guidance to Advance Gender Equality in GEF projects and programs.
- United Nations Environment Programme (UNEP):
 - UN Environment policy and strategy for gender equality and the environment.
 - Mainstreaming Gender in Environmental Assessment and Early Warning.
- United States Agency for International Development (USAID):
 - 2023 Gender Equality and Women's Empowerment Policy.
- World Bank:
 - World Bank Group Gender Strategy 2024 – 2030.
- Green Climate Fund:
 - Gender Policy.
- Climate Investment Funds (CIF):
 - CIF Gender Policy.
- Millennium Challenge Corporation:
 - Gender and Inclusion Policy.

Disjunctive social processes that lead to competition and conflict and undermine effective financing and investment in EI management are typically characterised by a lack of coordination between stakeholders, perceived competition between EI initiatives (usually over funding), and/or conflicts of interest. Lack of buy-in can be driven by misaligned interests and uncertainty among stakeholders,

which is often linked to differences in language/terminology used. Lack of transparency, communication, accountability, bureaucracy, and a perceived risk of corruption and misuse of funding particularly in the public sector, also drive disjunctive social processes.

The best designed EI initiatives, which address the most critical EI, can be derailed by disjunctive social processes. It is essential that social processes be effectively considered and addressed in EI management. Capacity needs to be developed to effectively address these principles in planning and design as well as implementation of EI initiatives, and to reflect them in funding and financing criteria and conditions.

5.2 Key role-player relationships and mechanisms for collaboration

Key role-players and mechanisms for collaboration are critically important in supporting investment in EI. Both these factors enable and enhance EI investment in several ways:

- Environmental challenges are complex and thus require innovative solutions. Innovation can be achieved through enabling collaboration with a range of diverse role-players, which ensures that EI challenges are addressed comprehensively. Ecological infrastructure in communal areas used by resource-poor communities present constraints in terms of the long-term sustainability of EI investment. This applies especially to the challenge of controlling livestock grazing within communally used EI. Nevertheless, there are initiatives, notably Meat Naturally, which provide practical means of promoting EI investment as well as improving local livelihoods linked with livestock dependent on the EI (**Box 2**).
- A key benefit of collaboration platforms and diversifying role-players involved in EI projects, are the diverse expertise and resources that each role-player contributes. Resource optimisation is key in achieving efficient and effective EI projects.
- Collaboration amongst role-players builds relationships and trust, which is a necessary component in ensuring the long-term sustainability of the project.

Box 2: An innovative initiative for “earning funding” to support the sound management of communally grazed EI

Meat Naturally Pty is a for-profit social enterprise which works with various partners to assist communal livestock farmers in improving their rangeland management and enhancing their market access. A key principle of Meat Naturally is to focus on *earning funding* rather than being highly dependent on donated funds. Livestock owners are required to meet a certain minimum standard of rangeland stewardship in order to be assisted in accessing improved markets with enhanced income-generating opportunities for the livestock owners. Meat Naturally does this practically by providing the following services:

- Market access: via facilitation of local mobile auctions and mobile abattoirs where farmers have implemented conservation agreements regarding land management and wildlife conservation.
- Livestock production: sourcing reliable vaccinations, farm management equipment, and livestock transport.
- Consulting and training services: around conservation agreements, grazing planning, stock improvement, etc.

Meat Naturally partnered with Conservation International (CI) and the Peace Parks Foundation in 2018 to collaboratively fund the establishment and expansion of a Herding for Health Programme in communities adjacent to Transfrontier Conservation Areas in five (5) Southern African countries, namely South Africa, Botswana, Mozambique, Lesotho and Zambia. This programme prioritises community participation in livestock management, sustainable grazing and rangeland management, whilst simultaneously contributing to the livelihoods of communal farmers living in protected areas. An enabling factor of the Herding for Health model is the stewardship agreement that is done with communities who own the land (i.e. planned grazing). Communities willingly contribute efforts to adopting sustainable grazing practices for their livestock, and in exchange are provided with the resources required to improve the health and the quality of their livestock.



5.2.1 Key role-players relationships

Securing and managing investment in EI requires flexible, innovative institutions, partnerships and management, and financial arrangements (Audouin et al., 2021; Costanza et al., 2021; Midgley et al., 2021). This involves a range of role-players and different forms of collaboration. Key role-players can be categorised into a range of groups:

- (a) Financing and/or investment, this can include Development Finance Institutions (DFIs), multilateral development banks, intermediaries (local development banks/commercial banks), and private sector/businesses.
- (b) Agencies implementing EI initiatives such as NGOs/Non-profit organisations (NPOs), landowners (e.g. public, private and communal), civil society and community organisations, public sector organisations (e.g. municipalities) and the private sector (e.g. businesses).
- (c) Public sector, including national, provincial, and local government (e.g. catchment management agencies, water utilities, regulators, and local authorities).
- (d) Upstream and downstream users/beneficiaries of services from EI e.g. landowners (private and public), local communities (rural and urban), and businesses.
- (e) Supporting actors/role-players: those who provide technical support, additional expertise, knowledge management and oversight (compliance with regulations or independent accreditation/auditors), those who can influence the enabling environment, monitor and evaluate the impacts of investment, and provide linkages to other elements of the integrated system (e.g. built infrastructure).

Relationships between these key role-players is a strong determinant of the effectiveness and success of EI initiatives. This is typically influenced by:

- Strategic alignment and shared goals (incentives and motivations to participate): Aligning EI projects to funder priorities, increases the likelihood of securing funding, as funders or investors are more inclined to investing or supporting projects that align with their mission and objectives. For example, investors or funders are increasingly prioritising funding projects and companies that address climate change challenges. Globally more than 70% of investors are interested in making investments in projects or companies, that make a financial profit and seek to have a positive social or environmental impact. To leverage off investor interests, stakeholders would need to strategically align themselves to funder interests. To do this, stakeholders can undertake the following steps:
 - Early and consistent engagement with funders: Stakeholders should initiate communication with funders ideally in the planning/ideation phase of the proposed EI intervention. This can help stakeholders establish a good understanding of the expectations and priorities, and potentially, shared goals as related to the EI intervention.
 - Clearly defined objectives: Stakeholders should ensure that their project objectives are clearly communicated with funders and make efforts to align their project objectives with the expectations of the funder. This will avoid unmet expectations and misalignment of goals as the project progresses from proposal to implementation phase.
 - Background research of projects funded in the past: analysing past projects that have been funded in the past, can help stakeholders potentially identify shared goals that can be leveraged to increase opportunities for collaboration with the funder.
- Trust and transparency (established through open communication and clear accountability): This fosters enhanced communication on resources, knowledge and expertise, thus increasing potential for innovative solutions to address EI challenges.

The roles and responsibilities of key role-players will largely evolve over time as a project progresses. This can be influenced by a range of factors including inter alia progression through project phases,

changes in policy or funding, or involvement of stakeholders at a particular phase of the project. Thus, role-players can assume different roles across initiatives, for example:

- Financing and investment agencies provide input into planning of initiatives according to the terms and conditions of their funding or investment. For example, financial products such as blended finance, equity investments, guarantees, grants and concessional loans will shape the design and planning of different types of EI initiatives. The type of financing of investment provided is determined by the type of agency it is provided by. DFIs, commercial banks and climate financing agencies, for example, offer funding and investment opportunities that differ widely (see **Box 3**, **Box 4** and **Box 5**).
- Public sector (including local, provincial and national government departments) provides the regulatory framework, policy support, and authorisations that impact on the planning phase, and ensure that projects align with national environmental strategies and priorities. They can also play the role of finance providers or investors. In some initiatives public sector agencies can also be implementors of EI initiatives. An example of this is the Mpophomeni-Mthinzima (upper uMngeni) initiative in which a condition of upgrading the WWTW, included the requirement that the Mpophomeni wetland system associated with the WWTW (upstream of the R617 road) be rehabilitated. Additionally, soft interventions required by the wetland interventions were funded and implemented by Working for Wetlands (WfW) (Sithole et al., 2024).
- Private sector investors provide capital and investment through, for example, direct investment, Private-Public Partnerships (PPPs), and co-financing arrangements. Private sector agencies, such as business management associations, are in some cases also implementors of EI management.
- Environmental agencies (including NGOs, NPOs, and research organisations) provide technical experts with specialist knowledge to undertake feasibility (technical and economic) and impact assessments to inform the project design and ensure compliance with the environmental regulations during planning and implementation.
- Community organisations and civil society organisations represent local communities and upstream and downstream users/beneficiaries of services from EI and provide on-the-ground insights and advocacy for long term sustainable practices. Communities participate in high-level planning and implementation, and benefit from projects, through for example, local jobs and incomes, skills and confidence building, and benefits from improved ecosystem services.
- Academic and research institutions provide research, innovation and insights to improve project outcomes.

Box 3: Development finance institutions funding South African infrastructure

DFIs are financial institutions that provide funding support for projects that contribute to economic growth and sustainable development specifically targeted towards developing countries (van Zyl et al., 2022). DFIs provide a range of financial instruments which include, grants (which do not require repayment), equity investments, loans and insurance that operate over a medium- to long-term timeframe (Ferraz, 2023). DFIs vary in size and scope, however they are all heavily influenced by government priorities, one of which is sustainable development (Ferraz, 2023). DFIs are particularly important as they can offer funding for complex and innovative projects that pose higher risks and lower returns which conventional funding mechanisms are unable to fund. The funding mechanisms offered by DFIs are mainly debt and equity based, with limited grant options, which means that funding offered often supports the pilot phase of the project. Once a project transitions into the implementation phase, the funding is no longer viable and can be revoked by the DFI who provided the pilot funding (van Zyl et al., 2022). New funding mechanisms which are specific to project funding needs are regularly developed. Examples of DFIs that provide funding support to various infrastructure projects in South Africa include:

- i) **World Bank:** The world bank is the largest international financial organisation, which provides funding support to governments primarily in developing countries (low to middle income). The World Bank's main objective is to reduce poverty and support economic growth, through financially supporting projects that contribute to improved economic and social conditions.
- ii) **African Development Bank (AfDB):** Is a regional multilateral development financial institution enacted in 1964, with the aim of improving economic growth and sustainable development in African countries. The institution consists of 81 member countries, made up of 54 African countries and 27 non-African countries. The institution provides preferential funding to developing countries, and market-rate loans to all member countries. Additionally, the AfDB runs the Green Bond programme, which provides funding for suitable climate change projects.
- iii) **New Development Bank (NDB):** formerly known as the BRIC development Bank, the NDB is an international financial institution developed by the BRICS countries (Brazil, Russia, India, China and South Africa) in 2014, that aims to provide financial support for infrastructure and sustainable development projects in developing economies and countries. This financial institution also collaborates with private sector to co-finance projects, which are within the following key focus areas: clean energy and energy efficiency, transport infrastructure, water and sanitation, digital infrastructure, environmental protection, and social infrastructure.
- iv) **Eastern and Southern African Trade and Development Bank:** Established in 1985, this multilateral, treaty-based financial institution's main goal is to provide financial support and enable trade, economic cooperation amongst member countries and sustainable development within its member countries. The bank offers custom financial solutions for various sectors to governments, financial institutions, and businesses, including small and medium-sized enterprises (SMEs) in the region. This includes direct financing through different types of loans, equity, guarantees, export credit, and non-financial services like advice, asset management, and agency services.
- v) **Development Bank of Southern Africa (DBSA):** A government-owned financial institution that provides funding resources for African countries with the aim of enhancing economic growth and infrastructural development. DBSA also provides funding support in the form of blended finance, equity investments and guarantees. The funding support is provided to specific funding sectors, which the goal of building the economic standing of South Africa, and neighbouring African countries to compete in the global economic market. These sectors include economic infrastructure

Box 3: Development finance institutions funding South African infrastructure

(information and communication technologies, transport, water and sanitation, and energy) and social infrastructure (health, education and human settlements).

Box 4: Commercial banks

Commercial banks provide financial services to individuals and business with the goal of achieving sustainable development and economic growth. In South Africa, private sector engages in water-related EI investment through providing loans to companies, landowners and public institutions such as municipalities and water boards. To fund longer term projects, private sector purchases infrastructure bonds (van Zyl et al., 2022). Commercial banks play an integral role in investing in EI due to several reasons, including inter alia,

- **Provision of access to capital:** Commercial banks can provide large amounts of funding to support EI projects, which is especially important for large-scale EI projects that require a considerable investment upfront. One example of such a funding resource are green bonds. Green bonds are a fixed-income investment used to fund projects that have a positive environmental impact. Examples of projects funded through green bonds include inter alia, renewable energy, energy efficiency, pollution prevention, and sustainable water management.
- **Risk management expertise:** Banks are well versed in assessing and managing financial risks associated with investment, especially in EI investment. This is particularly important and useful for EI projects, which can often have unquantifiable outcomes or benefits, or severe risks. Banks can assess the feasibility of EI projects to ensure that the investment has a greater return for the investor.
- **Diversification of funding:** Access and provision of funding through commercial banks increases opportunity for EI projects to diversify their funding sources. Diversifying funding sources decreases pressure from one source of funding and distributes the risk across multiple funding stakeholders.
- **Long-term financing:** Commercial banks are able to provide access to long-term funding options, which are particularly important for EI projects that have long pilot phases and require prolonged investment for various aspects of the project period.
- **Facilitation of Public-Private Partnerships (PPP):** Commercial banks can act as the 'middleman' by enabling collaboration of public and private sector stakeholders in the case of EI investment. The collaboration of public and private sector stakeholders allows both stakeholders to be part of the various phases of the EI intervention. Furthermore, PPP allow for funding sources to be diversified and thus shared risk between both sectors. PPP enables resources, technical expertise and capacity to be leveraged from both private and public sector stakeholders which can enhance the EI intervention and be useful for funding large-scale EI projects.
- **Promotion of sustainable practices:** Commercial banks promote sustainable practices through investing in EI which strongly aligns with the goal of achieving environmental agreements, such as the SDGs and the United Nations Framework Convention on Climate Change (UNFCCC).

Box 5: Climate financing options

Climate financing refers to funding sources that are aimed at developing climate adaptation and mitigation strategies, with the goal of reducing greenhouse gases (GHGs) emissions, build climate resilience, and reduce the impacts of climate change related events on socio-ecological systems. This financial mechanism intends to foster development through capacity building, research and economic growth. Examples of international climate funding agencies which provide large-scale funding and grants, include, inter alia, the Climate Investment Fund, Global Environment Facility, Green Climate Fund, Adaptation Fund, and loans from the European Investment Bank (**Box 2**).

- i) **Climate Investment Fund (CIF)** is a multilateral climate finance partnership that assists developing countries to build climate resilience through adaptation and mitigation strategies. CIF works across a range of diverse stakeholders (governments, private sector, civil society, local communities and six major multilateral development banks) to provide funding sources from private and public sector to 81 countries.
- ii) **Global Environment Facility (GEF)** is a multilateral funding institution, that aims to address environmental challenges such as biodiversity loss, climate change and pollution. The institution provides funding to developing countries, which aim to address intricate environmental issues and to help them achieve SDGs.
- iii) **Green Climate Fund (GCF)** helps countries fulfil their Nationally Determined Contributions (NDCs) and commitments under the Paris Agreement. GCF projects concentrate on three strategic areas, namely:
 - Climate change mitigation: Initiatives aimed at reducing greenhouse gas emissions and enhancing the resilience of carbon sinks.
 - Climate change adaptation: Efforts focused on protecting the most vulnerable communities from climate-related disasters.
 - Cross-cutting projects: Projects that address both mitigation and adaptation interventions.

5.2.2 Mechanisms for collaboration

Mechanisms for collaboration will vary greatly depending on (1) the key role-players involved, and (2) the type of EI initiative. Structured mechanisms for collaboration that are established around strong leadership and effective governance structures (to enhance decision-making and conflict resolution) are essential (**Box 5**). Mechanisms for collaboration can include for example:

(a) Special Purpose Vehicle (SPV): A SPV is a specific institution separate from its parent organisation or stakeholders, that is dedicated to managing or financially supporting a project. SPVs are particularly useful for large-scale projects, that require large investment or a diverse range of expertise. Although SPVs are managed by a parent organisation, they often have their own management team and financials, and thus operate independently. The activities undertaken by an SPV, are limited to the objectives it is created for, thus are able to reduce the pressure, and associated financial risks from parent organisations, which can arise from experimenting or innovation. SPVs are particularly effective in enabling collaboration amongst various stakeholders with different expertise and integrating skills and resources to meet project objectives (**Box 6**). SPVs can enhance collaboration in EI projects through several key mechanisms:

- **Risk mitigation:** SPVs can minimise the financial risks linked to EI projects, as certain aspects of a project can be isolated from the parent organisation/business and stakeholders. By isolating certain aspects of a project such as the operational or financial activities, this reduces

the risk of project failure that would otherwise be incurred by the parent organisation or stakeholders.

- **Resource optimisation:** SPVs allow for the pooling of financial, technical and human resources from various sources. This is particularly important for large-scale projects which require significant investment/resources and a range of technical skills/expertise of different stakeholders, which can be leveraged off to attract funding from private and public sector, thus enhancing resource availability for project implementation.
- **Flexibility and innovation:** A SPV offers an agile framework, that allows for stakeholders to be creative and innovative by piloting novel approaches or technologies, without the burden of incurring high financial risk.
- **Effective cooperative governance and clear accountability:** The framework provided by SPVs provides clear lines of communication and management which is able to hold public and private stakeholders accountable, therefore enabling effective cooperative governance. This is important for managing multifaceted EI projects that require several stakeholders. Additionally, SPV structures are effective in providing a guidance for decision making, and monitoring and evaluation which is an essential component for successfully managing an EI project.
- **Partnerships:** Given the potential of SPVs to facilitate collaboration across a range of diverse stakeholders, they are particularly beneficial in providing the enabling environment for partnerships to facilitate collaboration across private and public sector.

Box 6: Role of SPVs in enabling collaboration amongst key stakeholders in the uMhlangane initiative

In the case of the uMhlangane initiative, the Green Spaces project, led by Green Corridor (a non-profit company), was critical in facilitating collaboration between the eThekweni Municipality's Economic Development Unit and Safer Cities Unit and several other riverine management stakeholders, including inter alia, KwaMashu Business Chamber Security Cluster and the local Neighbourhood Watch. Green Corridor is well positioned as a city-supported SPV, which aims to involve local communities in sustainably managing and preserving their natural environment, whilst providing opportunity for them to participate in the local economy through community participation approaches. The Green Spaces project is aimed at managing alien invasive plants (AIPs), solid waste and replanting indigenous plants in urban riparian ecosystems, with the goal of improving the ecological health of riparian areas and enabling sustainable livelihoods. Through external funding and funding support received from eThekweni Municipality, the Green Spaces project has been able to employ local community members to rehabilitate, maintain and support the development of new riparian open areas. To sustain economic well-being, economic opportunities such as recycling of waste and small-scale crop farming were initiated and are being supported (Sithole et al., 2024).

- (b) Public-Private Partnerships (PPPs):** PPPs are used as cooperative mechanisms to mobilise funding for public goods and services. They require effective collaboration between local, provincial and national authorities and government agencies; communities/groups; private landowners; private investors; business sectors; non-governmental organisations; and individual civil society members (Browder et al., 2019). PPPs are long-term agreements or partnerships between the public and private sector, in which the private sector takes on the financial, operational and technical costs associated with a project, which are applicable or relevant to them. The private entity benefits

financially in return for taking on project risk, throughout the duration of the project (NBI, 2019). PPPs can provide a range of benefits for EI projects, namely (NBI, 2019):

- PPPs are able to attract investment or investors from private sector which can contribute to funding infrastructure. This is particularly important for large-scale projects that require sizeable amounts of funding.
- PPPs provide opportunity for private sector skills to be leveraged upon for EI projects, which is essential for EI projects requiring highly technical skills that the public sector is often unable to provide.
- PPPs are able to derisk public institutions as they are able to take on the financial, operational and technical costs associated with a project over the project life cycle. This is particularly important for loan agreements or equity, of which financial returns on loans are only applicable if a project is implemented successfully, largely benefitting the private party.
- The financial payments owed to the private entity within a PPP are known ahead of time, thus enabling proper management of project budget and budget tracking, which proactively helps projects minimise potential financial risk. Additionally, if the costs associated with completing a project are identified early, enables accurate budget allocation, informed decision making, minimisation of financial shortfalls, efficient management of costs associated with management of resources and labour, and minimisation of costs associated with overspending on resources. Budgetary certainty is also important in building stakeholder confidence between investors and clients, as this demonstrates financial responsibility and project feasibility. Clear cost estimates upfront are also able to ensure that contractual agreements between contracts, suppliers, investors and clients are established and are agreed upon based on the practical cost projections. This prevents poor project execution.
- The unitary payments provided by the public party to the private entity, is only upon delivery of quality service. This performance-based approach ensures that private entities are held accountable for delivering quality service, adhering to agreed upon timeframes, and meeting project deadlines. In addition, this approach reduces financial risk from public sector, which can be incurred by paying for substandard deliverables or services. This payment method is also effective in maintaining budget control as linking payments to completion of project tasks, ensures that projects stay within budget and prevents overspending. This payment method also ensures that the quality of the service provided by the private sector is maintained throughout the project duration.
- PPPs have grown rapidly, globally, and have become essential vehicles to encourage private sector investments in conservation. However, PPPs are not a universal solution and thus require certain parameters to be in place, prior to them being considered as an appropriate solution.

(c) PPPs variations: Variations of PPPs that also provide potentially effective mechanisms for collaboration include Public-Private-Community Partnerships (PPCPs) and Public-Public Partnerships (PuPs):

- PPCP models ensure a local foundation and focus on local development rather than profitability as the only parameter of success, which can help to counter some of the concerns raised in relation to PPP projects.
- PuPs are partnerships between one or more government bodies/public authorities and/or a parastatal organisation. PUPs have the potential to provide the collaborative advantages of private partnerships without the profit-making focus of private operators. PuPs do present

complexities in terms of institutional arrangements and finance flows, however as the public purse decreases and resources within a single public entity become more constrained, PuPs will have an increasingly important role to play.

- (d) Networks, working groups, steering committees, multi-stakeholder partnerships and less formal platforms:** Collaboration can happen through various arrangements that bring stakeholders together such as multi-stakeholder partnerships, project steering committees, networks (local and international) and existing partnerships or associations (such as conservancies). The uMngeni Ecological Infrastructure Partnership (see **Box 7**) is an example of a purposefully created partnership, which has been pivotal to motivating and supporting EI initiatives in the uMngeni catchment. The Transformative Riverine Management Programme (TRMP) internal and external hubs (see **Box 8**), currently being developed by eThekweni Municipality, are another example of structured mechanisms for collaboration. A recently formed action and learning network for local groups involved in invasive clearing within the Cape Floristic Kingdom, which is hosted by Wild Restoration (<https://www.wildrestoration.org/>), seeks to promote sharing of information and practices, re-energising individuals and collaboration across local groups.

At the National level, the SA National Treasury is a member of several networks and working groups with relevance to EI protection and rehabilitation. The SA-TIED Programme is a broad partnership of expert research institutions and government departments, including the National Treasury, United Nations University World Institute for Development Economics Research (UNU-WIDER), and South African Revenue Service (SARS). The partnership aims to support policy-relevant research by bringing together researchers and policymakers and providing researchers access to the comprehensive anonymised data. Through the workstream on ‘food, energy, and water in a context of climate change’, the group produced the report on ‘South Africa’s water sector investment requirements to 2050 (August 2023), which recognises the role of EI and recommends that:

“DWS, in collaboration with other sector stakeholders, should identify priority areas for Invasive Alien Plants (IAPs) clearing and develop catchment protection plans that include IAP management planning at a catchment level. In addition, institutional responsibilities and the funding model for IAP clearing should be clarified. Investment in EI from the private sector should be encouraged and better co-ordinated. The clearing of IAPs should also become a requirement in the costing of new water supply investments” (DBSA, National Treasury, NPC, and PCC, 2023).

Box 7: Structured mechanism(s) for collaboration: The uMngeni Ecological Infrastructure Partnership (UEIP)

The uMngeni Ecological Infrastructure Partnership (UEIP) is a catchment-wide partnership which began in 2013 as a response to the increasing water quality challenges and degradation of EI within the uMngeni system. The initial development of the partnership was led by several organisations including the South African National Biodiversity Institute (SANBI), eThekweni Metropolitan Municipality, the KwaZulu-Natal office of the Department of Water and Sanitation (DWS), and uMngeni-uThukela Water (UUW) (previously referred to as Umgeni Water).

The UEIP, made up of national, provincial and local stakeholders, academic institutions, private business and civil society, aims to address water quality and supply challenges in the uMngeni catchment through strategic partnerships and improving cooperative governance across key role-players (Pringle et al., 2023). The UEIP has the following strategic objectives:

- Increase investment in EI contributing to enhanced water security within the uMngeni catchment.
- Improved cooperative governance to enable better management of EI.
- Enhancing organisational capability for improved management, maintenance and conservation of EI.
- Enabling a facilitative regulatory framework to effectively manage and maintain EI within the uMngeni catchment.
- Develop an enhanced informational foundation on EI, which informs policy and practice.
- Demonstrate the inherent value of the UEIP, by effectively enabling co-learning and collaboration amongst stakeholders.

The UEIP has three (3) pilot projects, which were developed at the inception of the UEIP. The projects comprise of local government and other private sector stakeholders. The projects are intended towards providing a feasibility demonstration of how collaboration across a range of diverse stakeholders can contribute to improved management and maintenance of EI. One of these three (3) projects is the “Save Midmar Project”.

This project is focused on improving the water quality of ecological systems flowing into Midmar Dam. Funding for this project has been sourced from a range of UEIP partners, including, the UMDM, UUW, DFFE and SANBI. GEF provided support, through funding for SANBI’s Biodiversity and Land Use (BLU) project. The UEIP and more particularly the Mthinzima wetland rehabilitation work, has been key in drawing attention to water quality challenges and bringing together key role-players to champion and support the rehabilitation. Additionally, it has been able to maintain ongoing interest in the Mthinzima wetland rehabilitation work, through collection of information to improve the knowledge base on EI. This has been primarily evident in the wetland monitoring work of the Mpophomeni EnviroChamps, whose monitoring activities provide information on the impact of the implemented EI interventions. This information will be key in building a business case for EI investment, particularly for the rehabilitation components that have not been undertaken (Sithole et al., 2024).

Box 8: TRMP internal and external hubs

The TRMP internal and external hubs, currently being developed by eThekweni Municipality, are examples of structured mechanisms for collaboration. The establishment of these hubs will be based on solid and reliable leadership as well as effective governance structures that will contribute towards decision-making in existing and future TRMP work or interventions.

The Internal TRMP Hub

An Internal Hub is currently being planned and negotiated with eThekweni Municipality's administrators, as a mechanism for facilitating collaboration, and would build on existing structures within the municipality. However, currently, the exact placement/position of the hub within the municipality is still under review. It is envisaged that the hub will either be placed in the Chief Strategy Office or the Operations Officer's office (as suggested by the city manager). This would ensure that the hub will be stable and sustainable, with the offices' structure and existence unlikely to change in the coming future. It is highly likely that the hub will be placed in the Chief Strategy Office as this office is more tailored to the operations and the structure of the hub. There are engagements currently taking place with the relevant internal line departments to introduce the concept of the Internal Hub. Positive engagements have taken place with the municipality's Human Settlements Department who had a project that addressed proper waste management in the informal settlements *i.e.* cleaning up waste in riverine systems. To effectively form the Internal Hub and ensure the continuation of the riverine management work, the municipality intends to integrate the overlapping mandates between the different departments (Parks Department, Cleansing and Solid Waste Department, and Human Settlements Department).

Through connecting and aligning existing riverine management work in the eThekweni Municipality and identifying gaps in management that need prioritisation as part of a strategic understanding of upscaling efforts, the Internal Hub would act as a SPV that will manage and support the TRMP, independent of the municipality, whilst enabling collaboration amongst various stakeholders with different expertise. It is envisaged that initially, the hub would comprise only one individual whose role would be to connect existing municipal riverine management work, support the establishment of external partnerships and explore funding options. The Internal Hub will support multiple municipal line functions in their efforts to connect with community-based programmes for raising community awareness and ecological restoration to enhance resilience, thus, promoting integration within eThekweni Municipality. The Internal Hub will support resource optimisation through the pooling of technical and human resources from various sources (municipal, local communities, private sector etc.) to efficiently manage the TRMP initiatives whilst maintaining relationships and efficient cooperative governance within the hub, whilst ensuring that clear accountability for the advancement of the TRMP initiatives lies with an identifiable and tangible entity.

The Internal Hub also looks to form partnerships with the private sector to upscale green and circular economy initiatives (e.g. to ensure that waste being removed from rivers goes to beneficiation centres which will capacitate community members to enter the green economy). This demonstrates the hub's capability to link with local communities as the custodians of the TRMP work on the ground and involving them in the implementation process through local labour, ongoing maintenance, and monitoring to meet the programme's needs.

The Internal Hub is envisioned to be a cooperative mechanism that will be used to mobilise new funding opportunities for the purpose of the work and for public good, and to build partnerships with external

Box 8: TRMP internal and external hubs

stakeholders (*i.e.* formal and informal relations) to ensure strategic efficiency and return on investment through collaboration and alignment.

The External TRMP Hub

An External Hub would also be a structured mechanism for collaboration in the uMhlangane case study. The External Hub will provide a platform for partnerships between public and private entities to form for the benefit of the TRMP. This hub is envisaged as an entity, comprising already existing (private and public) organisations and structures, that will operate outside of the municipal system and will coordinate and facilitate a collaborative programme of riverine rehabilitation. “The external hub and lead actors in this space would aim to connect, support, and align the city with various stakeholders, to facilitate networking, leverage different types and scales of funding etc., particularly on non-state-owned land. This would be an independent entity from the city that would ensure that gaps are filled in terms of coordination and communication between parties.” (Hampson, et. al., 2023:11).

It is likely that a specific task team/secretariat or implementing agent may support the mandate of the implementing Non-Profit Company (NPC) in the administrative areas of fundraising, and programme and financial management. Being an implementing entity that is external to the municipality, minimises the financial risk to the municipality as the operational or financial activities of the hub will be isolated from those of the city. As a SPV, the hub will provide a space for the creative and innovative by piloting novel approaches or technologies for riverine management in the catchment. Furthermore, the External Hub will rely on formal and informal relations to provide a pathway for information and resources to flow between key role-players internally and externally and support the establishment of social capital – a key component of a successful collaboration and sustainable EI interventions for riverine rehabilitation. Although there is no widely accepted “External Hub”, there are actors or multiple entities attached to specific localities and functions operating in this space who may evolve to play the coordination role of (one of) the “External Hub(s)”.

The Internal and External Hubs will connect at the practical and financial levels to coordinate and upscale riverine management efforts. An example of an entity that could form the External Hub is the uMhlathuze Catchment Partnership which has been set up as a Non-Profit Company (NPC) with a board of directors. This ensures that the Hub is seen as a responsible organisation that can take accountability of projects and coordinate the financial aspects of these projects. It is envisaged that there would be one External Hub per catchment in the municipality. Most importantly, funding for these External Hubs is needed to establish the hubs and ensure their sustainability.

- (e) Community public private partnerships (CPPPs):** Also known as Community-Based Public -Private Partnerships, CPPPs are partnership agreements between the local governments, public sector and community stakeholders. Like PPPs, this collaborative agreement leverages off resources (technical skills and labour capacity) offered by the private sector to provide public needs. In addition, the public sector ensures that the EI project meets compliance requirements and societal needs. The involvement of community stakeholders in this partnership agreement ensures that community needs are voiced and addressed, provides opportunity for indigenous knowledge practices held by the community to be considered and heard within the planning phase of a project, thus bringing about opportunity for innovation and contributes to more sustainable outcomes.
- (f) Local Communities:** Local communities can participate and benefit from EI projects by being involved in the implementation process through several ways, including inter alia, local labour,

ongoing maintenance and monitoring thereby ensuring that the project meets local needs and sustainability goals (**Box 9**). After EI projects are implemented, local community members are often well positioned to undertake the monitoring and evaluation component of the project, which contributes to ensuring the sustainability of a project. Additionally, local communities can mobilise funding or in-kind contributions from local stakeholders by making use of their existing networks of working relationships. This can contribute to strengthening local networks benefiting the EI project. Involvement of local communities in EI projects also enables community acceptance and support, which is an important aspect of ensuring the ongoing sustainability of an EI project. The Mpophomeni Enviro-Champs are an example of community stakeholders who have been actively involved in the rehabilitation and ongoing monitoring and maintenance of the ‘Mthinzima wetland complex’ (See **Box 9**).

Box 9: The role of the Mpophomeni Enviro-Champs in the Mthinzima wetland rehabilitation

Citizen Science action by the Mpophomeni Enviro-Champs has been a key component of the Mpophomeni-Mthinzima (upper uMngeni) initiative, as the work of the Enviro-Champs has contributed indirectly and directly to rehabilitation efforts of the wetland system associated with the Mthinzima Stream. This has taken place through two distinct approaches:

- The Mpophomeni Sanitation and Environment Programme (MSEP) funded by uMgungundlovu District Municipality (UMDM) which later became the “Save Midmar Project” contributed to reducing the number of pollutants entering the Mthinzima Stream and subsequently Midmar Dam. This was achieved through sewer monitoring work carried out by the Mpophomeni Enviro-Champs. According to a report for the Save Midmar Project (DUCT, 2018) data trends provided evidence of a drastic decrease of surcharging manholes from 180 in 2015 to 40 in 2017. This provides evidence of the impact of the sewer monitoring work of the Mpophomeni Enviro-Champs in mitigating further degradation of local EI.
- The Mpophomeni Enviro-Champs have been responsible for conducting wetland monitoring and maintenance activities of the Mthinzima wetland, which has provided short term employment and capacity development for the local community members (Enviro-Champs). The wetland monitoring work is currently being funded by UUW and was previously funded by SANBI. The data that is being collected through the wetland monitoring has the potential to contribute to the development of a business case which demonstrates the socio-economic benefits of the EI intervention. This can potentially attract funding to implement the remaining components of the rehabilitation plan, which have not been undertaken (Sithole et al., 2024).

It is evident that the efforts of the Mpophomeni Enviro-Champs have made a significant contribution to the rehabilitation of the Mthinzima wetland complex and plays a pivotal role in facilitating long-term management and sustainability of the Mthinzima wetland complex after the implementation of the interventions.

5.3 Developing the value proposition

A value proposition is an innovation intended to make an initiative or product attractive to target customers (i.e. funders and investors) (**Box 10**). It is a concise description of value that summarises the benefits of a product or initiative, and how they are delivered to address the needs or interests of the target customer. A value proposition identifies clear, measurable and demonstrable benefits of a

particular product or initiative and communicates why a funder or investor should choose to support this particular initiative. The value proposition can then be used by decision-makers to make choices around where and how to invest.

The concept of EI allows potential funders and investors to identify and focus on discrete elements in the ecological landscape that require management or restoration. A value proposition provides evidence on the benefits that can be derived from EI, and the potential losses or risks if degraded EI is not restored. The value proposition also provides details on where the benefits can be delivered and how they can be maximised. It should also address benefits from the perspective of elements of avoided cost and risk management.

Importantly, a value proposition needs to align the benefits of the particular interests or mandates of funders and investors, which can vary considerably, for example:

- Nature-based solutions to climate adaptation/mitigation.
- Safeguarding investment in built infrastructure.
- Voluntary investment to address risk to business operations, brand, and corporate social investment.

The value proposition also needs to address contextual factors (e.g. time, spatial and institutional context, and the opportunity to invest). Furthermore, investors choices and decision-making will also be guided by engagement with other stakeholders, relevant research, and legislation, etc. The value proposition therefore needs to align with and reflect these dimensions, to support informed decision making (as opposed to creating confusion or conflict).

An effective business proposition cannot be all things to all people, or it will become watered down and confusing. A value proposition, therefore, needs to be prepared for a specific EI initiative and with a focus on bringing specific funders and investors into the funding landscape. It needs to develop a common understanding using a language that is understood by the intended audience. A clear and compelling value proposition requires:

- Developing an understanding of the prospective funder or investor's needs and/or mandates.
- Aligning the language to talk directly to a prospective funder or investor.
- Describing how the EI initiative addresses the specific needs of prospective funder or investor.
- Providing strong evidence that the benefits can be delivered (e.g. evidence collected from pilot projects and case studies, track record of the implementing team).

A value proposition should be communicated to the target funder or investor directly and needs to be seen as the beginning of a process, not an end in itself. It can provide the platform for further discussions between funders/investors and implementors that are directed at building a common understanding around which detailed engagement on financing and investment can be built.

Box 10: Core elements of a value proposition

- Goals and objectives of the EI management initiative:
 - a. Broad articulation of the value of investing in EI.
 - b. Investment opportunity at a glance (synopsis).
- Description of EI initiative and specific context:
 - a. Geographic location, socio-economic, governance and institutional contexts, and ownership context.
 - b. Previous phases, activities, impacts, and outcomes.
- Description of EI being restored and benefits, avoided loss and risks addressed:
 - a. Clear, measurable and demonstrable benefits (including avoided loss and risk management) of EI initiative and how they are delivered.
 - b. Alignment of the benefits with the vision, mandate, business priorities of the intended funder/investor.
- Anticipated return on investment (ROI).
- Intended funding sector (e.g. public, private or a combination) and rationale.
- Level of investment readiness of the EI initiative based on criteria e.g.:
 - a. Business model and operations.
 - b. Financial assessment.
 - c. Environmental and social impacts:
 - i. Ecosystem services conservation and restoration.
 - ii. Net biodiversity gains.
 - iii. Socio-economic development (Small, Medium and Micro Enterprises (SMMEs), jobs, etc.).
 - iv. Social justice (civil/community empowerment, social inclusion and gender equity, capacity building).
 - v. Linkages with grey infrastructure.
 - d. Governance systems.
- Description of investment requirements:
 - a. Value of investment range required for the specific initiative.
 - b. Financial requirements:
 - i. Capital expenditure.
 - ii. Infrastructure funding.
 - iii. Working capital, operational expenses.
 - iv. Other services and materials.
 - c. Funding type for financial requirements:
 - i. Debt, grant, blended finance, bonds, loans, etc.
 - d. Non-financial requirements:
 - i. Capacity building.
- Alignment with international and national goals and targets, e.g.:
 - a. Convention on Biodiversity.
 - b. Sustainable Development Goals.
 - c. Climate adaptation.
 - d. National legal frameworks and regulatory incentives.
- Key enablers e.g.:
 - a. Key role-players, partnerships and networks:
 - i. Co-funding and pooled resources.

Box 10: Core elements of a value proposition

- ii. Commitment of in-kind contributions.
- iii. Collective/pooled resources.
- iv. Mechanisms of collaboration.
- b. Availability of technical experts and experienced staff members.
- c. Stakeholder participation and levels of buy-in in design and implementation.

How a value proposition and proposal for EI investment are developed and communicated and *by whom* may be just as important as the proposition/proposal itself. In terms of the “how”, care should be taken not to focus simply on a one-way process of “feeding” the potential funder hard evidence of the quantifiable returns on investment for the target EI in the hope that they will be convinced by rational arguments alone. Instead, a more interactive two-way process is often appropriate involving co-learning and incremental co-development of the EI investment proposition/proposal. In terms of the “by whom?”, attention is drawn to the effectiveness of *peer-to-peer/business-to-business communication*. This is illustrated by the Ladismith EI initiative to invest in the EI of the town’s water supply catchment. Initial attempts by a civil society organisation in this initiative failed to persuade the two major businesses in town to participate in the initiative. However, when a local business who had been involved in conceptualising and co-developing the first steps of the initiative (a small demonstration pilot) approached these two other businesses, they were persuaded to join and support the initiative [for a full case description of the Klein Swartberg EI initiative refer to Chapter 6 of the report titled ‘A review of target case studies to inform a framework for supporting investment in ecological infrastructure’ (Sithole et al., 2024)].

5.4 Building the evidence base

In order to build a sound evidence base for an EI investment, it is necessary to generate/collect, collate, interpret/evaluate and present relevant data relating to how the investment interventions affect the EI and the ecosystem services provided by the EI. Both quantitative and qualitative evidence should be considered. While it is important, where possible, to seek quantitative evidence, it should nonetheless be recognised that qualitative evidence is also valid and can be extremely valuable - just because one cannot quantify something does not necessarily mean that it is not important.

The evidence base in terms of the physical outcomes, may potentially include: (1) visual evidence represented with before and after photos of the site; (2) a qualitative description of the outcomes; (3) a semi-quantitative rating of the effect of EI investment on a variety of different ecosystem services; and (4) quantification of key physical outcomes, e.g. volume of water which has been freed up as a result of clearing IAPs with high water use. As far as possible, the evidence base should comprise direct evidence. However, with limited available resources for conducting the assessment, the contribution may need to be inferred. This is typically done using a model, which may vary in its level of complexity and accuracy. Further to the physical outcomes is the monetised valuation of these outcomes, from which a cost-benefit evaluation can be undertaken.

The evidence base should include: (1) the costs of the interventions; (2) the specific changes to the EI resulting from the interventions; (3) the benefits (and costs) of these interventions; and (4) changes in risk (to the EI and its beneficiaries) resulting from (2) and (3). It is to be expected that not all

ecosystem services will necessarily be positively affected by an EI intervention, and this should be honestly reflected rather than “cherry-picking” the evidence. Ultimately, the evidence base needs to be trustworthy for stakeholders and investors.

When presenting the evidence, it is important to link back to what were often multiple objectives and mandates set for the EI investment. In addition, this should be in a “language” that talks to/addresses funders’ priorities (e.g. the contribution of EI management to water security), and addresses concerns regarding the long-term sustainability of investments/impact. Furthermore, the presentation of evidence should include costs, benefits and risks, although the emphasis can vary depending on the specific context and priorities of the funders/investors.

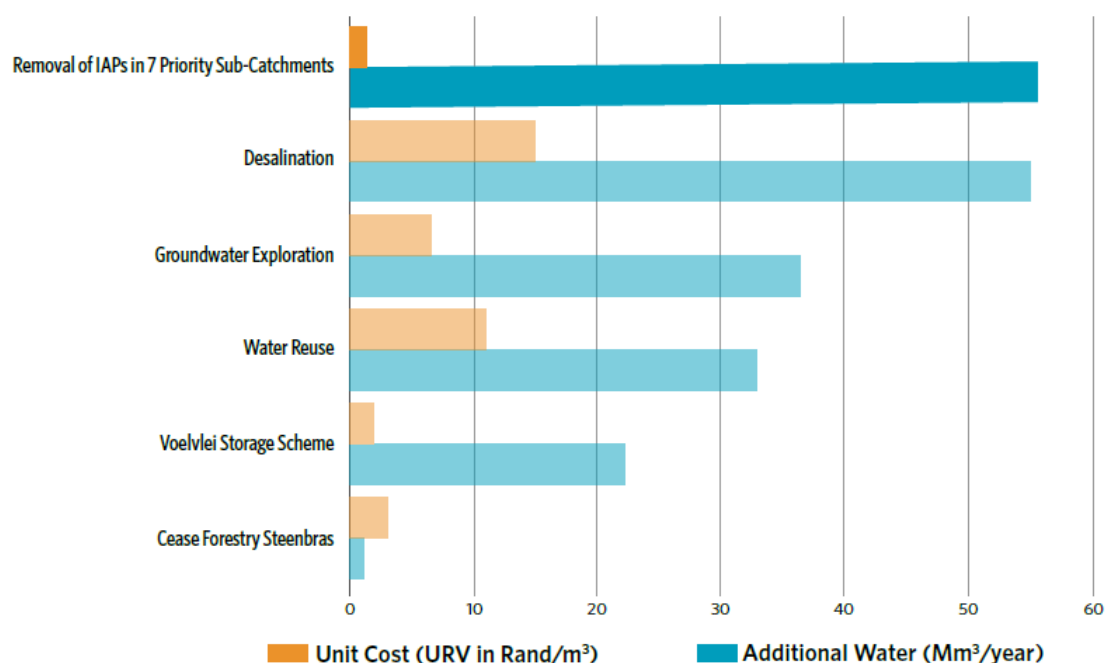
A monitoring and evaluation (M&E) framework should be developed and applied to build the evidence base. Monitoring is the systematic collection of data based on observations/measurement of change in relation to a pre-defined state, while evaluation is a determination of whether the pre-defined state is achieved, and often also includes a determination of reasons why, particularly when the results were not as expected (Walters et al., 2019). M&E should cover before, during and after the EI investment rather than only being undertaken after implementation of EI interventions. This helps to timeously identify problems and their causes, particularly during the planning and implementation of a project. A M&E framework is important not only for major EI investment initiatives but also for small EI investment. In the latter case, M&E can play a critical role in helping to build the initiative incrementally, e.g. where seed funding or in-kind contributions were used for a pilot initiative, from which evidence is being drawn to develop a business case designed to expand the initiative.

A business case analysis can provide key evidence to help secure EI investment. This may either be undertaken at the beginning of an EI initiative, as was undertaken for the Greater Cape Town Water Fund (see **Box 11**) or subsequent to the initiation of EI management and restoration initiatives to motivate for additional work or scaled-up work, as was undertaken in the Sihlanzimvelo/TRMP initiative in eThekweni (**Box 12**).

The monitoring and evaluation of projects is critical for building a broader base of evidence and learnings that can be used to inform suitable institutional and financial arrangements and finance types for other EI projects or programmes and from which to build an investment motivation. The recording, collation and sharing of information and metrics is key, but often not included in EI project/programme activities (**Box 13**).

Box 11: A business case analysis conducted by the Greater Cape Town Water Fund demonstrates how IAP control can increase water supply at the lowest unit cost compared with alternatives

As for all cities, water security in the Greater Cape Town Region begins with the EI of its water supply catchments. However, these catchments are being negatively affected by alien plant invasions, reducing the amount of water that supplies the region (Stafford et al., 2019). Prompted by the 2015 to 2018 drought when Cape Town narrowly avoided “Day Zero” when its taps were to run dry and recognising that the “Day Zero” threat remains in the face of climate change and a rapidly growing population, an EI investment business case analysis was undertaken. This involved modelling the water gains over a 30-year period, discounting both costs and water gains at 6% for surface water in seven priority sub-catchments comprising a total of 54’300 hectares (Stafford et al., 2019). This showed that investing R372 million in these sub-catchments would generate expected annual water gains of 100 billion litres within thirty years compared to the business-as-usual scenario. This was then compared against other water augmentation solutions, e.g. desalination, and found to be significantly more cost effective than all the alternatives examined (see below).



Water supply gain and unit cost comparison between IAP control in priority catchments and other supply options (costs include raw water treatment cost where applicable) (from Stafford et al., 2019)

Box 12: A business case model for the TRMP demonstrates that the benefits of EI investment greatly exceed the costs in the eThekweni Municipality

eThekweni's devastating floods of 2022 allowed for formal comparison between drainage lines that were being managed as part of the TRMP and those that were not yet managed through the TRMP. It was clear that much damage to infrastructure was caused by solid waste and invasive alien plants swept downriver and blocking culverts during extreme rainfall events. The removal of solid waste and invasive alien plants are two key initiatives that form part of the TRMP.

The development of a business case, which articulates the quantitative and qualitative costs and benefits of transformative riverine management across different sectors, has been critical to the implementation of the TRMP. The business case demonstrated, for example, how for every R1.00 in municipal TRMP investment in riverine EI, R0.30 in damage to municipal road culverts could be avoided and the benefit to vulnerable communities living adjacent to riverine areas would be R0.80 through their avoided damaged infrastructure and exposure to risks associated with declining river conditions. Thus, for every R1.00 invested, the benefits accrued within and adjacent to the riverine area would be R1.10. In addition, the considerable benefits accruing downstream, in particular to coastal users, were estimated as R2.50 (Mander et al., 2021). Therefore, in total, for every R1.00 invested, the combined local and downstream benefits would amount to R3.60.

It is envisaged that through the TRMP up to 1.3 million people in Durban will benefit from improved ecosystem services associated with the rehabilitation of rivers. The estimated cost to implement a city-wide TRMP in Durban over a 20-year period is approximately R7.51 billion, unlocking societal benefits of R13 billion (in excess of R650 million per annum), and improving ecosystem service levels by 10% (CFF 2022).



One of the many blockages caused by IAPs and solid waste in the 2022 eThekweni floods, resulting in damage to infrastructure and to services at and adjacent to the road crossing (Source: Geoff Tooley, eThekweni Municipality)

Box 13: Building evidence for securing investment in water related EI investment programmes/projects

To strengthen the evidence base to inform suitable institutional and financial arrangements and finance types for other EI projects or programmes and to build an investment motivation, it is critical for EI projects to collect and record information on inputs, outputs and outcomes. The following 'Core Indicators' were identified by a DFI as needed for building arguments for EI Investment. See also Section 5.3 and 6.4 for additional examples of information that EI projects should strive to collect towards building the broader evidence base.

Inputs:

- Finance type(s) (e.g. grant, loan and sources, revolving finance).
- Finance amount.
- Plans that were developed.
- Environmental, technical, marketing and social specialist inputs.
- Institutional management.

Outputs and outcomes:

- Mechanisms and instruments developed and scaled.
- Internal rate of return achieved for investors.
- Economic impacts (e.g. cost saved by saving water/reducing water loss).
- Sustainable management.
- Beneficiaries and losers.
- Women/minorities and youth employed (and at which levels).
- SMMEs supported.
- Training - certified and informal (disaggregated).
- Biophysical outputs (e.g. hectares cleared, sustained, protected).
- Water quality improvements.
- Water quantity improved - measured volume (cubic metres).
- Increased resilience for x number of people.
- Linked investment leveraged for engineering investment.
- Linked social investment leveraged.
- Co benefits from data records/knowledge management.
- Science and Research and Development (R&D) improved.
- Policy influenced (e.g. improved financial policy).

5.5 Securing resources

5.5.1 Target multiple streams of funding

Many potential funders are encouraged by EI initiatives with some level of existing funding and where the funding strategy intends to involve more than one investor and/or type of funding. Investors perceive several benefits of such an approach.

- **Pooling funds for multiplied impact:** Through pooling funds (multiple funders and funding types), the return on investment for individual investors can increase – the outcomes/impacts are likely to be greater for the same amount invested. DBSA, for example, mobilises grants

and concessional loans from climate finance mechanisms such as GEF and GCF, to blend with its own funds and co-funding from other stakeholders for multiplied impact. Pooling funds helps to achieve scale, reduce the breakeven point, reduce risk, and reduce cost per unit of outcome. All of which make a project more attractive to investors.

- **Securing gains into the future:** Few investors, particularly from the corporate sector, provide consistent investment for longer than five years (typically shorter), yet many EI initiatives require a longer timeframe (scaling, maintenance and monitoring). Multiple funders/funding sources spread out over time increases the likelihood of sustained, and enhanced, benefits into the future. Securing public funds, through an annual appropriation or ring-fenced tariffs for example, would provide a regular, predictable ‘cash flow’, increasing the attractiveness of the EI initiative to many investors. Public sector partners should look to establishing such arrangements to create an ‘enabling environment’ that fosters investment in EI initiatives (refer to **Section 4**).
- **Overcoming initial high costs, covering a range of activities:** The scale and initial high costs (and smaller benefits) of many EI initiatives can be demotivating to investors. EI initiatives also typically require a range of different types of activities from planning to implementing to monitoring and supporting functions (e.g. capacity building and creating an enabling environment). It may not be within the goals or mandate of a single investor to fund this range of activities. These challenges can be overcome by bringing together multiple funders and/or types of funds (see **Box 14**). Grants, for example, could be used to cover supporting activities, making projects more attractive to private investors who may prefer to invest in implementation or a specific activity most closely related to their own priorities.

Box 14: Multiple role-players contribute by funding different aspects of wetland rehabilitation

In the case of the Mthinzima Stream wetland rehabilitation, several role-players came together to fund the rehabilitation and associated activities. Public funds, through the Natural Resource Management (NRM) programme, covered labour, Personal Protective Equipment (PPE) and training. However, funds from this source could not be used to cover the cost of materials (condition of the funding). Recognising the strategic role of the wetland in protecting a key water resource, the local bulk water supply utility agreed to fund the materials for the hard infrastructure components. Pro-bono contributions played an important role in developing the rehabilitation plans (private sector contribution), securing funds and co-ordinating the project (local District Municipality).

- **Managing financial risks:** risk assessment and management are critical factors to securing investment.
“High perceived risks can deter investment, so effective risk mitigation strategies are essential. Investors look for projects with well-identified risks and robust plans to manage and minimise these risks, as lower risk profiles make projects more attractive to a broader range of investors” (DBSA, pers. comm., 2024).
 Several financial tools (see **Box 15**), or approaches, are available to help reduce the financial risk of projects. EI initiatives that make use of such tools can attract private investors who otherwise might be reluctant to invest due to perceived risks.

Box 15: Examples of financial tools to help reduce the financial risks of EI initiatives

De-risking Instruments: De-risking means mitigating the risks of doing business in high-risk environments through concessionary finance or guarantees.

“Concessional financing encompasses various financial instruments tailored to support development projects and initiatives, often in regions or sectors facing economic challenges. These instruments are designed to provide favourable terms to borrowing entities, making it more affordable for them to undertake projects with social, economic, or environmental benefits” (DBSA, pers. comm., 2024).

The selection of the concessional financing type is based on the unique needs and goals of projects:

- **Grants** are often chosen when the primary goal is to address immediate humanitarian needs, support social programs, or assist vulnerable populations. They are suitable for projects where repayment may not be feasible or where the focus is on non-commercial objectives.
- **Concessional loans** are ideal for projects that have economic potential but may face difficulties in attracting private-sector financing due to perceived risks or long gestation periods. Concessional loans offer terms that are more favourable than commercial loans, making projects economically viable.
- **Equity investments** are employed when a large project requires substantial capital and is expected to generate long-term returns. They attract investors by providing ownership stakes and the potential for profit-sharing, making them especially suitable for large-scale infrastructure, startups, and enterprises with growth potential. (ESCF Investment Group https://esfccompany.com/en/articles/engineering/concessional-financing/?sphrase_id=378002).
- **Blended Finance** combines public and private funding to reduce risk and leverage additional investment. By mixing concessional finance from public sources with commercial finance, funders can attract private investors who might otherwise be hesitant due to perceived risks (DBSA, pers. comm., 2024).

Guarantees and Risk-sharing Instruments: A financial guarantee is a non-cancellable promise backed by a third party to guarantee investors that principal and interest payments will be made (Investopedia, 2021). These mechanisms help mitigate the financial risks for private investors. Guarantees can cover specific risks such as default, while risk-sharing instruments can involve other financial institutions in spreading risk (DBSA, pers. comm., 2024).

- Long-term and regular funding and assurance approaches.
- Financial instruments such as annuities and guarantees structured to ensure certain amounts over the long term.
- Leveraging the carbon sequestration potential of EI rehabilitation projects to generate a consistent and predictable revenue stream through the sale of carbon credits (WWF, 2020).
- Public funds through tariffs and charges (e.g. a proportion of the raw water tariff) ring-fenced specifically for EI conservation and rehabilitation activities (can be viewed as part of creating an ‘enabling environment’ to foster investment in EI initiatives).

5.5.2 Use an outcomes-based funding model

Outcomes-based funding can be an effective model for attracting private sector funders. In an outcomes-based model, payments are provided only once the outcomes have been demonstrated. In the example of invasive alien vegetation clearing, payments would be made once water yield/replenishment targets had been met rather than on the output of area (ha) cleared or

maintained. This is an effective means to ensuring initiatives are designed and implemented to achieve outcomes in a cost-effective way.

Being able to demonstrate that the expected outcomes have been achieved is critical, and how this will be done must be established before implementation begins. Baseline assessments (pre-implementation) and monitoring (throughout the project) must be undertaken, and targets agreed upfront. Systems for reporting will also need to be agreed and set-up. Given the need to set targets and demonstrate outcomes, outcomes-based models are typically better suited to scaling proven EI initiatives, rather than for proof of concept/research/innovation type projects.

A challenge with an outcomes-based model is how to cover the costs of the initiative in the meantime. This is particularly relevant in many EI projects, where outcomes may only be evident several years into the initiative. Other sources or forms of funds will be required (e.g. loans).

5.5.3 *Clearly identify the investable entity*

Investors require a clearly defined, credible investment entity to direct their investments to. The ‘investable entity’ is responsible for ensuring that designated funds are ‘invested’ - safely managed and used effectively - towards conserving and enhancing the condition of EI. How the funds will transfer from the investor to the entity and how the funds will be managed and administered must be made clear to the potential investor.

Institutional credibility – having stakeholders’ acceptance and trust - is crucial. The perceived credibility of the entity will influence the support and cooperation of stakeholders and is essential to securing funds.

From an investor/stakeholder perspective, “credible institutions are those perceived as democratic, open, honest and inclusive, and which incorporate and represent all (including conflicting) interests, cultures, values and worldviews” (Pero and Smith, 2008:17). Entities with an existing track record of successfully managing implementation projects and the associated funds and budget will be more attractive to potential investors. Credibility can be enhanced through ensuring diverse stakeholder representation, asserting legitimacy and demonstrating accountability, transparency, fairness and justice (Pero and Smith, 2008). Monitoring and communication are key elements of demonstrating accountability.

Depending on the scale of the initiative, the management and disbursement of funds for EI conservation and enhancement can be administratively complex. The entity must be able to demonstrate the requisite skills and capacity to manage multiple types of, and potentially significant, funds (sources) and fulfil the associated conditions of use, comprehensively monitor implementer contracts to ensure funds are being used as intended, ensure financial assets are held securely (financial control mechanisms) and financially compliant and operate legitimately at all times, and maintain the necessary funding mechanisms that will sustain it over time. A strong track record in due diligence and financial management is crucial for large-scale investment requirements.

Importantly, the entity must be agile - able to disburse funds efficiently within an agreed framework - and responsive, having flexibility within its strategy and systems to respond to new funding opportunities, intervention needs and to endogenous or exogenous factors. For these reasons, public institutions may not be the best suited ‘investable entity’. Ideally, this entity should be highly connected to key stakeholders and unrestricted by institutional constraints allowing them to work seamlessly across multiple projects and organisations. An example of where an NGO has worked

closely with a local Water User Association to establish and maintain an agile and effective entity with a dedicated EI coordinator is described in **Box 16**.

Box 16: Building trust and agility to promote long-term continuity in overall EI funding and implementation through a local EI coordinator: the Wolseley case

Two key obstacles hindering the practical operationalisation of EI investment at a local scale are: (1) potential lack of trust; and (2) discontinuity, in particular resulting from potential funding sources changing from year to year and the practical challenge of “blending” finances/funding from different sources. The appointment of an EI coordinator into a local institution to support the maintenance and rehabilitation of EI has proven to be an effective means of building trust, enhancing the agility to deal with multiple, dynamic funding sources, and ultimately to maintaining continuity of investment (Gelderblom et al., 2021). This has been demonstrated in the Wolseley area of the upper Breede catchment, Western Cape Province.

In 2017, through facilitation by the World Wildlife Fund (WWF), long-term private sector funding from Woolworths was secured to appoint a local EI coordinator who is hosted by the Wolseley Water User Association (WWUA). Through this appointment, extensive clearing of IAPs (as well as some planting of indigenous vegetation in some of the cleared areas) has been undertaken in the WWUA operational area. This investment in EI has been funded from multiple sources including government and parastatal grants, private enterprise grants, NGO grants, and social enterprise investments, altogether totalling R42 million over the seven-year period. The primary funding source has shifted several times between 2017 and 2023, but continuity has been maintained, thus allowing for systematic IAP control with timeous follow-up clearing and restoration interventions.

- Much of the funding for the initiative was sourced through responding to calls for work through open-tender processes, and the EI co-ordinator played a central role in “watching out” for potentially relevant calls and then, in collaboration with partners, developing and submitting proposals which spoke to the specific requirements of the funders. Partners, including SANBI and the Breede-Olifants Catchment Management Agency, also contributed to alerting the EI co-ordinator to potential funding sources (Sithole et al., 2024).



A section of the Breede River passing through extensive adjacent orchards in the Wolseley area, shown in the wet season (Source: D Kotze).

5.5.4 *Formalising agreements and financial arrangements*

This applies to agreements both with funders and with other partners (e.g. implementers, operators, landowners). Potential funders may be deterred by unclear relationships between, and undefined responsibilities, of different role-players. They may also have their own 'conditions' that must be met or demonstrated to secure the funds. While the 'general standards' of doing business apply, examples of additional conditions include:

- Demonstrating progress where subsequent tranches of funds are conditional on agreed objectives/targets met (e.g. an outcomes-based model or achievements in Key Performance Areas).
- Securing co-financing.
- Administrative and fund management conditions such as separate bank account requirements for ring fencing and administering funds.
- Timeframe related conditions.
- Social and environmental safe-guards (i.e. ensuring measures are in place to mitigate or protect against any negative social and/or environmental impacts that may result from the initiative).

The EI initiative/investable entity itself may have its own conditions that need to be met before moving forward with implementation or into subsequent phases. These must be made clear to, and agreed with, potential funders upfront. Examples from practice include:

- Securing sufficient funding to cover a set period before commencing with implementation.
- Ensuring the funding arrangements and agreements with individual funders allow the funding structure to evolve over time and allow for other funders/funding sources to be brought in at a later stage. For example, the Cape Town Water Fund started out as 100% private sector funded initiative and has evolved to 45% private investment and the remainder from the public sector. In contrast, the eThekweni Municipality was restrained in expanding a project by funder conditions which meant they could not bring in additional public funds that became available later in the project, without the funder reducing their contribution.
- Requiring funders to recognise that EI interventions require an adaptive management approach and agreements should support some flexibility within targets and funding arrangements. Clearly defining the processes to be followed in such cases (e.g. communication, contract amendment etc.) upfront with the funder can alleviate investor reluctance.

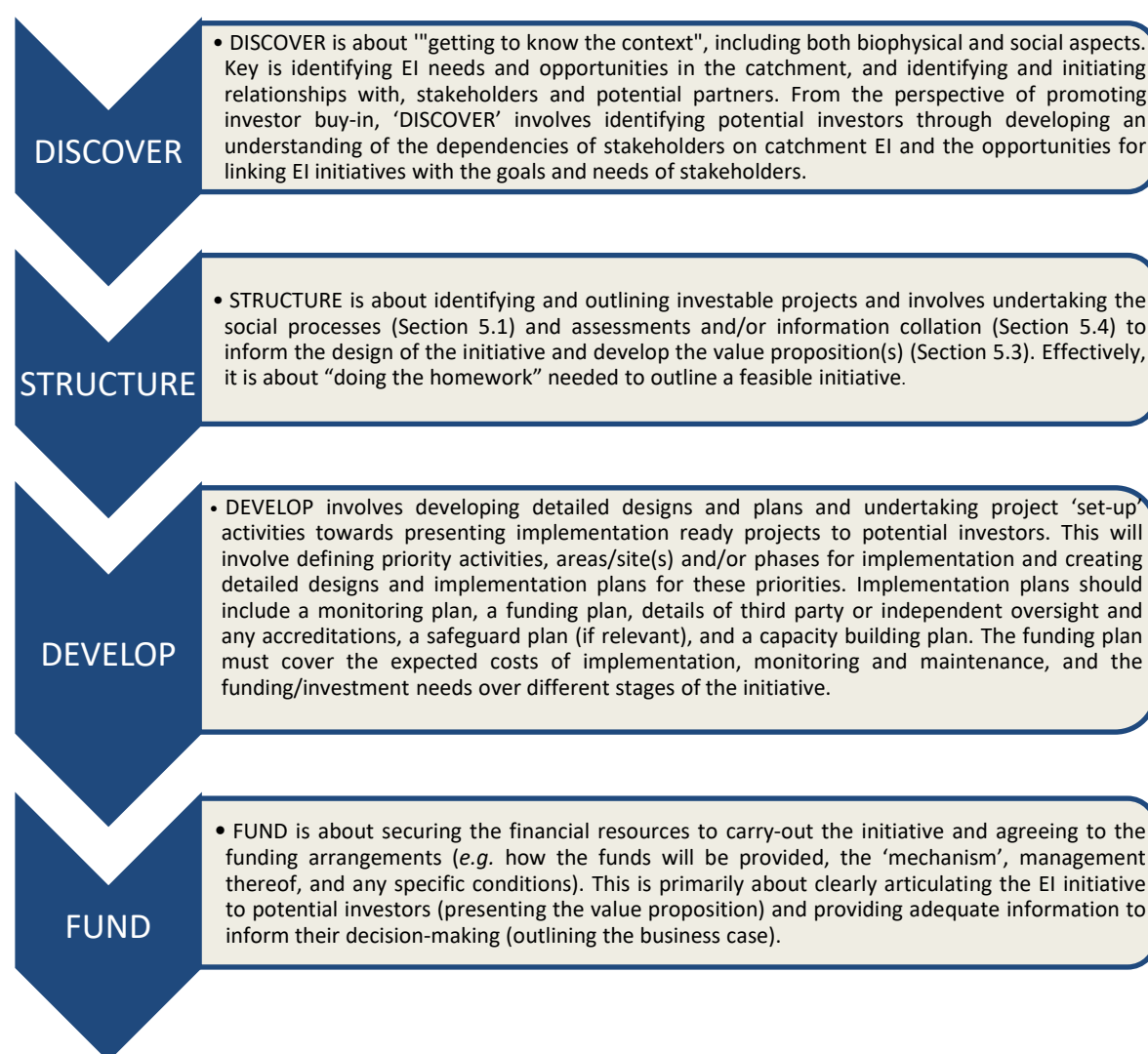
Audouin et al., (2021) provide a set of criteria for the assessment of the financial mechanism before their implementation, **Box 17**.

Box 17: Proposed criteria for assessing financial mechanisms (Audouin et al., 2021:61)

- i) **Stakeholder ownership and buy-in:** exists related to the implementation of the financial mechanism, which is responsive to the range in 'ability to pay' among stakeholders (i.e. equity issues are considered).
- ii) **Dependability and predictability:** exist until measured outcomes are achieved. The funds will likely be available, not only until the ecological outcomes have been realised (including the monitoring and evaluation required), but also until any required training and awareness raising has been completed. The outcomes themselves should be measured through independently verifiable performance metrics that relate not only to 'inputs' (e.g. hectares of alien invasive plants cleared and number of person days deployed or number of training events presented); but also the desired catchment 'end-state' (e.g. percentage of a catchment brought to a maintenance state with a low likelihood of reinvasion by invasive trees and increase in stakeholder involvement in conservation and rehabilitation activities).
- iii) **Administrative feasibility:** Transactions can happen without significant delays and/or high transaction costs and transfers between statutory entities and/or competent implementing agents and can be streamlined within the existing rules of governance and financial accountability.
- iv) **Durability, flexibility and utility:** The funding (and associated contracts) is flexible and durable enough, not only to support the monitoring and evaluation that is a critical part of ensuring sustainable outcomes, but also any required course correction that is identified through such monitoring.
- v) **Sufficiency:** The mechanism delivers sufficient financial resources and/or contributions to the restoration and maintenance of EI to justify the administration and management that it involves.
- vi) **Low scope for substitutability:** The financial mechanism does not have the potential to displace existing long-term budgets for the maintenance and/or restoration of EI. Although the extent of the maintenance and restoration task is sufficiently large to require all the resources possible, any unintended outcomes of existing private- or public-sector investors reducing their investment in EI, must be prevented. It is likely that several different revenue streams pooled together will be required to achieve the requisite outcomes.

6. SPECIFIC GUIDANCE FOR PROJECT DESIGN, SET-UP AND ARTICULATION

There is no ‘one size fits all’ approach to developing an EI initiative that will be attractive to multiple investors. Each initiative or project requires an approach suited to the specific context (see Sithole et al., 2024). However, as outlined in **Section 4** and **5**, there are several key elements that, when in place, can increase the potential for securing investment. Investors are more likely to invest in EI initiatives that are clearly well structured and evidently align directly to their objectives. Similarly, an investor seeking initiatives in which to invest, or to develop their own, should be looking for/undertaking the elements of a well setup initiative that generates outcomes aligned to their goals. A well-structured initiative can be seen as one that has all the elements of **‘DISCOVER’ ‘STRUCTURE’ ‘DEVELOP’** and **‘FUND’**¹.



¹ The components DISCOVER ‘STRUCTURE’ ‘DEVELOP’ and ‘FUND’ are introduced in a WWF (2020) report as four phases of setting up a Bankable Nature Solutions project. These have been used as a foundation in this framework and adapted and expanded based on the learnings from the stakeholder engagements and reviews undertaken as part of this project.

6.1 Discover

‘DISCOVER’ involves much of what has been presented under **Section 4**, critical are the two-way relationships both between potential investors and coordinators of the initiative, and co-ordinators and other key stakeholders (e.g. land users, technical experts). From the perspective of promoting investor buy-in, ‘DISCOVER’ allows the developer of the initiative to identify the specific objectives/challenges of each potential investor and how the initiative speaks directly to these or could be designed to do so; understand the information needs and requirements (project criteria and funding conditions) of potential investors and recognising there are likely to be differences between potential investors. For example, a grantor might be interested in the expected socio-economic and environmental impacts, whereas a fund manager may need additional information about the implementing entity (e.g. credit-worthy), probability and timeframe of financial returns and investment-related risks. ‘DISCOVER’ is also about identifying possible EI interventions in the catchment and understanding whether there are existing/planned EI initiatives in the landscape/focus catchment.

Guiding questions:

- What are the predominant EI types (and ecological condition) and land-uses in the catchment?
- Are these land-uses sustainable?
- What are the climate-related risks and pressures on these land uses and the EI, and are there alternative, more sustainable land uses?
- Who are the key stakeholders (stakeholder analysis, including identifying landowners/users, potential funders)?
- Is there a demand for the services provided by the EI, by whom, and who benefits from improving the ecosystem services and how?
- Are there business-related risks or opportunities that arise from these demands?
- Who are potential investors? What are their goals and what is the context (challenges/risks) within which they are operating? What are their information needs and investment requirements/conditions (effectively, ‘getting to know potential investors’).

6.2 Structure

‘STRUCTURE’ is about identifying and outlining investable projects and involves undertaking the social processes (**Section 5.1**) and assessments and/or information collation (**Section 5.4**) to inform the design of the initiative and develop the value proposition(s) (**Section 5.3**). Effectively, it is about “doing the homework” needed to outline a feasible initiative. Presenting a workable sustainable initiative with a clearly defined plan and expected outcomes expressing the clear benefits of the initiative and how it aligns with the goals or challenges experienced by a potential investor significantly increases the likelihood of securing support.

‘Structuring’ the initiative includes defining the goal(s) of the initiative and identifying what is required in terms of interventions and activities and the order of funds needed (a financial model). An assessment of the expected outcomes and associated benefits to different sectors or groups is required. Opportunities for associated revenue-generating activities should be identified. This information is then used to map out the funding landscape - identifying existing and possible funding sources and potential investors.

Providing ‘adequate and appropriate’ information to satisfy investors² will involve, to varying degrees, project/initiative risk analysis, impact analysis, outcomes and benefit analysis and cost analysis. As well as setting the baseline against which to monitor and demonstrate outcomes. This information, and the corresponding analyses, should aim to identify the broad basis of the business case (range of benefits and beneficiaries) and whether there are potential (social and environmental) risks that may arise from the proposed initiative/activities and how these would be safeguarded.

Scale (size and timeframe) is an important consideration. In the context of water security, the initiative must be developed from a catchment perspective (or even broader, such as Strategic Water Source Areas) and key priorities. The initiative itself may be at the catchment scale or a sub-catchment scale. However, multiple water-related EI interventions within a catchment should align to the overarching catchment vision or strategy.

Depending on the scale taken in ‘structuring’ the initiative, the initiative may need to be narrowed down to smaller priority areas/interventions for implementation that are more attractive/affordable for investors to support and/or broken down into multiple activities suited to different potential investors (see **Section 6.4 ‘FUND’**). Alternatively, if the starting scale is relatively small, the initial project should consider the broader catchment and look to the longer term and map-out potential future/additional projects or phases building from the starting point.

While sub-catchment and/or medium-term projects may be easier to practically implement and fund, situating a smaller project and investors’ contributions within a larger strategy that addresses key priorities or goals can be an important motivator for potential investors. This allows the investor to ‘see’ how their contribution would have a greater impact through cumulative outcomes or how the outcomes achieved would be secured into the future. These goals could also extend beyond water security related catchment goals, such as contributing to the Sustainable Development Goals and climate change mitigation or adaptation, demonstrating how the investment would support regional and international efforts to promote sustainability and resilience (see **Box 18**).

Guiding questions:

- What is the goal of the initiative and what is required in terms of interventions and activities?
- What are the expected outcomes (measured difference between the ‘with’ and ‘without’ scenarios)?
- What is the general basis of the business case, for example, what are the risk mitigation, service/resource supply enhancement, cost-saving or revenue generating opportunities, and broader public benefits?
- What are the expected co-benefits or opportunities for creating co-benefits (e.g. for improving community well-being)?
- Who is likely to benefit (or lose out if the initiative is not implemented)?
- What are potential (social and environmental) risks that may arise from the proposed interventions? How will these risks be safeguarded?

² Discovering what is ‘appropriate’ and ‘how much is enough’ are key aspects of engaging stakeholders and building two-way relationships with potential funders (**Sections 5.1 and 5.4**).

Box 18: Motivators of investment: A DFI's perspective

DFIs and investors are increasingly motivated to invest in ecosystem infrastructure (EI) conservation and rehabilitation due to several key factors (DBSA, pers. comm., 2024):

- **Environmental Protection and Climate Change Mitigation:** There is a growing recognition of the critical need to protect and rehabilitate ecosystems to combat climate change and biodiversity loss. Healthy ecosystems play a crucial role in absorbing carbon dioxide and regulating the climate, making them essential for mitigating the impacts of climate change.
- **Alignment with Global and Regional Goals:** Investments in EI align with global and regional commitments to achieving the SDGs, particularly those related to environmental sustainability, such as SDG 13 (Climate Action), SDG 14 (Life Below Water), and SDG 15 (Life on Land). By contributing to these goals, investors support international efforts to promote sustainability and resilience.
- **Risk Mitigation and Resilience Enhancement:** EI investments help mitigate environmental risks and enhance the resilience of communities and economies. Natural infrastructure, such as wetlands, forests and coral reefs, can provide significant protection against natural disasters like floods, hurricanes, and droughts, thereby reducing the costs associated with disaster recovery and infrastructure repair.
- **Long-term Economic Benefits:** Investments in EI promise long-term economic benefits through the improvement of ecosystem services. Healthy ecosystems contribute to various sectors, including agriculture, fisheries, and tourism, by enhancing water quality, soil fertility, and biodiversity. This leads to increased agricultural yields, sustainable fisheries, and attractive natural sites for tourism, contributing to economic growth and job creation.
- **Reputational Benefits:** Investing in EI enhances the reputation of DFIs and investors as responsible and forward-thinking entities. Companies and financial institutions that prioritise environmental sustainability are increasingly favoured by consumers, clients, and other stakeholders, leading to increased brand loyalty and better market positioning.
- **Compliance and Regulatory Incentives:** In many regions, governments provide regulatory incentives and support for environmental projects, making EI investments more attractive. Compliance with environmental regulations and policies can also be a motivating factor, as it helps investors avoid legal and financial penalties.

6.3 Develop

'DEVELOP' involves developing detailed designs and plans and undertaking project 'set-up' activities towards presenting implementation ready projects to potential investors.

This will involve defining priority activities, areas/sites(s) and/or phases for implementation and creating detailed designs and implementation plans for these priorities. While detailed, the implementation design(s) should facilitate flexibility to meet the requirements of funders or align with their objectives if needed. For example, a labour-intensive approach would need to be applied if government funds are to be used (**Box 19**), whereas a more mechanised approach may be needed to meet the timeframes of private sector investment.

Box 19: Flexibility in design to meet the requirements of funders or align with their objectives

In the case of the Mthinzima Stream wetland rehabilitation, in order to secure funds through the NRM Programme (public funds), the original rehabilitation plan was adapted from a mechanised approach to a labour-intensive approach to maximise job creation and capacity building. Overall, R3.7 million (of the R5 million) of the funding was allocated for labour (which was sourced from the local community), PPE, training, and co-ordination over a three-year period.

Implementation plans should include a monitoring plan, a funding plan, details of third party or independent oversight and any accreditations, a safeguards plan (if relevant), and a capacity building plan (if relevant). The funding plan must cover the expected costs of implementation, monitoring and maintenance and the funding/investment needs over different stages of the initiative, the outcomes/benefits of the specific intervention and/or phase compared to the case without implementation, and an outline of the expected funding sources (e.g. proportion public/private, in-kind, grants/loans, proportion already secured). The outcomes should be quantified in a suitable form (e.g. expected change in water yield at a point in the catchment) and the associated benefits and who will benefit.

Project risk is an important information requirement for many investors. Project risk can be related to uncertainty of, or unpredictability, of outcomes or inability to demonstrate the outcomes achieved, cost risk, and implementation risk, among others. In the context of EI investment, risk related to securing the benefits of the investment into the long-term is relevant. This can be related to the availability of funds for longer term monitoring and maintenance, lack of structural changes to address the drivers of degradation and future changes in land-use. A source of implementation risk is the availability and capacity of appropriately qualified implementing agents and their ability to scale-up. Project risks, an indication of their likelihood and any options for mitigating the risks must be identified. An understanding of risk, cost, benefit and return will inform the funding strategy (and targeting of specific investors) and structure of the investment (see **Section 6.4 'FUND'**).

Further activities include obtaining the necessary legal approvals for implementation, obtaining landowner/user consent and agreements; sourcing relevant technical assistance/expertise and identifying suitable implementers (with a track record and/or a plan for capacity building and risk management); and initiating any safeguard processes. Capacity building may be needed to ensure all role-players, including local communities and project implementers, have the necessary skills and knowledge to carry out the project(s) effectively. Formal agreements will need to be established to define the roles, responsibilities, and expectations of all the role-players involved.

At this stage, while stakeholders would already have been identified and engaged (see **Section 5.1**), a more detailed plan of stakeholder participation should be developed. Supporting activities may be needed to ensure that all stakeholders are empowered to participate.

Guiding questions:

- What is required (e.g. hard/soft interventions, changes in the enabling environment, management/co-ordination, monitoring, etc.)?
- How will the interventions and activities be implemented? What is the timeframe?
- Who will implement? Who will manage? Who will provide independent oversight?

- Is the required expertise available? Is capacity building or skills development required?
- Which stakeholders should be involved in the project and how will they be involved? Are they willing and able to participate?
- What are the expected costs? What funds/support is already available? Can the initiative provide any form of co-funding, collateral, guarantee or other type of security?
- What investment is needed - for operational expenses (OpEx), assets (Capital Expenditure - CAPEX), monitoring and evaluation, long term maintenance? How are these needs spread out over time?
- What are the expected outcomes and benefits and for who?
- Are there revenue-generating opportunities? How could these be developed?
- Who will manage and administer the funds and monitor the costs and manage the budget?
- How will the project be monitored, and the results communicated?
- How will the outcomes be assessed, and communicated?
- What safeguards will be put in place and who will manage/oversee these?

6.4 Fund

‘FUND’ is about securing the financial resources to carry-out the initiative and agreeing to the funding arrangements (e.g. how the funds will be provided, the ‘mechanism’, and managed and any specific conditions). This is primarily about clearly articulating the EI initiative to potential investors (presenting the value proposition, **Section 5.3**) and providing adequate information to inform their decision-making (outlining the business case). The information gathered through the ‘DISCOVER’ ‘STRUCTURE’ and ‘DEVELOP’ stages is used to identify and engage potential investors.

Potential investors can be identified from those likely to benefit (or lose out if the initiative is not implemented), funders already active in the area, role-players involved in related projects (e.g. built infrastructure development) and any others who may be interested in funding the initiative in a more general sense. It is useful to consider the different types of activities (biophysical interventions, capacity building, monitoring), cost components (e.g. labour, materials, management) and scales or phases within the initiative, and whether certain funders would be better able to fund specific aspects (see **Box 14**). Taking a targeted approach can increase the likelihood of securing support. In this case, it is critical to demonstrate to potential investors how the other necessary aspects of the initiative will be funded.

A clear **business case** aligned with the investor’s goals that effectively addresses the three key elements of Benefit, Cost and Risk is crucial to securing buy-in. A strong business case:

- 1) Clearly articulates the expected outcomes of the EI initiative and how these relate to the strategic objectives and priorities of the investor. In other words, what the expected benefits are, and how much, for the specific investor.
- Substantiated with measurable benefits and quantifiable data based on science (e.g. case/catchment specific assessments, monitoring data) where possible. However, both quantitative and qualitative evidence should be considered (**Section .4**). While it is important, where possible, to seek quantitative evidence, it should nonetheless be recognised that qualitative evidence is also valid and can be extremely valuable - just because one cannot quantify something does not necessarily mean that it is not important. Where available, the

success of pilot projects or initial phases should be presented to leverage funding for scaling or subsequent phases.

- Described in a manner or ‘language’ that is accessible to the target investor (e.g. limiting the use of unfamiliar scientific or ecological terms and detail and providing clear explanations).
- 2) Presents the costs and available funds and sets out the investment needs (or funding gap) and the plan for meeting the fund gap (e.g. through different sources of funds). Key is to demonstrate that the initiative will have sufficient estimated cash flows to cover costs or what is needed to reach financial viability. Demonstrating a cost-effective approach can further strengthen the case, depending on the specific objectives (or conditions) of the funder.
- 3) Sets out the risks in terms of the probability of achieving the expected benefits, uncertainty or unpredictability of outcomes, cost risk, implementation risk and any potential negative social and environmental impacts.
- Demonstrating adherence to acceptable environmental and social safeguards where potential negative consequences are identified.

From this information, an investor can assess whether the expected risks and returns - the benefits the investor will receive in relation to their investment cost - are acceptable and identify whether any conditions or de-risking actions are needed.

“While all three factors—benefit, cost, and risk—are important, the emphasis can vary depending on the specific context and priorities of the funders and investors. Sustainability-focused investors might place more weight on anticipated benefits, while traditional investors might prioritise cost and risk assessments. Therefore, a balanced and comprehensive business case that effectively addresses all three aspects is crucial for securing funding for EI projects” (DBSA, pers. comm., 2024).

While traditionally viewed in monetary terms, ‘returns on investment’ can be in the form of financial, operational, environmental, and social benefits – key is that they meet or align, with the goals or needs of the potential investor. Financial benefits can stem from a range of outcomes including reduced likelihood or extent of infrastructure damage (e.g. flood protection), avoided increases in operational costs (e.g. maintained water quality), securing operational inputs (e.g. reliable water supply); avoided legal and financial penalties (compliance and regulatory incentives), enhanced reputation leading to brand loyalty and better market positioning, and income generating opportunities (e.g. attractive sites for tourism and recreation). Many outcomes of EI initiatives align with investor objectives such as business sustainability goals, risk mitigation strategies, or corporate social responsibility objectives.

Broader benefits include contributing to environmental protection and climate change mitigation, alignment with global and regional goals (such as the SDGs), strengthening social inclusion and gender equity, risk mitigation and resilience enhancement and long-term economic benefits. Often, EI initiatives provide a range of benefits, this is an important difference to many grey infrastructure developments which generally offer a much narrower range.

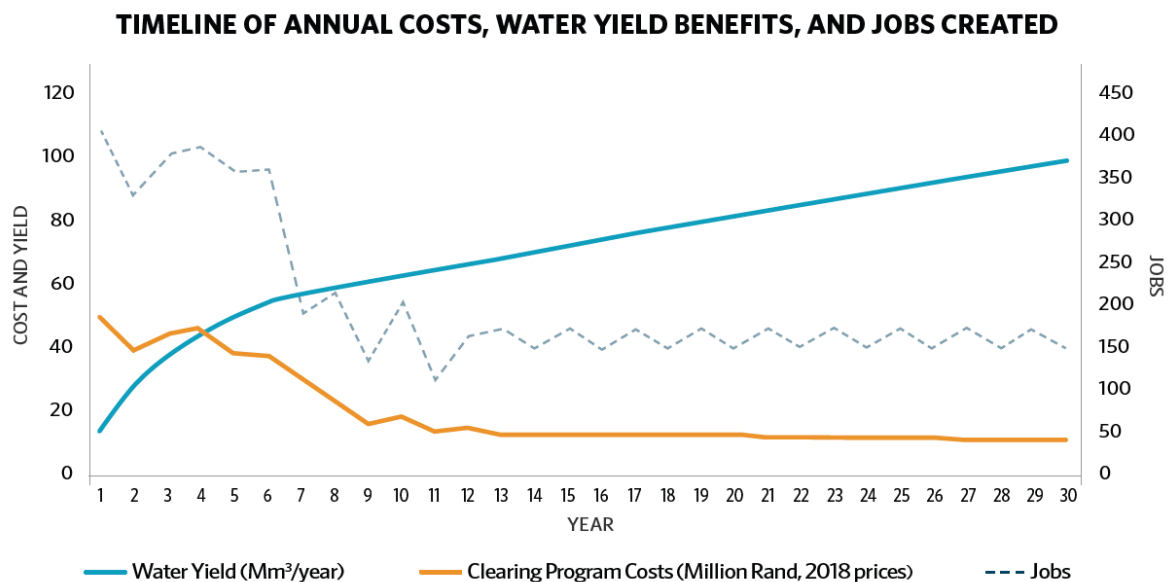
In presenting the business case to a particular investor, the benefits most closely related to their goals or strategic priorities should be emphasised and substantiated with the best evidence available. How the outcomes will be monitored, measured and communicated to the investor should be described (see **Box 20**). Drawing on standardised or recognised approaches and indicators for measuring and assessing outcomes will build investor confidence.

Box 20: Greater Cape Town Water Fund Business Case Analysis and Interactive Tracking System

Business Case Analysis

In the business case developed for the Greater Cape Town Water Fund, an analysis modelled the impact of controlling invasive alien plants in the water source areas of the Western Cape Water Supply System over a 30-year period. A spatial analysis was conducted to estimate the reduction in run-off resulting from alien plant invasions in the sub-catchments and a reservoir model (ResSim) was used to estimate the resulting reduction in dam yields (Stafford et al., 2018).

The analysis showed that the restoration of priority sub-catchments through the removal of alien plant invasions would “generate expected annual water gains of 50 billion litres (50 Mm³) within five years compared to the business-as-usual scenario — equivalent to one-sixth of the city’s current supply needs. These annual gains double to 100 billion litres (100 Mm³) within 30 years” (Stafford et al., 2018:1).



Greater Cape Town Water Fund Business Case: Restoration timeline for priority sub-catchments.

Source: Stafford et al., (2019).

Box 20: Greater Cape Town Water Fund Business Case Analysis and Interactive Tracking System

Interactive Tracking System

The Greater Cape Town Water Fund has been operating for more than five years. A centralised Decision Support System (DSS) tool was developed “to track field operations by multiple stakeholder organisations, allocate funding and to report on the resultant water reclamation benefits calculated through monitoring and evaluation” (TNC, 2020).

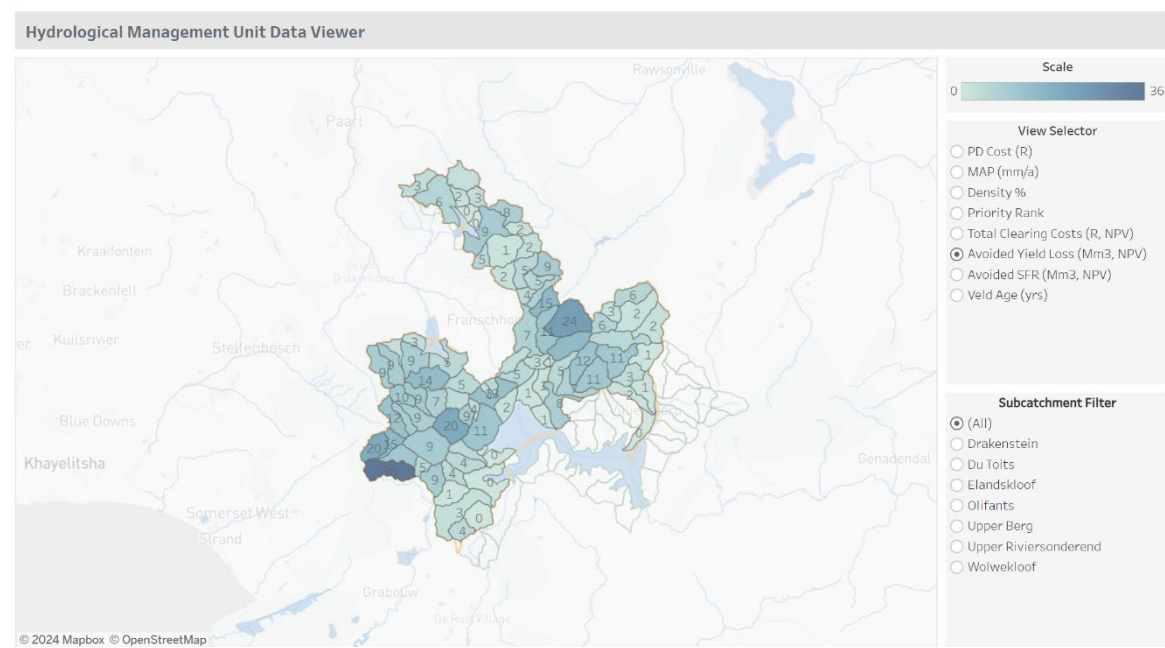
The DSS is described (TNC, 2020) as a “transparent project management tool that showcases evolving data for stakeholders and tracks the progress of the project visually”.

“The Decision Support System (DSS) is an interactive online dashboard that tracks the progress of all activities undertaken by the partners of the Water Fund. It is designed to be flexible, transparent, and user-friendly” (TNC, 2020).

The tool tracks implementation progress against planned targets and presents outcomes and impacts including how much water is being restored to the systems and how many women and youth are included in the teams and on which sites they are working.

Importantly, the tool is online and public, providing a transparent project management tool and showcasing data for stakeholders.

The DSS can be viewed at: <https://public.tableau.com/app/profile/waterfunds/viz/GCTWFDSSv1/PublicDSS>.



Other aspects that can further strengthen the case include:

- Identifying and describing a wider range of benefits (and beneficiaries).
- Highlighting opportunities within investors’ existing projects or mandates to incorporate EI (protection/enhancement) and identifying how this would be beneficial, for example clearly making the link between how healthy EI is necessary to achieve/sustain the benefits of built

infrastructure/operations or, importantly, to reduce operational or asset risk (e.g. disaster risk reduction).

- Identify opportunities for cross-cutting/co-benefits from hybrid style investments, such as green and grey infrastructure, social equity and environmental justice, social investments (aligned with the organisations mandate) generating co-benefits, such as job creation and data collection.
- Describing how the investor's contribution enhances the outcomes achieved by existing or previous investments or increases the benefits/scale of outcomes through aggregated investment across investors.
- Explaining how the EI initiative/project and the investor's contribution fits into a broader strategy to address key priorities (e.g. a catchment management strategy).
- Describe the plan or actions being taken to ensure the outcomes/benefits of the initiative are secured into the future (e.g. landowner buy-in and consent/agreements, community support for the initiative, long term co-funding or partnerships for monitoring and maintenance).

While a comprehensive business case may be ideal, it is not always necessary. The goal is to clearly articulate to the potential investor how the EI initiative aligns with their strategic priorities and would provide a return (not necessarily financial) on their investment and demonstrate that the initiative has been adequately costed, risks have been adequately assessed and additional funding options or possibilities have been appraised.

In addition to the core elements of a business case (Benefit, Cost, Risk), many investors may have additional criteria for funding projects and will require further information (**Box 21**). It is important to understand the information needs (which will differ across investors) to provide 'enough' information, clearly articulated, to satisfy investors. This can be achieved through the social processes and mechanisms of collaboration described in **Sections 5.1** and **5.2.2** and particularly through an interactive two-way process between investors and project developers involving co-learning and incremental co-development of the EI investment proposition and business case

There are numerous ways to structure the funding of an EI investment. In this sense 'structure' loosely refers to sources and forms (or mechanisms) of funding and how they are used together to ensure the costs of the initiative are met. A suitable structure and the mechanisms used will depend on the source of the funds, the purpose and the recipient. The simplest 'structure' involves a single investor and single implementer, and the funds are transferred directly from the investor to the implementer. However, there are many other models, and the 'single investor-single implementer' structure is typically only suitable for smaller projects such as rehabilitating a single wetland. To support larger scale EI initiatives multiple sources of funds, and several partners, are needed, typically involving a combination of private and public funding (see **Section 5.5**). For EI related projects in the Berg River and Breede River catchments, in the Western Cape of South Africa, for example, at least seven different forms of financial arrangements were identified (Midgley et al., 2021). Similarly, WWF (2020) characterised four broad 'blueprints' found among a wide range of EI related projects.

While the specific funding arrangements will be informed by, and agreed with, the investor(s) it is important to define a general model considering aspects such as:

- The size of the required budget.
- The type(s) of EI being restored/protected and stage(s) of the initiative.

- Strategic funding objectives (e.g. mobilising private sectors funds, de-risking, linking to carbon markets).
- Existing sources of funds (and any associated conditions of funding).
- The role of the lead organisation, and the role and financial contribution of landowners and other key role-players.
- Opportunities for linking with other initiatives and for building on (scaling further) through subsequent projects or phases.

EI initiatives will typically require different types, or relative combinations, of funding at different stages or for certain activities. For example, creating an enabling environment and project development and set-up phases may depend more on grants and/or public funds creating a 'bridge' to private sector investment at the 'implementation ready' phase. Different investors may be more willing to fund those activities more closely aligned with their own objectives or that meet their specific criteria (e.g. water users may be more willing to fund alien plant clearing activities or hard infrastructure, philanthropic organisations may favour capacity building, while public sector funds may have a job creation condition).

Particularly for larger initiatives, the mix of funding sources and investors will need to evolve over time and the funding structure needs to remain fluid and responsive to the changing context of the initiative. Single investors, especially from the private sector, will typically commit funds for a one-to-three-year period, which is too short for EI interventions, further emphasising the need for a fluid funding structure.

Part of 'structuring' the financial arrangements is to define a clear and appropriate 'investable entity' and vehicle for transferring investment from funders to implementers. In other words, who will receive, manage and administer the funds. Be sure to identify and/or set up an appropriate entity rather than approaching a potential investor with an abstract program or unclear consortium. Investors require a clearly defined, credit-worthy investment entity to direct their investments to. Entities with an existing track record of successfully managing implementation projects and the associated funds and budget will be more attractive to potential investors.

The final element is to clearly agree on the individual arrangements with each investor/funding source and any conditions of the funding and ensure that formal agreements are assigned between the relevant entities. In developing the agreements, consideration should be given to building in flexibility and processes recognising that EI interventions require an adaptive management approach and are characterised by uncertainty.

Box 21: Investor criteria and information requirements

Before deciding to invest, investors will want to assess whether the expected risks and returns of the proposed EI initiative - the benefits the investor will receive in relation to their investment cost – are acceptable and identify whether and additional conditions or de-risking actions are needed.

Information should be provided to the target investor to clearly demonstrate:

- How the EI initiative aligns with their strategic priorities and would provide a return (not necessarily financial) on their investment.
- That the initiative has been adequately costed, risks have been adequately assessed and additional funding options or possibilities have been appraised.

Ideally, this information should be provided through a **business case** (or proposal) aligned with the investor's goals that demonstrates the value proposition for the target investor (see also **Box 11**) effectively addresses the three core elements 'Benefit, Cost and Risk'.

- **Benefits:** Clearly articulate the expected outcomes of the EI initiative and how these relate to the strategic objectives and priorities of the investor. In other words, what the expected benefits are, and how much, for the specific investor.
- Substantiated with measurable benefits and quantifiable data based on science (e.g. case/catchment specific assessments, monitoring data) where possible. However, both quantitative and qualitative evidence should be considered. For example:
 - Changes in benefits associated with ecosystem service enhancement (water quality and quantity improvements, flood damage risk reduction, enhanced/maintained attributes for tourism).
 - Achievement of biodiversity conservation targets.
 - Levels of carbon sequestration.
 - Social outcomes (capacity building, job creation, enterprise development).
- Described in a manner or 'language' that is accessible to the target investor (e.g. limiting the use of unfamiliar scientific or ecological terms and detail and providing clear explanations).
- **Costs:** Present the costs and available funds and sets out the investment needs (or funding gap) and the plan for meeting the fund gap (e.g. through different sources of funds). Key is to demonstrate that the initiative will have sufficient estimated cash flows to cover costs or what is needed to reach financial viability.
- **Risks:** Identify the risks in terms of the probability of achieving the expected benefits, uncertainty or unpredictability of outcomes, cost risk, implementation risk, and any potential negative social and environmental impacts.
- Describe any environmental and social safeguards that will be applied where potential negative impacts are identified.

Investors may have additional criteria for funding projects and will require further information to demonstrate the initiative meets their criteria. Additional criteria and related information needs can include:

- Demonstrate activities/ interventions are designed using best available science (knowledge/evidence to support the interventions and projected outcomes).
- The initiative addresses recognised priorities (e.g. Strategic Water Source Areas), present the prioritisation process.
- Demonstrate financial viability and cost-effectiveness.
- Contribute to transformational change, not business as usual, for example:

Box 21: Investor criteria and information requirements

- Supporting the just transition.
 - Strengthening social inclusion and gender equity.
- Adherence to acceptable environmental and social safeguards.
- Alignment with funder's strategic objectives and priorities, such as:
 - Sustainability and climate resilience.
 - Social inclusion and gender equality.
 - Positive environmental impact, alignment with specific environmental goals (e.g. biodiversity targets).
 - Contribution to achieving the SDGs.
 - Contributing to broad developmental benefits beyond climate/EI.
- Effective stakeholder engagement.
- Evidence that local communities are involved in both planning and implementation, inclusion and empowerment of relevant communities.
- Specific quality standards applied, and monitoring and reporting systems established. May require validation/certification by a third party.
- Effective collaboration between the public and private sectors.
- Co-funding from project sponsors, stakeholders, and other investors to achieve scale and share risks.
- Fund management details (how funds will be managed and administered, who is responsible) and restrictions on responsibility for the administration of funds.
- Details of the investable entity (credit-worthy, track record, how it will be monitored, who will provide independent oversight).
- Sustainability plans so that gains made are not lost beyond the funding cycle.
- Binding agreements between partners are in place.
- Institutional arrangements, including for example steering committees.

The preceding guidance in this section rightly emphasizes the importance of accessing major funding from formalised sources, and the formalised planning and implementation arrangements which this requires. Nevertheless, access to formal funds should not be seen as a necessary prerequisite for investment in EI. By using existing local mechanisms, ways can be found through less formalised means of “stretching the Rand” and harnessing in-kind contributions to advance surprisingly far in achieving initial EI outcomes. This is illustrated with the case example described in Chapter 6 of the report titled *‘A review of target case studies to inform a framework for supporting investment in ecological infrastructure’* Sithole et al., (2024) where a civil society organisation has engaged local Ladismith farmers and secured minor funding from local businesses. Through this engagement, EI restoration is being undertaken by drawing on an existing pool of “work-fit” temporary farm workers for which arrangements for transport and payment already exist and who are seeking work during the “quiet months” on the local farms. Furthermore, tangible on-the-ground outcomes of a small, informal initiative can prove instrumental in securing larger and more formal sources of funding by demonstrating that a ‘promising start’ has been made from which to incrementally build the initiative. By concentrating on initial small-scale successes, you can progressively build momentum and garner the support of additional stakeholders. This method recognises the current scope of the initiative while utilising each success to showcase and attract more resources and commitment from funders. It is a patient and strategic approach to fostering organic growth and ensuring long-term sustainability.

7. REFERENCES

- AUDOUIN M, LE MAITRE D, STAFFORD W, FORSYTH G and NTSHOTSHO P (2021) *Ecological infrastructure investment framework: Main report*. Council of Scientific and Industrial Research. Western Cape Government.
- BROWDER G, OZMENT S, REHBERGER BESCOS I, GARTNER T and LANGE G (2019) *Integrating Green and Gray: Creating Next Generation Infrastructure*. Washington, D.C. World Bank Group.
- BUYTAERT, W and DE BIEVRE B (2012) Water for cities: The impact of climate change and demographic growth in the tropical Andes. *Water Resources Research*, **48(8)**. W08503.
- C40 CITIES FINANCE FACILITY (2022a). Creating a Business Case for Transformative Riverine Management. A guide for cities to Durban's TRMP Business Case development process. Chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://c40-prod.s3.amazonaws.com/storage/files/uYq2Q21kHY31THfqMmymERfqinLX83fKcVLuePIX.pdf. (Accessed 25 January 2024).
- CCFLA (2022). What is bankability? <https://citiesclimatefinance.org/publications/what-is-bankability>. (Accessed 17th September 2024).
- COSTANZA R, ATKINS PWB, HERNANDEZ-BLANCO M and KUBISZEWSKI I (2021) Common asset trusts to effectively steward natural capital and ecosystem services at multiple scales. *Journal of Environmental Management* **280 (111801)** 1-8.
- CUMMING T, DRIVER A, BOTHA M, MANUEL J, DINI J, and STEPHENS A (2014) *A Framework for Investing in Ecological Infrastructure in South Africa*. South African National Biodiversity Institute (SANBI), Pretoria.
- DUCT (2018) EPWP Save Midmar Project. Close Out Report (from 2015-2018). DUCT, South Africa (unpublished).
- FERRAZ JC (2023) *Development finance institutions for sustainable industrial development*. Policy Brief Series: Insights on Industrial Development. Issue No 3. United Nations Industrial Development Organisation.
- FORERO-ORTIZ E, MARTÍNEZ-GOMARIZ E and MONJO R (2020) Climate change implications for water availability: a case study of Barcelona City. *Sustainability*, **12(5)**, p.1779.
- GCANGA A, DOLLIE A, CULLIS JDS AND EILERS A (2022) Building urban water resilience for African cities: Lessons learnt from application in the City of Johannesburg (CoJ) and Nelson Mandela Bay Municipality (NMBM). In *IMESA Conference*. Gauteng, South Africa, 2-4 November 2022, Paper 11.
- GELDERBLOM CM, BEUKMAN R, GOLA NP, FOWLER A, JUBA R, SCHACHTSCHNEIDER K, PIENAAR R, and RANDERA-REES S (2021) *Contracting local coordinators to support the rehabilitation of ecological infrastructure*. South Africa, Cape Town, South Africa.
- GPRBA (2018) New Perspectives on Results-Based Blended Finance for Cities: Innovative Finance Solutions for Climate-Smart Infrastructure. World Bank. <https://www.gprba.org/sites/gpoba/files/publication/downloads/2019-07/new-perspectives-results-based-blended-finance-cities-innovative-finance.pdf>. (Accessed 26 September 2024).

HAMPSON P, PRETORIUS L, MARTEL P, LEWIS F, and MAHLABA, S (2023) *CICLIA TRMP support project: Integration and Alignment Report*. KwaZulu-Natal, South Africa. Report produced for eThekweni Municipality and CICLIA.

GULATI M and SCHOLTZ L (2020). *The case for investment in green infrastructure in African Cities*. WWF. Cape Town, South Africa.

INVESTOPEDIA (2021) Financial Guarantee: Definition, Forms, Types, and Example. <https://www.investopedia.com/terms/f/financial-guarantee.asp>. (Accessed 17th September 2024).

JEWITT GPW, SUTHERLAND C, BROWNE M, STUART-HILL S, RISKO S, MARTEL P, TAYLOR J, and VARGHESE M (2020) *Enhancing water security through restoration and maintenance of ecological infrastructure: lessons from the uMngeni River catchment, South Africa*. WRC Report No. TT 815/20. Pretoria: Water Research Commission.

KOTZE DC, MACFARLANE D and COLLINS R (2020). *Wetland-Ecoservices (Version 2): A technique for rapidly assessing ecosystem services supplied by wetlands and riparian areas*. WRC Report No. K5/2737, Water Research Commission, Pretoria.

LOGSDON RA and CHAUBEY I (2013). A quantitative approach to evaluating ecosystem services. *Ecological Modelling* **257** 57-65.

MANDER N, MANDER M, DE WINNAAR G, GRAHAM M, BUTLER A, CARTWRIGHT A, BLIGNAUT J, HOUGHTON J, LAMULA K, and MARTEL P (2021) *Business Case for Durban's Transformative Riverine Management Programme*. Report produced for C40 Cities Finance Facility and GIZ. <https://cff-prod.s3.amazonaws.com/storage/files/9SZZidOZX7XodATZRUvh0DvccXPbZw3qaMuy sxtG.pdf>. (Accessed: 25 January 2024).

MBOPHA MS, MARAIS C, KLEYNHANS TE and ESLER K (2021) Unlocking and securing ecological infrastructure investments: The needs and willingness to invest and institutional support mechanisms used South African Journal of Science **117** (9/10).

MIDGLEY S, ESLER KJ, HOLDEN PB, REBELO AJ, STUART-HILL SI, CULLIS J and METHNER N (2021) Typologies of collaborative governance for scaling nature-based solutions in two strategic South African river systems. *Ambio* **50** (8) 1587-1609. doi: 10.1007/s13280-021-01531-z.

NBI (2019) *Business Needs and Enablers: Ecological Infrastructure for Water Security*. Draft for Comment. National Business Initiative. Gauteng, South Africa.

NELSON M (2018) What are Safeguards and Why do we need them? The importance of considering the wider implications of a conservation project. Conservation International 2024. <https://www.cepf.net/stories/what-are-safeguards-and-why-do-we-need-them>. (Accessed 17th September 2024)

OECD (2022) *Financing a Water Secure Future, OECD Studies on Water*. OECD Publishing, Paris, <https://doi.org/10.1787/a2ecb261-en>.

PERO LV and SMITH TF (2008) Institutional credibility and leadership: critical challenges for community-based natural resource governance in rural and remote Australia. *Regional Environmental Change* **8** 15–29.

PRINGLE C, MEISSNER R, BIGGS R, PAHL-WOSTL C, STUART-HILL S and SITAS N (2023) Exploring social processes in transformation: the case of a collaborative water partnership in South Africa, *Ecosystems and People*, **19** (1) 2213780.

RANA F (2017) Preparing Bankable Infrastructure Projects.” World Bank. Getting Infrastructure Finance Right (blog). <https://blogs.worldbank.org/en/ppps/preparing-bankable-infrastructure-projects#:~:text=Bankability%20and%20risk&text=Designing%20an%20optimal%20risk%2Dsharing,t o%20find%20investors%20and%20lenders>. (Accessed 26 September 2024).

RASMUSSEN LV, FOLD N, OLESEN RS and SHACKLETON S (2021) Socio-economic outcomes of ecological infrastructure investments. *Ecosystem Services* **47** 101242.

REBELO A and METHNER N (2019) Protecting our water-related ecological infrastructure by building an investment case. *Water Wheel* **18** (5) 29-33.

REBELO AJ, HOLDEN PB, ESLER K and NEW MG (2021) Benefits of water-related ecological infrastructure investments to support sustainable land-use: a review of evidence from critically water-stressed catchments in South Africa. *Royal Society Open Science* **8** 201402.

SITHOLE N, KOTZE D, LEWIS F, BROWNE B, MAHLABA S and EGGERS F (2024). *Empirical and user-appropriate evidence to support DFIs and private sector investment towards managing ecological infrastructure. Final case study report*. WRC Report number TO BE CONFIRMED. Water Research Commission, Pretoria.

STAFFORD L, SHEMIE D, KROEGER T, BAKER T, APSE C, TURPIE J and FORSYTH J (2018) *The Greater Cape Town Water Fund: assessing the return on investment for ecological infrastructure restoration. Business case*. The Nature Conservancy, Cape Town.

THE EDUCATION COMMISSION (2024) Glossary. <https://report.educationcommission.org/glossary/?cn-reloaded=1>. (Accessed 25th September 2024).

TNC (2019) Investing in Nature: Private finance for nature-based resilience. The Nature Conservancy. Environmental Finance.

TNC (The Nature Conservancy). 2020. Science Behind the Scenes in Cape Town. <https://www.nature.org/en-us/about-us/where-we-work/africa/stories-in-africa/new-tool-validates-cape-town-water-fund/>. (Accessed 17th September 2024).

TURPIE J, LETLEY G, CHYRSTAL R, CORBELL S and STRETCH D (2014) *Promoting Green Urban Development in Africa: Enhancing the relationship between urbanization, environmental assets and ecosystem services. Part II: evaluating the potential returns to investing in green urban development in Durban*. The World Bank, Washington DC.

VAN ZYL J, EILERS A and CARTWRIGHT A (2022) *National Dam Siltation Programme: A dam engineering and socio-ecological systems financing the prevention and mitigation of siltation report*. Report 3007/1/21, Water Research Commission, Pretoria, South Africa.

WALTERS D, KOTZE D, COWDEN C, BROWNE M, GREWCOCK M, JANKS M and EGGERS F (2019) *WET-RehabEvaluate Version 2: An integrated monitoring and evaluation framework to assess wetland rehabilitation in South Africa*. WRC Report number 2344/1/19. Water Research Commission, Pretoria.

WWF (2020) *Bankable Nature Solutions*. WWF NL and Nature[^]Squared. https://www.panda.org/wwf_news/?364413/Blueprints-for-bankable-nature-solutions-to-help-tackle-nature-and-climate-crises. (Accessed 27th August 2024).

8. APPENDICES

8.1 Appendix 1: Overall framework development process

This section provides a brief overview of the activities undertaken throughout the project which informed the development of the user-appropriate framework for EI investment.

Literature review

A review of grey and published literature was conducted of EI management interventions in South Africa and internationally. The literature review supported the study in answering the guiding questions drawn from the high-level activities outlined in the terms of reference. These guiding questions were further adapted and refined to inform the preliminary stakeholder engagement process, for each of the case studies. For a full account of the outcomes of the stakeholder engagement process and case study review refer to Sithole et al. (2024).

- What are the quantifiable ecosystem service returns from EI interventions in the case study area, especially those related closely to water security?
- How relevant are the returns described above to key role-players, in particular for private sector role-players?
- What underlying mechanisms (enabling and inhibiting) affected collaboration (including public-private collaboration) in implementing the interventions?
- What is the business case for private sector investment in water-related EI within the case study and how was this developed and communicated amongst the role-players?
- To what extent has the EI investment contributed to social justice?

The aim of the literature review was to derive lessons and insights from existing EI initiatives in South Africa and globally, to gain insight to how funding was sourced and mechanisms used and how the EI interventions were implemented. The outcomes of this review along with the stakeholder engagement process were pivotal to this study. The project had the following overarching goals with the first four forming the focus of the literature review:

1. To document the evolution of the planning, funding³, and implementation from selected South African EI initiatives to identify enablers and barriers. This was further supported by local and international case study evidence.
2. To demonstrate the tangible and intangible benefits associated with investing in EI interventions that impact the water sector, and its role in supporting sustainable development based on empirical data and modelled projections.
3. Engage stakeholders on the value proposition for private and development finance sector investment in EI rehabilitation and management and the potential for inclusion of EI in bankable projects.

³ In this project 'funding' is used broadly and includes sources of capital where a repayment of the capital is not required (e.g. a grant) and where capital is provided with the expectation of repayment and, typically, a financial return or 'cost' in the form of interest or dividends (e.g. a loan). The latter is usually referred to as 'financing' in contrast to funding (OECD 2022).

4. Identify the information and financial instruments/models/mechanisms needed to catalyse private sector investment in EI interventions especially those linked to infrastructure investment.
5. Develop a user-appropriate EI framework to promote investment and allow for the mainstreaming of EI. The intended users include inter alia public institutions funding water-related ecological and grey infrastructure, private sector stakeholders including small-scale farmers, community-based organisations, cooperatives, corporates, development finance institutions, commercial finance, and SMMEs (Small, Medium and Micro Enterprises) working in the sector, etc. Emphasis here would be on aggregation and scaling up nature-based investment opportunities for multiple role-players in the market and creating enabling mechanisms for more small-scale businesses and farmers to engage effectively in nature-based solutions.

The elements that emerged from the outcomes of the literature review informed the second phase of the stakeholder engagement process.

Stakeholder engagement process

A participatory and qualitative stakeholder engagement process was conducted, involving stakeholders from a range of sectors. The engagement process aimed to gather their insights, perspectives, and experiences on the trends and outcomes of funding and financing for ecological infrastructure. A stakeholder database was developed drawing on experience of the project team, the case studies and literature review, and input from the WRC working group and stakeholders themselves.

Stakeholder were grouped into the following categories:

1. Development Financing Institutions (DFIs) and investors.
2. Government (including national and provincial, State-Owned Enterprises (SOEs), and parastatals).
3. Non-Profit Organisations (NPOs)
4. Municipalities.
5. Private sector.
6. Civil Society Organisations (CSOs).

The following steps and activities were undertaken in the stakeholder engagement process:

- **Stakeholder identification and mapping:** Stakeholders were identified through referrals, literature and through leveraging of existing relationships. These stakeholders were grouped into five (5) categories for easier management of the engagement process. Thereafter, a database was developed which included the contact details for each stakeholder.
- **Background information document (BID):** A background information document providing a brief description of the project was developed and circulated via email to the identified stakeholders during the initial engagement process.
- **Guiding questions for stakeholder consultation:** Guiding questions suitable for each stakeholder category were developed and informed by the project objectives and outcomes of the literature review.
- **Engagement with stakeholders:** The BID document was shared with the identified stakeholders to invite their participation in the project. Stakeholders were also sent guiding

questions which provided guidance for the discussion and helped them prepare for the consultation process. Follow up emails and phone calls were made to set up meetings with stakeholders who expressed interest.

- **Stakeholder consultation:** For the stakeholders who agreed to participate in the consultation process, online meetings were set up (one-on-one or small focus groups), telephonically, or in writing for engagement. The guiding questions were used to initiate open discussions, gain insights and perspectives of stakeholders and their responses were transcribed.
- **Synthesis and assessment of stakeholder input:**

The grouped stakeholder responses were analysed in their category to highlight common themes across the groups. Forty-nine (49) stakeholders were invited to participate in the consultation process. Of this total, thirty-one (31) stakeholders participated (**Figure 8-1**).

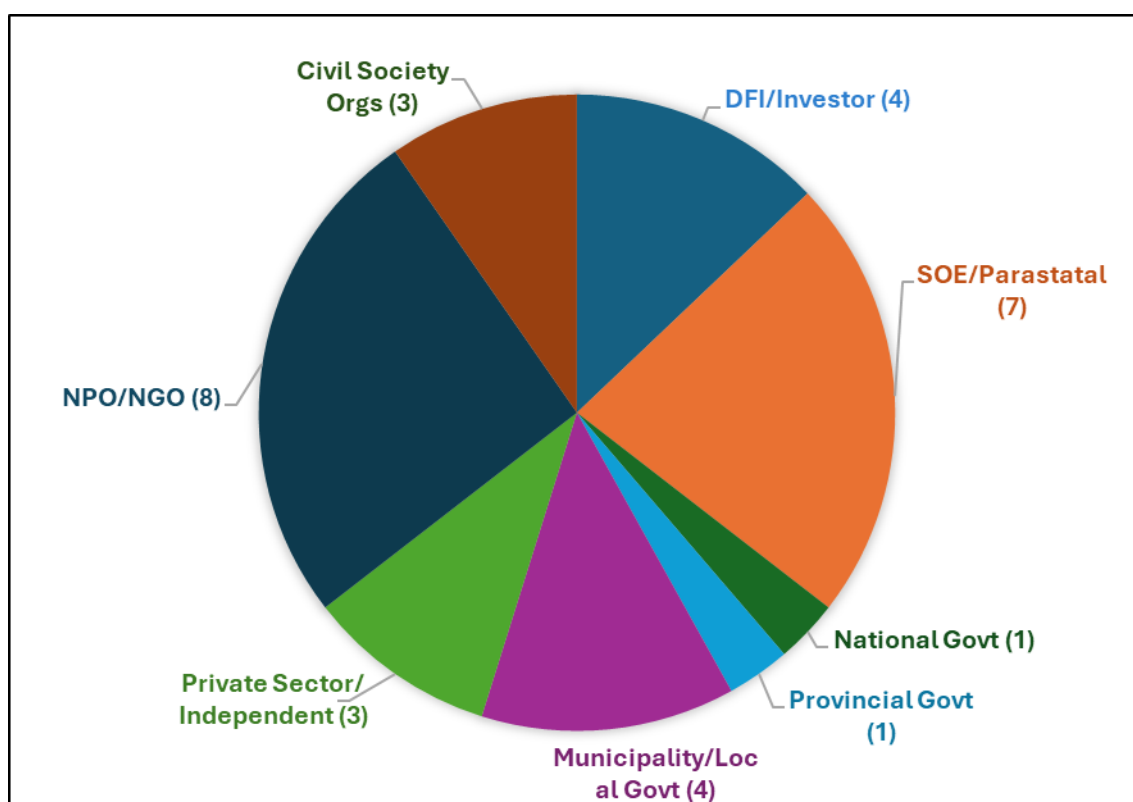


Figure 8-1 Number of stakeholders who participated in consultation process

Resultantly, a range of key parameters influencing EI investment were identified as common themes:

- Enabling factors.
- Inhibiting factors and challenges.
- Incentives and motivators.
- Investment mechanisms and structures.
- Conditions and criteria.
- Key role-players and mechanisms for collaboration.
- Bringing funders into the funding landscape.
- Useful measures and indicators.
- Social justice, equity and inclusivity.
- Lessons learned.

These findings coupled with the outcomes of the literature review further assisted in the case study review.

Case study review

The case studies were a key source of knowledge for building the framework. The focus of the case evaluations was primarily aimed at understanding the motivators and inhibitors influencing EI investment. The following key activities were undertaken to review the EI initiatives:

- a) Guiding questions drawn from the high-level activities given in the terms of reference which were further refined from the insights gained during the inception phase and the initial reviews informed the detailed review of the cases. These guiding questions were also applied during the preliminary stakeholder engagement and literature review process.
- b) Each EI initiative was assessed using a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis as a way of obtaining additional key lessons that were not elicited from the guiding questions.
- c) An in-depth literature review of both scientific and grey literature was undertaken to support the selected initiatives in answering the guiding questions and project objectives.
- d) A preliminary stakeholder engagement process was undertaken.

The case study review provided evidence-based information of EI initiatives, which for one, demonstrated the tangible and intangible benefits of EI investment. Furthermore, the diversity of the initiatives provided valuable insights of how management of EI affects water users\within catchments and highlights how funding was sourced within the initiatives. All of these above-described steps informed the development of various key parameters that need to be considered when investing in EI. These parameters are presented in this in **Section 4** and **5** of this report.