

# FINANCING INTEGRATED WATER AND LANDSCAPE MANAGEMENT IN AFRICA BARRIERS AND PRACTICES

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## Preface

I hereby declare that the text and work presented in this master thesis is original and that no sources other than those mentioned in the text and its references has been used. The copyright of the master thesis rests with the author. The author is responsible for its contents. The Rotterdam School of Management (RSM) is only responsible for the educational coaching and cannot be held liable for the content. For any questions, the author may be contacted at [annerieke.sleurink@gmail.com](mailto:annerieke.sleurink@gmail.com).

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## Executive Summary

Given its rich resources, Africa is amongst the first to suffer from land and water depletion and large populations directly depend on these resources for their livelihood (World Resources Institute, 2017). The functions of water and landscapes in providing food and safe drinking water in addition to the lifecycles of natural ecosystems that they sustain, cannot be overvalued. However, following recent droughts and floodings such as the Cape Town water crisis, the challenges humanity faces with water depletion and land degradation require urgent action. Within this context, an integrated approach towards water and land management provides key, as it considers the multiple functions of (water) landscapes for ecosystem conservation, in addition to (food) production and livelihood improvement as opposed to competing uses of water and land (Estrada-Carmona, Hart, DeClerck, Harvey, & Milder, 2014). Thereby, integrated management of water and land allows to meet the needs of present generations, whilst also guaranteeing their future and humanity's future, and may help to solve multiple additional challenges of sustainable development (Shames & Scherr, 2015). This requires the involvement of the private sector to facilitate an integrated approach towards water and landscapes. However, as a large funding gap remains (World Resources Institute, 2017, p. 1) (Clarmondial & WWF, 2017), also referred to as the missing link between capital and sustainable (water-) landscape projects (Enclude, 2016), potential financing barriers require further investigation. Moreover, further research is needed to foster effective financial solutions for integrated (water-) landscape management (Clarmondial & WWF, 2017) (Enclude, 2016).

To approach this gap or the so-called missing link, this research has investigated financing barriers for integrated water and landscape management (IWLM) in Africa. Through better understanding financing barriers within the African context, the development of best practices can be (further) encouraged, and finance streams can be more effectively directed towards sustainable (integrated) management of (water) landscapes. The research has therefore focused on the following research question: *Which financing barriers for integrated water and landscape management in Africa exist and how can these be addressed?* In order to answer this question, a qualitative research design has been used for a single embedded case study of the market for investments in integrated water and landscape management in Africa, looking at the perspective of two different units of analysis, the first one being the financiers or financial institutions (FIs) operating in Africa as the supply-side, and the second one being the investees, such as private sector companies and conservation NGOs, as the demand-side. Data collection took place using semi-structured in-depth interviews with 5 investors, 3 investees and 1 expert, representing different nationalities, including two interviewees with an African background. Using a thematic

analysis, an explorative approach has allowed for new insights regarding financing barriers for IWLM in Africa and potential ways of addressing these barriers, which provide directions for further research.

Findings suggest four types of barriers, primarily concerning investor- and investee-related barriers, but also enabling environment related and more systemic, market-related barriers. *Investor-related financing barriers* include a lack of awareness and private ownership of the direct need to invest in (water-) landscapes. Consequently, it might take a crisis to get the private sector on board to finance (water-) landscapes. In addition, investors currently experience little flexibility to meet longer term investments, they are restricted by rules of capital to invest with an integrated approach. Even more challenging are the dynamics and other characteristics of landscape finance that are rather unattractive to risk-averse investors. Finally, the local private sector is insufficiently empowered to be a pro-active stakeholder, in both decision-making and financing regarding (water-) landscapes.

*Investee-related financing barriers* are their relative inability to look further than short-term, as well as the need to take a patient and flexible approach towards (water-) landscape investments, and convince investors to do the same. Moreover, it proves very difficult to develop a business case for a (water-) landscapes within the current system of short-termism, risk-averseness and lack of market value of social and environmental benefits, and available finance is often not accessible. *Enabling environment-related financing barriers* include general governance failures leading to unattractive investment climate, failing (water-) landscape governance and a lack of (water-) landscape governance mechanisms. Consequently, *market-related financing barriers* include the lack of market value of social and environmental benefits, the lack of market alignment on financing IWLM, several barriers that arise within the local (African) context and finally, systemic barriers that can be found across the global market.

Moving onto potential ways of addressing these barriers, *Investor-related financing solutions* include local-driven (water-) landscape investments in Africa, alignment with longer-term investment horizon for (water-) landscape investments and flexible approach towards multiple returns. Then, publicly financed (water-) landscape services should be sold for a market price. Investments should be partnership-driven, and potentially made through a land restoration or water fund. Here, development banks could play an interesting role in pioneering. *Investee-related financing solutions* include the development of business cases combining multiple returns and being adjusted to the specific context of the (water-) landscape. In addition, the co-facilitation of (water-) landscape investments in the long run by local partners as well as empowerment of the local private sector.

*Enabling environment-related financing solutions* include effective and enabling (water-) landscape governance, measurement tools to value (water-) landscapes and financing tools to invest in (water-)

landscapes. *Market-related financing solutions* include the institutionalisation of market value of social and environmental benefits and resulting market alignment across various financial actors as well as between financial and ecological actors.

Ultimately, this research contributed to the understanding of finance for integrated water and landscape management in Africa by providing some contextual, albeit generalised, perspectives on challenges related to the local (African) context, such as local (water-) landscape governance failures and a weak local (private) sector, as well as potential ways of addressing these, including the empowerment of local parties through cooperatives and community initiatives, to become active stakeholders in designing landscape solutions and contributing financially and in other ways. Finally, by putting the above-mentioned barriers and solutions within the context of transition theory, the market for investments in integrated water and landscape management in Africa has been analysed according to four different stages of sustainable market transition and potential steps that match the current stage of transition have been shortly discussed. Finally, ten principles to accelerate this transition to (water-) landscape finance in Africa, have been suggested. Ultimately, in order to finance a (water-) landscape, one will have to understand the landscape, for which well-functioning local parties are crucial. And in order to foster sustainable market transition, one will have to understand current transition phases and organize change accordingly.

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## **1.1 Relevance of research: apparent need to finance water and landscape management with integrated approach**

*‘The benefits of strong and early action far outweigh the economic costs of not acting’*  
(Stern, 2006, p. vi).

Early 2018, the world was shocked for a moment as the City of Cape Town, one of the most well-known cities on the African continent, announced its Day Zero, initially expected to be around April 2018 and now postponed to 2019, when its water tap would literally run dry. A drought had been going on in the Western Cape region since 2015, however in the early months of 2018 water depleted at an unmanageable rate. One can imagine its consequences, farmers seeing their land deplete and cattle die, a declining food production amongst a society heavily divided in rich and poor, citizens not being able to drink or wash themselves, and not a company or family in the region to be found that needed not to take any additional measures to cope with the costs.

Over the last years, understanding has rapidly grown of the direct impact and dependency of business on society and nature (Raworth, 2017). Responsible (sustainable) business is therefore an important key to increasing challenges of climate change and depleting resources. Given its urgency, the UN has called for a 2030 Agenda for sustainable development, including its supplementary 17 Sustainable Development Goals (SDGs). Sustainable development, hereby, is defined as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (Brundtland Commission, 1987). The challenges that humanity faces with water depletion and land degradation are amongst multiple that are to be addressed in the nearby time period as part of the SDGs. The functions of water and landscapes, however, in providing food and safe drinking water in addition to the lifecycles of natural ecosystems that they sustain, cannot be overvalued (Burkhard et al., 2012). Whereas in his statement as quoted above, Stern referred to climate change and the urgent need to take action by cutting emissions, the importance of not postponing any action may prove equally true for water and landscapes. There is no better time than today for a different approach to water and land management, an approach that does justice to the dependency of business and society on water and land, including healthy ecosystems.

Within this context, an integrated approach may allow for water and land to be managed in a way that meets the needs of present generations, whilst also guaranteeing a future with water and landscapes, a concept that is also referred to as intergenerational equity, meaning the right and assets, in this case water and land resources, distributed across generations (Howarth & Norgaard, 1992). This applies to the global market and in particularly in Africa, the focus region of this research, where an integrated

approach towards water and landscapes may help to solve multiple additional challenges of sustainable development (Shames & Scherr, 2015). This requires the involvement of the private sector to facilitate an integrated approach towards water and landscapes. However, as a large funding gap remains (World Resources Institute, 2017, p. 1) (Clarmondial & WWF, 2017), which is also referred to as the missing link between capital and sustainable (water-) landscape projects (Enclude, 2016), potential financing barriers require further investigation. Moreover, further research is needed to foster effective financial solutions for integrated (water-) landscape management (Clarmondial & WWF, 2017) (Enclude, 2016).

## **1.2 Statement of research question, aim and objectives**

To approach this gap or the so-called missing link, this research has investigated financing barriers for integrated water and landscape management (IWLM) in Africa. Through better understanding financing barriers within the African context, the development of best practices can be (further) encouraged, and finance streams can be more effectively directed towards sustainable (integrated) management of (water) landscapes. This research, therefore, has focused on the following research question:

*Which financing barriers for integrated water and landscape management in Africa exist and how can these be addressed?*

Consequently, the following research objectives were set out:

- a. To identify financing barriers for integrated water and landscape management in Africa;
- b. To identify roles in addressing barriers primarily at the level of investors (supply) and investees (demand).

In choosing land and water as main focus areas, this research also directly contributes to the achievement of SDG 6 (Clean water and sanitation) and indirectly to SDG 12 (Responsible consumption and production), SDG 13 (Climate action), SDG 15 (Life on land) and SDG 17 (Partnerships).

## **1.3 Cooperation with Netherlands Enterprise Agency**

At this stage of evolving understanding, a key contributor to addressing the funding gap in water and landscape restoration in Africa is the Netherlands Enterprise Agency (RvO), which is part of the Dutch Ministry of Economic Affairs and Climate Policy and aims to encourage ‘entrepreneurs in sustainable, agrarian, innovative and international business’. It supports entrepreneurs through grants, matchmaking with business partners, expertise and compliance with laws and regulations (Netherlands Enterprise Agency, 2018a).

One of its programs is the Sustainable Water Fund (FDW), which is a Public Private Partnership facility that aims to contribute to water safety and water security in developing countries (Netherlands Enterprise Agency, 2018b). As a result, RvO brings in long-lasting and valuable expertise on the latest developments concerning finance for integrated water and landscape management.

As part of FDW and in partnership with the Gabarone Declaration for Sustainability (GDSA), RvO currently investigates opportunities for a Community of Practice (CoP) amongst financial players in Africa for water landscapes (CoP FIIWRM). A Community of Practice brings together various parties with a common goal and or practice (Wenger, 1998) and provides a key instrument at critical stages of market transformation . The aim of this CoP would be to accelerate the transition to sustainable finance in Africa, through increased awareness and knowledge sharing between financial institutions on water and landscapes. This would lead to more capacity for and investments in sustainable water and landscape management. Cop FIIWRM is headed by dr. Caroline van Leenders, senior transition manager at RvO and also the internship coach for this research. With over 20 years of experience in sustainability, she has led several Communities of Practice, including CoP Financial Institutions and Natural Capital and CoP Finance and Biodiversity. By partnering with RvO, this research has brought together some preliminary findings on key barriers and (best) practices for finance for integrated water and landscape management in Africa. Outcomes of this research will be used to direct the focus of the CoP to real-life on-the-ground challenges as experienced by potential participants, ultimately leading to a contribution to sustainable finance for (water) landscape restoration in Africa.

## **1.4 Thesis roadmap**

Leading up to the research question of which financing barriers for integrated water and landscape management in Africa exist and, consequently, how these can be addressed, the literature review has examined the following elements: firstly, the need for integrated water and landscape management in Africa; secondly, how finance (public and private) has played a role in international development and how private finance is shifting towards more sustainable allocations; thirdly, existing research on finance for integrated water and landscape management in Africa and their potential financing barriers. Next, an overview of the research framework follows, including the methods for data collection and analysis being used, the reliability and validity of the method as well as potential limitations. Continuing, the findings are presented, followed by a discussion of their relevance, as well as their validity and limitations. In the concluding chapter, key outcomes of this research are summarized and implications and points for further research are being discussed.

## 2. Financing barriers for integrated water and landscape management: a literature review

## **2.1 Integrated water and landscape management in Africa**

### **2.1.1 The next crisis: water and landscapes**

Landscapes and water are subject to heavy degradation and pollution. Whilst these resources provide humanity most of its needs for livelihood, due to poor management, increased consumption and climate change, they are being degraded. This poses various threats as ecosystem functions are being undermined, agricultural productivity is being reduced and human well-being comprised (World Resources Institute, 2017, p. 3). According to the UN World Water Development Report, if pollution and population growth will increase at the same pace, freshwater availability will be strained to such an extent that by 2050 around 40% of the population will be in severe water stress (WWAP, 2014). Moreover, it is projected that the next global crisis (or crises) will be about water, varying from drought to very limited access to safe drinking water (World Economic Forum, 2015). A recent study by NASA adds that the ‘key environmental challenge of the 21<sup>st</sup> century may be the globally sustainable management of water resources’ (Rodell, et al., 2018, p. 1). Simultaneously, landscapes are being damaged to such an extent that recovery becomes costlier every day (Ferwerda, 2015). Within the Global Land Outlook, it is argued that around 20% of the earth’s ‘vegetated surface shows persistent declining trends in productivity, mainly as a result of land/water use and management practices’, showing the influence of current use and management of water and land. It also states that more than ‘1.3 billion people are trapped on degrading agricultural land’, having minimal to no alternatives for livelihood (UNCCD, 2017, p. 8). As a result, whilst the degraded land needs rest and restorative practices to recover, current practices keep the vicious cycle of degradation going.

### **2.1.2 An integrated approach**

At the core of the issue lies the need to do business – and manage resources - in an integrated way (World Resources Institute, 2017) as opposed to traditional landscape projects having a more competing way of resource management, favouring solely one or a few resources that create the largest profit – often on a short-term base, whilst on the long-term impairing the overall landscape (Sayer, et al., 2012) (World Resources Institute, 2017). Research shows that, as human activities increasingly affect climate and ecosystems, humankind is close in approaching what the Stockholm Resilience Centre calls the nine planetary boundaries within which can safely be operated (Rockström, et al., 2009). Crossing these borders will accelerate environmental change. Out of the nine defined boundaries, it is argued that three boundaries, the boundaries for climate change, biodiversity loss and changes to the global nitrogen cycle, have already been crossed – and thus require a radical shift in resource management to minimize further degradation and environmental change. The other six planetary boundaries include ocean acidification, stratospheric ozone, global freshwater use, land-system change, chemical pollution and atmospheric aerosol loading, some of which we are about to cross soon when no action is being taken

(Rockström, et al., 2009). In addition, freshwater problems, more than any other planetary boundaries, are largely regional. Understanding the planetary boundaries and managing resources in a way that supports the ecosystem-functions involved rather than exhausting them, will help to ‘avoid risk of disastrous long-term social and environmental disruption’ (Rockström, et al., 2009, p. 21).

Integrated resource management, therefore, focuses on the ‘coordinated control, direction or influence of all human activities in a defined environmental system to achieve and balance the broadest possible range of short- and long-term objectives’ (Cairns & Crawford, 1991). Within the discipline of water science, integrated water resource management (IWRM) is a well-known concept that stems from the late nineties and can be defined as a process which ‘promotes the coordinated development and management of water, land and related resources in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems’ (Global Water Partnership - Technical Advisory Committee, 2000). Within landscape management, several definitions of integrated approaches (ILM) exist (Sayer, et al., 2012), including one adopted by the UN Food and Agriculture Organisation (FAO) is defined an approach that ‘deals with large-scale processes in an integrated and multidisciplinary manner, combining natural resource management with environmental and livelihood considerations’. Moreover, ‘the landscape approach also factors in human activities and their institutions, viewing them as an integral part of the system rather than as external agents’. By viewing humans as integral part of the landscape, the wellbeing of humanity is inherently linked to the wellbeing of the system, which creates a direct connection with its wellbeing as opposed to perceiving human and ecological activities as two separate spheres, thereby distancing human activity and dependency. FAO continues underlining that the ‘root causes of problems may not be site-specific and that a development agenda requires multi-stakeholder interventions to negotiate and implement actions’ (FAO, 2012). Integrated water and landscape management then considers the multiple functions of (water) landscapes for ecosystem conservation, in addition to (food) production and livelihood improvement (Estrada-Carmona, Hart, DeClerck, Harvey, & Milder, 2014).

It is important to note here that to some water and land may be seen as two distinct types of resources, both requiring a specific treatment, whilst landscapes may also be seen as a set environment which often include water catchments or rivers and the like, and could also concern a water basin. In addition, it may be noted that freshwater use and land-system change ecosystems are closely connected (Rockström, et al., 2009) and both water and land suffer from the same context of mismanagement and increased consumption, leading to competing usage of resources as well as climate change (World Resources Institute, 2017) (UNCCD, 2017). For the purpose of this research, the overlap and perceived differences between IWRM and ILM are considered less relevant as the focus is more on building an

understanding of how to finance the integral management of all – human and ecological – activities within (water) landscapes.

Various understandings exist of managing resources using an integrated or so-called ‘landscape approach’ (Sayer, et al., 2012), focusing on managing a (water) landscape as a whole as opposed to one or a few separated elements of a landscape. To converse these understandings, Sayer et al. (2012) define ten principles that are now widely being used within landscape practices (FAO, 2018): Firstly, there needs to be *continuous learning and adaptative management*, as developments within a landscape are dynamic due to the nature of a landscape and decision-making needs to be informed at all stages. Secondly, a *common concern entry point* is key to have aligned objectives for multiple stakeholders. Thirdly, an understanding of the *multiple scales* e.g. higher level and lower level decision-making is crucial. Fourth, recognizing the *multifunctionality* of a landscape prevents competing use of a landscape. Fifth, a recognition, understanding and involvement of *multiple stakeholders* is necessary for a successful outcome. Sixth, a *negotiated and transparent change logic* is necessary to achieve a ‘mutually understood and negotiated process of change’ for the landscape. Seventh, *clarification of rights and responsibilities*, e.g. the ‘rules on resource access and land use’, form the basis for good management of the landscape. Eighth, *participatory and user-friendly monitoring* is key to facilitate shared learning and prevent power imbalances due to different information. Ninth, *resilience* should be built through actively understanding and addressing threats and weaknesses. Tenth, a landscape approach requires *strengthened stakeholder capacity* as participation demands certain skills and abilities (Sayer, et al., 2012, pp. 8351-8352).

One of these principles, recognizing the multifunctionality of the landscape, involves understanding the different ecosystems at a landscape level and accounting for the services they provide. Ecosystem services may be distinguished into provisioning services, regulating services, cultural services and supporting services (Smith, et al., 2013). Some examples of these services are the supply of water and food as provisioning services and the regulation of the air or the climate as regulating



Figure 1 Ecosystem services as defined by TEEB Europe (2018)

services. Payments for ecosystems (PES) are developed as means to put (monetary) value to the use of ecosystem services by paying the providers of the services, e.g. the landowners (Tacconi, 2012). It should be noted here that monetary value is but one form by which value can be expressed. Still, through



valuing ecosystems and their services (Hungate & Hampton, 2012), an understanding of the multiple needs and demands of a landscape can be build (Burkhard et al., 2012) – as well as an understanding of their impact. Simultaneously, when multiple stakeholders are involved, the question remains which entities should be the primary beneficiaries of these ecosystem services? Burkhard et al. (2012) suggest that often the ecosystem functions that are being used are accounted for, instead of their capabilities, referring to their potential supply. As a result, ecosystems are only managed and cared for in so far as their functions are being accounted, which is for example beneficial to the private sector, as opposed to their complete functioning, which could lead to disbalances and thereby not sustainable over the long-run.

One key challenge with PES schemes is that they primarily gain attention from public parties such as bilateral and international donor agencies from a developing perspective (USAID, 2007), whilst the private sector – potentially one of the most demanding users of ecosystem services – has developed minor interest for this payment scheme, thereby providing not only the challenge but also a large opportunity for financing integrated water and landscape management through PES schemes.

### **2.1.3 African context**

Given its partly tropical location and overall rich resources, countries within the African region are among the first to suffer from land and water depletion, and large populations directly depend on these resources for their livelihood (World Resources Institute, 2017). According to The Centre for Development Research (Bonn, 2015), land degradation has cost Malawi about 216 million euros between 2001 and 2009, while Kenia lost 1.1 billion euros and Tanzania 2.3 billion euros. Despite large investments annually made to improve business environments in Africa and meet various social and environmental challenges to stimulate economic growth, the need for restoration still increases every day (Ferwerda, 2015). In addition, the African continent is to projected to be one of the areas most affected by climate change, amplifying existing water stress and multiplying health vulnerabilities amongst others, and thereby in need of increased financial support and investments to address climate risks and adaptation capacity (Niang, et al., 2014).

Whilst Africa is faced with both the challenge and the opportunity of better (integrated) water and landscape management for sustainable development, including economic growth and empowerment of local communities (World Resources Institute, 2017), the enabling environment including its regulatory framework and governance needed to support this differs per country. In its most recent Doing Business ranking (World Bank, 2018), where regulatory reforms are being promoted as they contribute to the ability of the private sector to create jobs, as well as to poverty alleviation and economic growth, Sub-Saharan Africa ranks as the region with the highest number of reforms (83) and the region with one of

the highest shares of reforms (79%) over the last year. Malawi and Nigeria have joined the top-10 economies showing the greatest improvement over the last year. Simultaneously, (Sub-Saharan) Africa's high diversity is visible as it has the widest gap of 57.56% between its top- and low-performing economies for doing business as compared to other regions, with Mauritius at position 25 and Somalia at 190, whereas its score is compared to that of the top-performing economy or the so-called distance to frontier, overall or on that particular indicator being ranked at 100%. Consequently, it also ranks for the lowest average score of 50.43% for doing business (World Bank, 2018). Whilst these findings do not relate directly to the regulatory framework needed to foster finance for IWLM such as PES schemes (Heiner, Shames, & Spiegel, 2016), they do contribute to the overall business climate attracting investors and stimulating investees.

In addition, according to a Regional Analysis of the Corruption Perception Index of 2017 (Banoba, 2018), Sub-Saharan Africa shows again a diverse picture, where Rwanda and Cabo Verde are noted for strong improvements, and together with Namibia score higher than Italy, Greece and Hungary, whilst Botswana and Seychelles perform even higher than Spain. Cote d'Ivoire and Senegal are also making strong improvements, whilst in Liberia the situation is going worse and South Sudan and Somalia provide the absolute worst-case scenarios with place 179 and 180 on the list (Banoba, 2018). Ultimately, the diverse results indicate that every country in the African region requires a close-look and that multiple African countries may be characterized with both a high urgency to combat water and land depletion and an attractive investment outlook.

## **2.2 Finance [as a means] for sustainable development**

### **2.2.1 Sustainable finance**

'The main task of the financial system is to allocate funding to its most productive use' (Schoenmaker D. , 2017, p. 8). As a result, finance takes a very strategic position in deciding which usage will be (further) facilitated and which usage will be discouraged. Consequently, finance plays an increasingly important role in achieving sustainable development. Whereas traditionally, the 'most productive use' of finance has been defined as creating the largest shareholder value, a shift is taking place towards a broader model of creating the largest stakeholder value (Schoenmaker D. , 2017). Likewise, contrary to traditional finance for water and landscapes, which primarily focuses on managing one aspect of the landscape and disregards another (Enclude, 2016), sustainable finance takes an integrated approach, looking at economic, social and environmental returns (Schoenmaker D. , 2017). A concept that is often intertwined with sustainable finance is 'responsible investing', being defined as 'an approach to investment that explicitly acknowledges the relevance to the investor of environmental, social and

governance factors, and of the long-term health and stability of the market as a whole’. Moreover, ‘it recognizes that the generation of long-term sustainable returns is dependent on stable, well-functioning and well-governed social, environmental and economic systems’, which are also called the ESG-factors (UNEP Finance Initiative; UN Global Compact, 2018). Other approaches – as discussed earlier and often related - involve impact investing, ethical investing or faith-based investing. Simultaneously, some call it green investing (OECD, 2016), inclusive finance, SDG finance or development finance. The picture below by responsAbility (2018), provides an overview of several approaches towards sustainable finance.

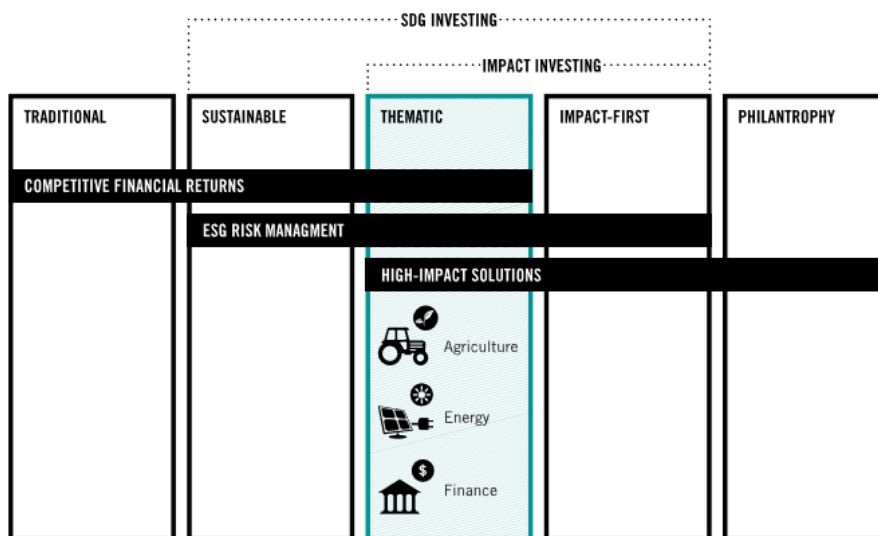


Figure 2 Various Approaches Towards Sustainable Finance (responsAbility, 2018)

On the left, Financial Institutions (FIs) are positioned who invest their money to make a maximum profit. In the middle, FIs may be found that consider ESG-factors as well as FIs that specifically focus on addressing particular themes or SDGs and FIs that let impact dominate their profit. Finally, there’s philanthropy at the very right side, providing essential financial flows through grants and other means purely to contribute to sustainable development. Traditionally, a trade-off is being distinguished between (financial) profit and (social and environmental) impact. However, recent trends show a development where (financial) return and (social and environmental) impact are being combined to reach the great impact on all dimensions, financially, socially, ecologically. In the same way, various financing mechanisms and combinations of financing mechanisms can be found, of which blended finance is most common, as it combines public and private capital to mobilize additional finance towards sustainable development (OECD, 2018). However, what is bringing each of these approaches together, is that ‘to ignore the ESG factors is to ignore risks and opportunities’ that have a strong influence on investment returns (Gianfrate, 2018). In other words, whilst some investors are pro-actively investing using a sustainable (responsible, integrated) approach, other investors gradually come to realise that the only way forward to have a long-term vision for their own financial flows is to take

into consideration the environmental, social and governance factors, thereby transitioning into active players for sustainable finance.

### **2.2.2 Origins of sustainable finance**

Some of the first signs of investments made with an incentive to contribute to development and create value trace back to the 18<sup>th</sup> century, where the Quakers and Methodist movements encouraged (their) people to use money as stewards, making sure that ‘our neighbour will not be hurt in his substance, his body or his soul’ as John Wesley, one of their preachers, promoted. As a result, they would not invest in practices such as slave trade or weaponry, neither were very high interest rates being accepted (Hummels & Leede, 2014, pp. 93-94). Near the 1960s and 1970s the movement of socially responsible investing took a new turn as activist shareholders, particularly in the United States, demanded change by using their shares in the fight against discrimination of black workers (Kleiner, 2008). During the first years of the 21<sup>st</sup> century, the movement was brought to a new momentum with the introduction of ESG-investing as well as the launch of the UN Principles for Responsible Investment (UNEP Finance Initiative; UN Global Compact, 2018). Whilst the movements initially started with an incentive to drive change or create impact, the more recent emphasis lies on the creation of a financial return, whilst taking responsibility for the social, environmental and governmental dimensions of the investment (Hummels & Leede, 2014). As a result, more and more financial institutions look for ways to combine profit with impact, to act beyond their direct scope (primary stakeholders) and take responsibility for the broader influence they have (secondary stakeholders) and can have (positive and negative externalities, impact) (University of Cambridge Institute for Sustainability Leadership, 2014).

A similar transition is visible with regards to the money already allocated to contribute to sustainable development, the so-called development finance. Following the discussions prior to the launch of the Sustainable Development Goals (SDGs), a renewed focus on the need to involve the private sector in addressing the SDGs was coupled with a strategy to attract the private sector by shifting from aid and ‘North-helping-South’ to aid & trade, with ‘all countries working collectively’. In addition to addressing a formerly more neo-colonial approach, this meant that instead of investing more (public) finance, (private) finance streams would be allocated differently and more effectively to create impact (European Union, 2015) (UNCTAD, 2016). In other words, whereas previously development finance consisted mainly of donations, now a shift is taking place of doing good whilst also developing a business case.

### **2.2.3 Classifications of sustainable finance**

In addition to the different types of sustainable finance that have been distinguished in the previous paragraph, three different levels of engagement with sustainable finance can be distinguished (Schoemaker D. , 2017), showing resemblance to the different trends mentioned earlier: a first level,

also called Sustainable Finance 1.0, classifies the financial institutions that avoid investing in projects with a very negative social or environmental footprint. This may be described as a more risk-driven approach to sustainable finance. In addition, this could be incentivized by legislation or public shaming. A second level, Sustainable Finance 2.0, concerns the financial institutions that internalize their externalities, or in other words, that take responsibility for their social and environmental impact, for example by calculating their true price and optimizing their process along the value chain to neutralize their impact. A third level, Sustainable Finance 3.0, involves financial institutions who explicitly decide to invest only in sustainable companies and projects. More and more financial institutions realize that their sustainability is dependent upon the health of their (real) assets as well the assets in which their money is being invested and the extent to which these are managed in a sustainable way.

Whereas each level of Sustainability may be incentivised to some degree by the risks that accompany unsustainable investments on both the short-term and long-term, Sustainability 3.0 financial institutions look at sustainability as an opportunity to increase their financial as well as social and environmental return (Schoenmaker D. , 2017). It involves different levels of system-thinking, where more and more, financial institutions globally come to realize their dependency on and responsibility for natural resources; in other words, where value and risk are being combined. Climate change, increased consumption and poor management of resources influence the stability and health of investments in natural assets as well as the health of the (financial) system as a whole. As a result, sustainable finance is both necessity from a personal risk-perspective and a responsibility from a systems risk-perspective.

## **2.3 Finance for integrated water and landscape management**

In order to move to sustainable finance, a transition is needed (Schoenmaker D. , 2017), in particular concerning finance for water and landscapes. This section will start by highlighting several developments that indicate a potential shift towards finance for water and landscapes, followed by a discussion of barriers that prevent further transition. Thirdly, these will be related to key concepts within transition theory.

### **2.3.1 A two-fold shift**

Two developments may be noted here. On the one hand, there is an increasing focus on the role of the private sector for sustainable development. At the same time, there is an increasing understanding of the dependency of financial institutions and the private sector as a whole on ecosystems (Ferwerda, 2015). For example, Eco Agriculture writes, ‘globally, agricultural investors could end up with some

\$11 trillion in stranded assets due to the degradation of natural resources necessary for sustained agricultural production’ (Shames & Scherr, 2015, p. VII). Further momentum is shown through the launch of the Sustainable Development Goals, as well as gatherings such as the Paris Climate Agreement (2015) highlighting the increasing importance of (private) finance for climate-resilient development (Buchner et al., 2014), in which line the One Planet Summit (2017) may also be noted. Simultaneously, the need to reverse from water and land degradation towards restoration using an integrated approach is increasingly gaining attention and even global momentum with initiatives like the Bonn challenge, launched in 2011, which aims to ‘bring 150 million hectares of deforested and degraded land into restoration by 2020 and 350 million hectares by 2030’ (Bonn Challenge, 2017) and the Paris Climate Agreement (Buchner, et al., 2014).

Simultaneously, sustainable financiers cannot do without solid business models to invest in. Thus, the transition to sustainable finance simultaneously requires a transition to sustainable enterprise. An example of this is the 4-returns model as pioneered by Commonland. The 4 returns-model suggests that a ‘successful ecosystem restoration partnership’ – taking the concept of integrated water and landscape management both on an impact (ecosystem approach, IWLM) and stakeholder level (partnership) – is based on the 4 returns of inspirational capital, social capital, natural capital and financial capital (Ferwerda, 2015). The alternative, not taking an integrated approach, can result in degrading the land, which may result in loss of jobs, economic loss, loss of fertile soils and biodiversity and loss of purpose (Ferwerda, 2015, p. 63). Research shows that landscape restoration, in turn, is a good investment, yielding 7 up to 30 times the initial investment in terms of economic benefits (Verdone and Seidl, 2017).

### **2.3.2 Research gap - financing barriers**

Whilst integrated water and landscape management provides promising business cases, in practice certain barriers exist in leveraging the finance available (Enclude, 2016), which are key to this research. Given the evolving nature of the paradigm around finance for (water-) landscapes, academic literature has covered little of the subject. Exceptions form recent publications around finance and natural capital and biodiversity, for example by Lambooy et al. (2018), confirming the relatively small interest of investors in water and land-use, amongst others, and lack of awareness of dependencies of the financial system on (water and land) ecosystems, as well as earlier mentioned literature around payments for ecosystem services. Simultaneously, various authors including Buchner et al. (2014) do acknowledge the increasing importance of finance for climate-resilient development, indicating a potential mismatch between the world of finance and conservation. However, further literature does not explicitly address the relation between and interest of the financial sector in (water-) landscapes, whereas several (business) actors already provide some insights that could prove valuable directions for further research, a problem that is often encountered as the relevance gap between research, ‘knowledge producers’, and

management practice, ‘knowledge users’ (Starkey & Madan, 2004). Some key insights are discussed below, and will be used to contrast findings through this research within the Discussion chapter.

For example, in 2015, KPMG published a report on impact investing stating that ‘impact investor interest in Africa is growing faster than the industry’s ability to effectively deploy this capital’. In addition, within their report *Roots of Prosperity: The Economics and Finance of Land Restoration* (2017), the WRI suggests seven key financing barriers. First, it suggests there is (still) a lack of market value of environmental and social benefits. Secondly, it mentions the size of the projects: most projects are too small to get the investments available. Thirdly, the time horizons need to be considered: projects that involve (water) landscapes often take at least 10 to 20 years to reach their optimal level to become financially viable. Fourthly, the risks of restoration projects are influential: projects with an integrated approach in current society involve restoration of ecosystems in one way or another. This comes accompanied with risk of the success of the project, there are too little best practices existing for investors to have confidence in a successful outcome. Fifth, there is a lack of access to finance for sustainable enterprises due to a disabling environment, in particular due to high bureaucratic costs for startups and high transaction costs between different countries. Sixth, unawareness of the need to invest with an integrated approach and use restorative (regenerative) practices lead to little money being allocated for this purpose. Finally, there is short-sightedness: incentives to degrade, to solely focus on one or a few aspects of an ecosystem that are primarily relevant to make a profit, outweigh incentives to restore, to focus on investing with an integrated approach to yield the highest profit on the long-term (World Resources Institute, 2017). Simultaneously, within its report *Scaling Up Investment & Finance for Integrated Landscape Management: Challenges and Innovations* (2015), EcoAgriculture Partners distinguishes between asset investments and enabling investments needed to attract (water) landscape finance. Again, 5 key challenges to attract both types of investments are being mentioned, the first being the absence of landscape criteria being incorporated in decision-making. Secondly, the need second to reduce the investment risk, in order to mobilize more private finance streams. The third challenge to success being the need to engage effectively with landscape partnership platforms. Fourth, the challenge of strategically linking financial flows within landscapes, and fifth, to monitor outcomes at the landscape scale (Shames & Scherr, 2015). Each of these finance barriers suggest that the market is not fully ready yet to make investing in IWLM mainstream and that an enabling environment is much needed to further support this transition (Enclude, 2016).

### **2.3.3 Transition theory**

To further understand the potential shifts and resistance shown by various market actors, one may refer to transition theory. Within his book, *Transition Management: Key to a Sustainable Society* (2003), Rotmans writes about transitions bringing about systemic change by replacing outdated societal systems

by new societal and sustainable systems. These transitions require time, courage and energy as they involve various forms of opposition as outdated systems are being broken down (Rotmans, 2003).

Applying this to markets, in order for a sustainable market transition to come about, Simons (2014) defined four stages that a market needs to go through, as depicted in the picture below. The stage of inception is characterized by a major crisis, a sense of urgency, and high-profile, yet isolated projects. The stage of the first movers involves smart industry players using their insights as competitive advantage, where little is being copied across the market. Within the critical mass stage, actors come to understand that change is only possible through shared action and market alignment, and thus multi-stakeholder initiatives evolve, which might result in scrutiny of laggard-players and increased transparency on potential solutions. Finally, the stage of institutionalization involves the mainstreaming of multi-stakeholder approaches as the ‘new normal’ and the punishment of laggards by legislation (New Foresight, 2018).

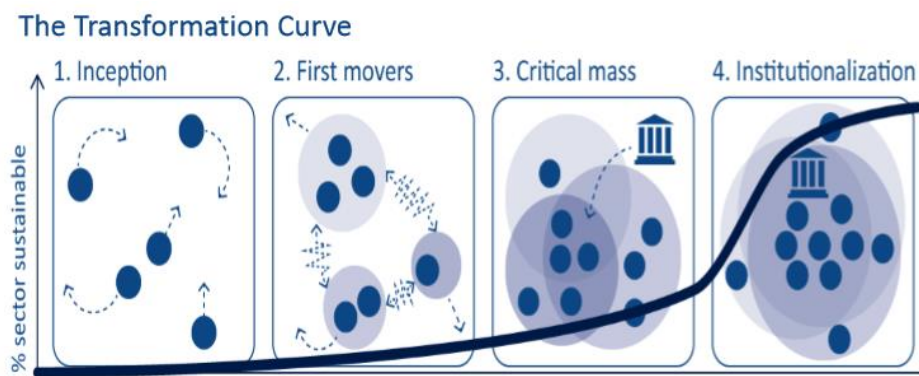


Figure 3 Transformation curve (Simons, 2014)

The depicted transformation curve has been used in several analyses of sustainable market transitions, including the transition towards natural capital finance on a Dutch and European level, which underlined earlier findings indicating the market at the stage of first movers, stage 2. In addition, a Community of Practice was being used as an instrument to encourage the transition towards critical mass, stage 3, by bringing together first movers to create strategic action on a systemic level (Van Leenders & Bor, 2016). In order to accelerate the transition to finance for integrated water and landscape management in Africa, further understanding is needed of the barriers for financiers and the market as a whole to engage with (water) landscape investments. Thus, the following chapter will set out how to further answer the research question, and the presented framework on market transitions will be used later in the discussion, to understand the different barriers and developments within the market and the potential ways of strategically using these to foster a sustainable market transition.



### 3. Methodology

### 3.1 Research design

As the focus of this study was to understand the barriers for financing integrated water and landscape management in Africa and discover how these can be addressed, the means to reach further understanding involved primarily non-numerical data and required ‘sensitizing’ of concepts as opposed to testing theories, which was one of the first reasons to qualify for a **qualitative research design** (Flick, 2009, p. 12). Consequently, the research involved the desire to understand a (relatively new) phenomenon and thus was based on an **interpretive** philosophy and required an **explorative, inductive** research approach, which is also characteristic for a qualitative research design (Saunders, Lewis, & Thornhill, 2016), and which is found particularly useful as knowledge is still highly evolving, to contribute to theoretical understanding of finance for integrated water and landscape management in Africa.

#### Research strategy

The research strategy that qualified well for the above-mentioned type of research was **case study**, as it facilitated in-depth research of the phenomenon of finance for integrated water and landscape management in Africa within its real-life setting (Yin, 2014), thereby allowing for – but not being limited to – interpretive, explorative and inductive research (Saunders, Lewis, & Thornhill, 2016). In addition, the type of research question involving ‘which’ and ‘how’, was especially suitable to be answered through a case study (Yin, 2014) (Hennink, Hutter, & Bailey, 2011). It formed also a recommended research strategy when the boundaries between the phenomenon being studied and the context are not always apparent (Yin, 2014). A case study proved also very helpful for the proposed type of research as it contributed to development of theory (Piekkari, Welch, & Paavilainen, 2009), which was especially in a new, developing academic field, such as finance for integrated water and landscape management in Africa, much valuable. Thereby, doing a case study allowed to explore differences and find the necessary themes and patterns (Yin, 2014). Finally, whilst some of these advantages might also overlap for other types of qualitative research, in particular grounded theory, opportunities given through the cooperation with RvO provided a more suitable context for case study research, rather than an ongoing redefining and continuous data collection process necessary for grounded theory.

#### Type of case-study and unit of analysis

Yin (2014) distinguishes four types of case study, namely single case in a holistic way or single-case in an embedded way and multiple-case in a holistic way or embedded way. Whilst a single case study looks at one unique case, a multiple case study looks at how results may be replicated and compared across various cases. The difference of holistic versus embedded is found in the *unit of analysis* being

used, with can either be holistic as one unit, such as an organisation, or embedded, involving multiple (sub-)units within the case. For this research, a **single embedded case study** was chosen, as it involved one case, namely the market for investments in integrated water and landscape management in Africa, and looked at the perspective of two different units of analysis, the first one being the financiers or financial institutions (FIs) operating in Africa, such as investment banks, retail banks, insurers, pension funds and development banks as the supply-side, and the second one being the investees, such as private sector companies and conservation NGOs, as the demand-side. Initially, the focus had been to select an even more specific area or type of land within Africa to focus on. However, given the limited information available on the topic as well as the limited scope of the research project, the geographic scope had been expanded towards the whole continent of Africa.

### **3.2 Data collection**

Data collection happened through **semi-structured interviews** with representatives from investor- and investee-parties as discussed within the previous section. Interviews formed a well-suited means for case study analysis (Yin, 2014) as they allowed for the mapping of expertise from representatives of investors and investees involved with integrated water and landscape management as well as the general exploration of the research domain to better facilitate directions for further research. Semi-structured interviews hereby provided the advantage of being flexible in allowing different approaches towards the research topic, whilst still ensuring that key aspects are being touched upon (Gill, Stewart, Treasure, & Chadwick, 2008). For each interview, a list of discussion points was used that allowed as starting and central point for further conversation, which can be found in the appendix.

#### **Demographics**

Semi-structured interviews were conducted with representatives from the selected investors and investees, being managers, portfolio holders, CEOs etc. Required for each participant from both units of analysis was the involvement in projects with an integrated approach towards managing (water) landscapes and the geographic area focused on being (a region within) Africa.

In addition, participants had an African or an international background, whereas the aim was to have a minimum of 25% of participants with an African background to ensure some representation of an African perspective. In total, 9 in-depth interviews have been conducted with participants, of which 5 represented investors from different financial institutions, 1 expert interview and 3 represented investees. Where necessary, follow-up interviews or conversations via other means were being held. In the table below, an overview of each of the interviewees is provided.

Table 1 Profiling of interviewees

Code*	Name Institution	Type of FI / investee	Type of investments (received)	Public / Private finance(d)	Position interviewee (African nationality)	African area of expertise
I1IO	Rabobank	Cooperative bank	Short-term loans, micro-finance, bridge-funding	Private	Head Food & Agri Partnerships (non-African)	Africa
I2IO	FMO	Dutch Development Bank	Short-term loans, micro-finance	Public-Private	Senior Associate, Agribusiness, Food & Water (non-African)	Africa
I3IO	DOB Ecology	Private foundation	Philanthropy, 20y	Private	CEO (non-African)	Sub-Saharan Africa
I4IO	FORM International	Forest asset manager	Impact investment	Private	CEO (non-African), CFO (non-African)	Africa
I5IO	IFAD	International Financial Institution	Fund	Public	Lead Technical Specialist (Water and Rural Infrastructure) (Zimbabwe)	Rural areas, developing countries Africa
I1EX	GPS-DEV; (former UNCCD)	Expert	//	Public-Private	Founder; (former Secretary General) (Benin)	Africa
I1IE	Living Lands	Investee	Funds	Public-Private	Co-Director (non-African)	South-Africa
I2IE	Conservation International	Investee	Funds	Public-Private	Senior Technical Management, Payments for Ecosystems, Africa Field Division (non-African)	Africa
I3IE	Commonland	Investee	Funds	Public-Private	Managing Director Commonland Landscapes (non-African)	South-Africa

\*Code meaning I (Interview) – I (Number Interview) – IO (Investor) or EX (Expert) or IE (Investee).

In order to ensure successful data collection, prior to the semi-structured interview a **profiling** of the FI and the respective representative happened as depicted above to allow for a clear understanding of both the position of the representative within the company and his/her engagement with the case. The semi-structured interview was used to **verify these findings** and provide the data necessary for analysis. For an overview of profiling questions as well as potential questions for the semi-structured interviews, please refer to Appendix 1 and 2.

## Practicalities

Semi-structured interviews were organised face-to-face or via Skype or phone. Before the start of the interview, consent was asked to record and analyse the data and potentially disseminate these within RvO and RSM. Means of recording were also provided. When possible directly after the recording, interviews were transcribed as well as further personal impressions be noted down. Once sufficient interviews had been conducted and the (internal) deadline has been passed, data comparison and analysis started.

When transcribing the interviews, they were continuously checked against the original audio recordings to ensure accurateness of understanding (Braun & Clarke, p. 88), after which they were send back to the interviewees to double check the understanding – e.g. when the recordings did not provide sufficient clarity, or when misunderstanding due to language barriers occurred. Only suggestions that contributed to and clarified the understanding of the sentences, were included in the final transcription, as to make sure to keep ‘true to its original nature’ (Braun & Clarke, 2006, p. 88).

### 3.3 Data analysis

For the next step being data analysis, an (inductive) **thematic analysis** was used as it allowed to identify patterns and recognize themes across a dataset (Braun & Clarke, 2006). Compared to other means of analysis, thematic analysis is often used for case study analysis (Yin, 2014) (Saunders, Lewis, & Thornhill, 2016). One widely used method for thematic analysis was proposed by Braun & Clarke (2006), suggesting 6 phases of thematic analysis, including:

1. *Familiarisation with the data*, which already naturally happened during the transcribing of interviews, and involved understanding the narrative of each of the interviews as well as making preliminary observations, which could be written down on memos;
2. *Coding of the data*, meaning to ‘identify a feature of the data’ that was of relevance to the analysis (p. 88). Here it was important to give attention to each part of the data, to make sure it was covered for the next phase, and not exclude any information when it not form a coherent picture together yet;
3. *Searching for themes*, which entailed looking at the different codes to see how to they fit together to ‘form an overarching theme’ (p. 89), whereas some codes continued as main themes and others as subthemes;
4. *Reviewing themes*, which involved firstly to see whether the different parts coded for a specific theme actually fit together, or whether they required a different theme, or do not fit into the analysis at all. Secondly, this phase involved to see whether the ‘thematic map’ created accurately reflects the content of the whole dataset, and whether additional re-coding was needed;
5. *Defining and naming themes*, meaning to identify what was being covered within each of the themes and set boundaries when needed, for example by creating sub-themes that supported the higher themes, and finally prepare them as working titles for detailed analysis;
6. *Writing up*, which involved to present the detailed analyses of each of the themes in a compelling manner, as to convince the reader ‘of the merit and validity’ of the analysis (p. 93),

for example by using vivid examples and in essence to make sure that they made an argument towards the research question, thereby going beyond just describing the data.

In addition, Braun and Clarke provide a valuable overview of criteria for good thematic analysis (p.96), as depicted to the right, which will be used to reflect upon the data repetitively during the analysis.

**Table 2** A 15-point checklist of criteria for good thematic analysis

Process	No.	Criteria
Transcription	1	The data have been transcribed to an appropriate level of detail, and the transcripts have been checked against the tapes for 'accuracy'.
	2	Each data item has been given equal attention in the coding process.
Coding	3	Themes have not been generated from a few vivid examples (an anecdotal approach), but instead the coding process has been thorough, inclusive and comprehensive.
	4	All relevant extracts for all each theme have been collated.
	5	Themes have been checked against each other and back to the original data set.
Analysis	6	Themes are internally coherent, consistent, and distinctive.
	7	Data have been analysed – interpreted, made sense of – rather than just paraphrased or described.
	8	Analysis and data match each other – the extracts illustrate the analytic claims.
	9	Analysis tells a convincing and well-organized story about the data and topic.
Overall	10	A good balance between analytic narrative and illustrative extracts is provided.
	11	Enough time has been allocated to complete all phases of the analysis adequately, without rushing a phase or giving it a once-over-lightly.
Written report	12	The assumptions about, and specific approach to, thematic analysis are clearly explicated.
	13	There is a good fit between what you claim you do, and what you show you have done – ie, described method and reported analysis are consistent.
	14	The language and concepts used in the report are consistent with the epistemological position of the analysis.
	15	The researcher is positioned as <i>active</i> in the research process; themes do not just 'emerge'.

Finally, the analysis has to be linked back to existing literature in order to generate and further develop theory (Saunders, Lewis, & Thornhill, 2016). In addition, whereas academic research has lacked so far in addressing financing barriers for an integrated approach towards water and landscape management particularly within the broader African region, several business actors, such as the World Resource Institute (WRI), FAO, EcoAgriculture Partners and Enclude, have already set to answer this question. Given their relevance, several of their findings have been shortly mentioned within the literature review and will be used within the discussion to contrast findings.

### 3.4 Research quality and limitations

With semi-structured interviews, the personal style of the interviewer can have much influence on the way the respondent answers. As a result, the interviewer needs to be aware of its own assumptions and ideas and make sure to reflect on its personal attitude during each interview. In addition, given the limited scope of this research, its purpose is primarily to investigate the topic and encourage the development of best practices for finance for integrated water and landscape management, rather than questioning the concept as a whole. Other limitations concern the decision for a case study, as findings might provide valuable only on limited number of other fields aside from finance for IWLM, such as transition management. Finally, time is a major limitation to fully develop the desired understanding of the topic.



Within this chapter, findings to the research question ‘Which financing barriers for integrated water and landscape management exist in Africa and how can these effectively be addressed?’ are divided over three key sections of financing barriers, financing solutions and market transformation, and subsequent sub-themes. Since elements of barriers and solutions overlap to a large extent, an in-depth discussion of these will be included within the financing barriers, whilst financing solutions will summarize key-requirements for investments in integrated water and landscape management in Africa.

In order to present the findings of the research for each of the three sections, the following framework has been developed, comprised of key elements resulting from the data that contain the barriers and solutions regarding investments in integrated water and landscape management in Africa. This framework has resulted from analysis of the findings, as well as reflection upon alternative presentations of markets, as presented by Lucas Simons (see Appendix III) and Creative Commons (see Appendix IV).

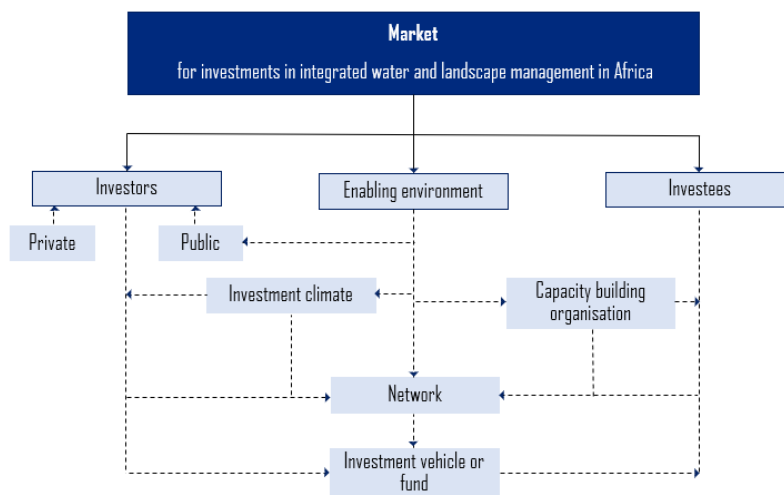


Figure 4 Framework showing relationships between key-actors based on findings

The framework suggests that the *market for investments in integrated water and landscape management in Africa* consists of three main elements, the *investors*, the *investees* and the *enabling environment* needed to foster investments, whereas the investors consist of both *public* (governmental and philanthropy) and *private* actors. The enabling environment contributes to the *investment climate* needed to attract investors, and also provides *capacity building organizations* (such as Technical Assistance Vehicles) to support investees to become investment-ready. In addition, it presents the need for a *network* or physical place, where investors and investees can meet, as well as an *investment vehicle or fund* to facilitate the transaction.

Whilst it should be noted that each of the findings is never limited to one of these elements and rather forms part of an interconnected system, each of the following sections will discuss outcomes based on



their (primary) relevance as investor-specific, investee-specific and enabling environment-specific barriers or solutions. Findings that transcend these elements and concern the market as a whole, will be discussed as part of market-specific barriers or solutions. Findings regarding investment vehicles or funds, (access to) networks or capacity building organisations will be presented under each of the four categories, depending on their primary relevance. Findings regarding the investment climate will be discussed as part of the enabling environment as far as they concern the direct functioning of the government, whilst findings regarding aspects that result from free-market behaviour, will be grouped under market-specific barriers or solutions. In appendix V, a coding tree of each of the 1<sup>st</sup> and 2<sup>nd</sup> order codes is presented. Finally, before further diving into the results, the interviewees' understanding of investing in integrated water and landscape management is presented as a starting base.

#### **4.1 The baseline: understanding investments in (water-) landscapes**

Three different remarks can be made upon the understanding of respondents of investments in integrated water and landscape management. Firstly, the terms 'integrated approach', 'holistic approach', 'landscape approach' are being used intertwined. Whenever each of these terms is quoted within the following sections, it refers to the same understanding of taking a systems-perspective on financing (water-) landscapes, considering the social, environmental and economic aspects altogether.

Secondly, an integrated approach is often referred to as an ecosystem approach in combination with a stakeholder approach as it also considers the role of humans (and human actors, such as enterprises) within the landscape. Both the ecosystem approach and the stakeholder approach are seen as an integral part of the integrated approach and will be presented likewise. In addition, respondents have linked an integrated approach often to the concept of climate adaptation, as it involves elements of an integrated approach, such as sustainable use of water resources. Climate adaptation has formed part of the political agenda for sustainable development for a longer time and may thereby be seen as some sort of predecessor of the integrated approach. As a consequence, lessons learned from climate adaptation practices may provide useful for integrated water and landscape management.

Thirdly, there is a general agreement concerning the understanding of finance of (water) landscapes, whereby 'a (water-) landscape being financed' is seen as the sum of economic and non-economic activities within a (water-) landscape. The extent, however, to which ecosystem services and the like are thereby seen as economic activities, has been debated, which will be further elaborated upon within the sections on barriers and solutions, and reflected upon within the analysis.

**In sum: understanding investments in (water-) landscapes**

- Integrated, holistic and landscape approach refer to the same;
- Integrated approach includes a multi-stakeholder approach and an ecosystem approach. In addition, an integrated approach is in some cases linked to climate adaptation, which practices may provide useful lessons for integrated water and landscape management;
- (Water-) landscapes are defined as the sum of economic and non-economic activities within the landscape.

**4.2 Financing barriers**

Financing barriers may be divided over *market-specific barriers*, covering systemic barriers to transition, *enabling environment-specific barriers*, covering barriers related to (water-) landscape governance, *investor-specific barriers*, covering barriers within the position and (current) abilities of investors, and *investee-specific barriers*, covering challenges for investees to become investment-ready as well as access to networks and finance.

**4.2.1 Market**

## 1. Lack of market value of social and environmental benefits

Firstly, findings emphasize the lack of market value of social and environmental benefits as key barrier for investing with an integrated approach in (water) landscapes. Respondent *I1EX* states that ‘*the environment is not conducive, because understanding of the price of water, of how much it costs and what is needed to keep it available both in quality and quantity is not around. We have been for too long too used to take water for granted*’. As a result, the respondent later continues, ‘*the right value is not put on water, and the use of it is not reassessed, and most of the systems are just about business as usual*’.

As a consequence, a market failure exists as on the one hand, large companies, particularly MNEs, are not being held accountable for their use of (water) resources, also known as the free riders-problem. Moreover, because of their market power, (large) companies are not threatened on the short-term by depleting resources. Respondent *I3IO* mentions, ‘*companies like Heineken or Coca Cola, which are using large amounts of water for its production, those are gigantic enterprises. When things go wrong [resources deplete] at place X, whether it is the Cape or the Kafue Flats in Zambia, those companies, they don’t go bankrupt. They just find another place, or when they put some effort in, they slightly change their production processes*’.

On the other hand, because of the need for integrated resource management, organizations working at a landscape level, or even local communities, are firstly doing the work that no one is paying for and

secondly, they indirectly improve the financial productivity of the landscape. Respondent IIE mentions a group of women in Niger who were doing ‘*hard work under the sun*’ of ‘*farmer managed nature regeneration*’ and states that they ‘*were doing the hard work, restoration of the land was on the way, but no one could put a price tag on the work of the women and the impact of restoration regarding water availability and water quality, which of course would not allow them to make sure that, part of the benefit of making water available on the field will be provided or paid to the women doing the work*’. Respondent IIIIE, when explaining its business structure, adds that ‘*all these tasks [of restoring the landscape], no one is paying for that. No one from a commercial perspective would pay for this. The benefit is indirect, because what we do is preparing the landscape to be investment-ready*’.

To conclude, respondent I3IE states that whilst ‘*financial capital [is the] easiest form of capital to measure and the one that traditionally in our capitalistic society has the most power, (..) it is over-valued relative to the knowledge and the skills of farmers and to the land itself, or whatever, it doesn’t value the right things. Its only one form of capital that’s needed to effect landscape level change*’. In other words, taking an integrated approach is only possible when different forms of value, financial, social and environmental, are being properly valued.

## 2. Lack of market alignment on financing integrated water and landscape management

A second barrier, partly resulting from the previous barrier, is the lack of market alignment on financing integrated water and landscape management. In other words, different actors, in particular those with a financial or ecological background, have different views on financing integrated water and landscape management. Respondent I3IO explains, ‘*take landscape finance or climate finance. People who understand landscapes, have no clue about finance. People who understand finance, have no clue about climate or landscapes, the essence of it. That’s not a bad thing, everyone has their own expertise. They’re just different worlds. That is still the largest barrier. When you also bring in the political perspective, different political interests, then you have the three large powers, all pulling towards a different side, all together*’.

As a consequence of these different worlds, instead of taking an integrative approach, combining economic, environmental and social benefits, different actors within the market set different priorities, pursuing their (short-term) self-interest rather than a (long-term) shared interest, resulting in competing land-uses as opposed to an integrated view of multiple uses of land working together. For example, respondent IIIIE states that instead of restoring a piece of land, the private sector ‘*rather sees that we turn it into a concrete crate, so that the water easily flows to the dam and no loss is being made*’. Without a common vision on the needs and benefits of investing in integrated water and landscape

management, there will never be sufficient funding available for (water) landscapes, nor will degradation and depletion of water and landscapes be prevented. Respondent E3IO adds that *‘ultimately, in order for that match-making to be successful, between finance and landscape people so-to-say, of course they will have to talk with each other, but [more importantly], they will have to understand each other’s interest. The moment that they will see how interests of the other group matches with their own interests, then something will happen’*. Concluding, in order for the market to facilitate investments in (water) landscapes, alignment between different actors on a shared vision of the multifunctionality and benefits of the landscape is key.

### 3. Barriers related to local (African) context

Whilst one by no means can speak of one African market, there are certain shared barriers across multiple African countries that influence the investment climate for integrated water and landscape management in Africa. These barriers involve the food-crisis that preceded the financial crisis in largest parts of Africa, as well as persistent hunger, influencing the preference for use of landscapes for food production (often accompanied by land degradation) above integrated water and landscape management.

It also concerns the power imbalances resulting from the free-market capitalistic system, where large (often international) MNEs control large parts of the continent, whilst the local private sector has little chance to mature, as well as its roots in colonialism and trends of neo-colonialism. As a result, risks of limited resources are of less concern to large multinationals and more to the weaker local private sector. In addition, those with influence on the continent are not necessarily the ones with most understanding of the local (African) context. This is problematic to financing (water) landscapes, as it is largely local-context driven, and can only be successful once the local context and local stakeholders are rightly addressed and involved.

In relation to the position of the local private sector, there’s often a lack of market linkages for land-owners or farmers. Market traders abuse these situations by controlling large parts of the value chain, thereby enforcing low prices and stimulating short term-thinking and short-term resource management, which opposes an integrated, long-term approach towards (water-) landscapes. In sum, the former food-crisis and persistent hunger as well as power imbalances resulting in a weak private sector and short-term thinking and resource management, add to a complicated investment climate for (water-) landscapes in Africa.

### 4. Barriers related to general market trends

Finally, there's general market trends that are not specific to the African continent but just as much to the global market for investments in integrated water and landscape management as a whole. These firstly concern current agricultural trends, where smallholder farming degrades the landscape and water scarcity increasingly becomes a pressing issue on the agenda of local communities. As respondent *IIIO* mentions, pollution through *'emissions, inefficient use of water, poor use of chemicals by which residues remain in the ground, and so on, all of it is per produced quantity of food the largest with smallholder farmers'*. However, even though awareness of smallholder farmer pollution is widespread, given the food-crises in Africa, it remains a first yet short-term solution for many (illegal) farmers, which has to be addressed in order to facilitate (water) landscape investments.

A second general trend is gender inequalities. Although not necessarily limited to Africa, respondent *IIEX* states that *'women in Africa and in my country, they make a big share of the workforce in agriculture, both in production and in transformation. Sometimes they are also farmers, so they farm their land. But what we have noticed is that only some 14 percent of women farmers own their land. If they are only 14 percent, why are they more than 50 percent of the workforce and only 14 percent of them own the land? You can imagine that they will not be able to invest in the land for its use that will be conducive for sustainability'*. Moreover, until women become equal stakeholders as part of the integrated approach, successes are limited.

**In sum: market related financing barriers**

- A lack of market value of social and environmental benefits forms a barrier for creating a viable business case for (water) landscapes. Consequently, a market failure arises as larger companies are not threatened (yet) by their use of depleting resources, whilst local organizations or communities are doing the work no one is paying for;
- A lack of market alignment, in particular between financial and ecological actors, but also within the financial sector, results in different priorities for different actors within the market, pursuing their (short-term) self-interest rather than a (long-term) shared interest;
- A complicated investment climate in Africa arises due to the former food-crisis and persistent hunger as well as power imbalances resulting in a weak private sector and short-term thinking and resource management, add to a complicated investment climate for (water-) landscapes in Africa.
- Global market trends such as land degradation through agriculture, increasing water scarcity and a lack of gender equality require interventions in order to foster (water) landscape solutions.

#### **4.2.2 Enabling environment**

Considering several local (African) markets for investments in integrated water and landscape management and acknowledging that each African country may form an exception in one way or another, respondents acknowledge three primary ways through which an enabling environment for investments in integrated water and landscape management is not being delivered.

### 1. General governance failures leading to an unattractive investment climate

Firstly, whilst a stable investment climate is key in attracting both local private sector and international parties as investors, respondents acknowledge that the majority of Africa's governments are known for its bureaucracy, in addition to corruption, political instability, fragmented governments and – linked with that – decentralization. Whilst the first, bureaucracy, complicates the service a government could provide investors and investees in making 'doing business go smoothly, the last, decentralization, results in an ineffective execution of government policies on climate adaptation, which is closely linked to integrated water and landscape management, and which is often the responsibility of local government authorities. Respondent I1EX states, *'the fact also that decentralization in some of the [African] countries is still an issue. If the local governance system is not really well conducive for integrated landscape management, then it won't work. There's a need for a clear connection between political decentralization and the need to bring the previous [local governance system] at the landscape level to work together, they need to ensure that even the financial flow, including the financial flow for climate finance is clearly brought at a local level and used at the local level. Why am I talking about decentralization? When you look at adaptation, the adaptation mandate and work is largely part of the mandate of the local government. The local government is not empowered, capacitated including with the resources needed, to do the work and build the governance structure at the local level, it won't work'*.

### 2. Failing (water) landscape governance

As a result, most governments fail in providing effective (water) landscape governance. Firstly, (water-) landscape government requires an enabling legal framework, including putting in place the necessary requirements for finance, such as land ownership. Respondent I1EX provides the example of cashew-nut trees in Benin: *'Benin, if I am not mistaken, is the fifth producer of cashew-nuts. We have the ambition to move up on the ranking. But if we do so by using more land and therefore encrusting on the pristine ecosystem and forest land, we will further build up the vulnerability of the country. But one thing that we should therefore know is that cashew-nut trees are trees that could be used more efficiently, because they [cashew-nut trees] are prone for that, [namely] to restore degraded land in places where it can be used for it. With the ambition of becoming a bigger producer of cashew nuts, we can use it in the context of restoring degraded land, provided that those lands are marked, that access to it is clear, that land ownership is in place, then it can be done. So you see there are many other barriers, land governance is another barrier'*.

What this example shows, is that economic and environmental development can go hand in hand, and even mutually strengthen each other, when geographical planning, including an integrated vision for (water) landscapes, is provided and successfully communicated towards the (private) parties involved. However, marking of the land and ownership are often not in place, or loosely distributed. Respondent I2IO adds, *‘in terms of regulation, permits are at this point in time given out too easily, and then once a company gets a permit, it thinks, now we have access, there’s no problem. But because you have access, it doesn’t mean that the resources there will last forever. It is still a bit loose or free-form and the costs are not high enough for the company to feel it’*. As a result, existing landscape governance still provides more incentives to degrade land as opposed to restoring land. In addition, respondent I1EX explains the lack of human capacity to support (water-) landscape projects, stating *‘the understanding of the degradation versus restoration is blurred, or not available in mapping of degraded land. The people of the mapping of the status of the land are often not available, so people cannot be advised on what to do when the land is being degraded and what to do to maintain when the landscape is not in a good health, and what to do to restore’*.

### 3. (Water) landscape governance mechanisms are insufficiently in place.

Respondent I2IO mentions that *‘in Africa, all governments have a certain vision for development, but do they take an integrated approach in that vision? If the government isn’t taking an integrated approach, the private sector has a bit of a handicap, as then they have to fund a lot of the studies themselves. When you talk about maturity, they don’t always have those resources. For example, the environmental and social impact assessments. It is a collaborative effort from the government and the private sector, they are co-dependent’*. As this shows, landscape governance requires a collaborative process between the public and private sector. However, in order to enable the private sector to step in easily, governments should facilitate (the development of) landscape mechanisms. Examples of these are payments for ecosystem service (PES) systems or certification standards. Whilst developments regarding carbon measurement tools have become relatively developed, measurement tools for water and landscapes still lag behind. Respondent I2IE adds, *‘you have a standard for carbon, [but] to my understanding I don’t think that there’s a standard for watersheds or watershed tax, how do you certify. I know there’s a project in Uganda where they sell carbon credits’ referring to certified emission reduction credits, being sold to compensate for emission and to be used to restore degraded forests (UNFCCC, 2018). So, they put a premium for a buyer to say, 2 dollars more, because they value the contribution that the carbon [credit] provides as watershed protection. But up until now, I think people are [still] developing another standard to be also able to do this, but it is extremely tedious and technical to go through’*.

**In sum: enabling environment related financing barriers**

- General governance failures lead to an unattractive investment climate as the majority of Africa's governments are known for its bureaucracy, in addition to corruption, political instability, fragmented governments and – linked with that – decentralization;
- Consequently, there is a failing (water) landscape governance in place, where in particular its legal framework, including putting in place land ownership, geographical planning and a shared landscape vision, lack, resulting in a governance that favors resource depletion;
- The necessary (water) landscape governance mechanisms, such as measurement tools and payments for ecosystems for (water-) landscapes, are lacking, creating another barrier for the private sector.

**4.2.3 Investor**

1. Lack of awareness and private ownership of the (personal) need to invest in (water-) landscapes

On the one hand, financial institutions increasingly realize their dependency on the availability of natural resources. As respondent I2IO mentions, *'the integrated approach is, from the company perspective, how can you mitigate the companies' contextual risks, lower their dependencies, so their own footprint, and then take it to the next level, outside their boundary of operation into stakeholder management, into the wider landscape and wider basin of water management'*. On the other hand, this only concerns a small group of (impact) investors. In addition, awareness of the risks and shared interest of financing with an integrated approach is often limited to sustainability officers within finance institutions, resulting in internal alignment challenges on (water-) landscape visions. Moreover, investing in integrated water and landscape management is often seen as a governments' responsibility. As a result, investors do not take pro-active steps to address increasing challenges of (water) landscapes.

Philanthropic actors and donors are currently already more involved with (water-) landscape investments; however, these investments often don't yield any direct financial returns and over the long-run don't provide sustainable finance streams. As a result, without more involvement of private financiers, financing resources for (water-) landscapes are running out.

2. It takes a crisis to get the private sector on board

As consequence of limited ownership of the degradation of (water) landscapes and depleting resources, respondents suggest it may take a crisis – or multiple – before understanding and a sense of urgency grows of the dependencies of business and society upon water and landscapes, for economic sustainability in the long-run. As respondent I3IO affirms, *'before a real crisis occurs, that will force*



*private investors or the private sector to fundamentally change its thinking [about its use of water and landscapes], some more train wrecks are needed, to be honest’.*

Respondent I2IO adds that *‘when you look at the country contextual risks [of Sub-Saharan Africa], you see an abundance of water resources. But when the country is hit with a drought, that affects production, harvest, farmers, livelihoods. Only when there’s a crisis, the farmers start asking how we can prevent this going forward. And that is even one level below the companies. It takes quite some time for it to materialize and implement an actual intervention. It takes a crisis to get people aware and [asking questions]. That is unfortunate, as we see that water is becoming a pending crisis in climate change that will materialize much sooner. It basically takes a crisis to create that awareness’.* Since the costs of a crisis outweigh the action that still can be done, it is important to increase awareness within the financial sector of its dependencies and self-interest in preventing risks of stranded assets due to depleting resources, for example through the development of (water-) landscape risk tools and supporting companies to shift their (portfolio) management of water and landscapes to a more integrated approach.

### 3. Investors have little flexibility to meet longer term finance

Secondly, the term required when financing (water) landscapes may vary largely, depending on the context and state of the landscape. Moreover, different activities within the landscape require different financing structures. When the landscape is very degraded, it may take a minimum of 10 and usually around 20 years before certain investments become financially viable. This is contrary to standard terms of up to 5 years maximum within financial institutions. Even when there is understanding of the need to finance (water) landscape activities with a longer term, investors are usually restricted on terms by their institution’s mandate.

This is not only characteristic for the private sector, as even within public funding, terms of 3 to 5 year are generally used. Respondent I4IO suggests that *‘this is because they’re all bankers, who because of their education are fixed on such a term, and would get very nervous when they would see their cash flows back [only] after 20 years. Every time when I talk with these people [decision-makers regarding fund allocations], they are all bankers, whilst the people who should decide on the projects could very well be people with some more understanding of the risks and the long-term. It doesn’t matter, for each fund it is the same. And then another exit after 8 years. Why?’*

Another complication for governmental funding is the 4-yearly rotation of politicians, allowing for limited flexibility in terms of commitments to longer terms. This not only withholds investees to access long-term public funding, but also forms a barrier in terms of stimulating the private sector to cooperate

for a longer period, as it further complicates the pay-back confidence that investors desire when investing for a longer term. Moreover, when private investment takes a longer term, interest rates can yield up to 30%, which is largely unattractive to investees when projects only after 20 years start to deliver a financial return.

#### 4. Restricted by rules of capital to invest with integrated approach

Thirdly, even when there is willingness to invest in (water) landscapes, in addition to a lack of flexibility in terms of the investment horizon, other rules of capital restrict the private sector to become involved. Investors (especially banks) are often required to test each investment against alternative costs of capital and deliver a financial return of 10 to 15%. As a result, the financial capacity of (private) investors for (water) landscapes is very limited. However, given the core of integrated water and landscape management to consider economic, environmental and social benefits all together, profit-maximization can never lead to satisfactory neither financially sustainable solutions on the long run, and thus forms a barrier for the private sector to come on board.

#### 5. Landscape finance characteristics need to become financially attractive

Fourthly, there's several characteristics of landscape projects that can make them – at first sight – financially unattractive. This is firstly the dynamics of the landscape which create multiple insecurities in terms of financial outcomes. Whilst the alternative – investing in a project, where no management of the larger landscape is involved – may lead to even larger insecurities within the context of depleting resources, the dynamics of the landscape form an important barrier. In addition, the size of the project is often too small for large investors to become involved, an issue that is not only problematic for integrated water and landscape management, but is known to multiple areas of impact investing, as it provides portfolio managers with more additional tasks as compared to handling one or two large projects. Simultaneously, as investments in (water-) landscapes are known to be largely context-driven, opportunities to scale investments are less likely. In order to attract private sector funding, as respondent I110 mentions, *'either the government should do a lot of pre-work, or the development of economic models should be pre-financed by paying a consultancy for example'*. In other words, more enabling investments are needed in order to attract asset investments.

#### 6. Local private sector is insufficiently empowered to be a pro-active stakeholder

In order to create sustainable finance structures for (water-) landscapes, private sector involvement is key. However, in most African countries, the local private sector is insufficiently empowered to take a pro-active role in financing (water-) landscapes. Respondent I1EX confirms the key involvement of the private sector, stating *'when I say private sector, I do also account the local SMEs, that it is in place, and what they do, like these women restoring land, and therefore securing more water, that they get [compensated for], the benefit of water being and being increased as a natural capital, then we can be in business'*. Their lack of empowerment and consequent involvement may be due to multiple reasons. Firstly, their lack of bargaining power as compared to MNEs active in the landscape leaves them in a weaker position. Secondly, their social and environmental contributions, such as human capacity and specific landscape expertise as well as ecosystem services, are not being equally valued. Thirdly, but not least, their lack of organisation structures such as cooperatives or community initiatives leaves them in a weaker position.

**In sum: investor related financing barriers**

- Only a small group of (private) financiers is aware of its dependency on natural resources, leading to a lack of ownership of the need to invest in (water-) landscapes;
- It takes a crisis to achieve the scale of awareness needed to invest in (water-) landscapes;
- Different activities within the landscape require different financing structures and accompanied terms. Investors usually don't provide this much-needed flexibility for optimal and sustainable outcomes;
- Rules of capital such as alternative costs of capital and high interest rates restrict the private sector from investing with an integrated approach;
- The dynamics of (water-) landscape investments and its – often too – small sizes lead to unattractive investment opportunities. To counter this, enabling investments are needed;
- The local private sector – whilst critical for a landscape approach – is insufficiently empowered as stakeholder, as its financial contribution is often valued less compared to that of MNEs and its social and environmental contributions are not equally valued. In addition, its lack of organizational structures such as cooperatives, leaves them small and divided.

#### 4.2.4 Investee

1. Never able to look further than short-term – or finance long-term yourself

As a consequence of the 3 to 5-year terms used by both private and public investors, investees are never able to look much further than such periods. Their need for a grace-period, up to 20 years, before (water) landscape projects will reap a financial return, is unattractive for investors. As a consequence, investees have to personally finance the first 10 to 12 years before banks may become interested. Respondent I4IO confirms, *'we have discussed the term [of the investment], forestry takes 20 years, so one way or another, in order to get a bank interested, you need to finance the first 10 to 12 years as banks have a horizon of 8 years. As long as that problem is not being solved, you will always have to pre-finance*

*with equity*'. This money is often not available. The alternative in the case of exception, receiving investments with a long-term horizon, leads to high interest rates, which is just as unattractive.

## 2. (Water-) landscape investments require patience and flexibility

Firstly, the long investment time horizon also forms a barrier from an investee perspective, in that it requires patience and flexibility, in addition to the need for patient capital. As respondent I3IE explains, *'by its very nature, taking a landscape approach requires flexibility. You have to recognize that, at least starting from scratch, what happens is that there's a lot of testing and experimentation needed, you've got to test concepts within a community, you'll have to test concepts before investors, and that testing actually requires financing and it requires a level of patience and also a level of understanding from the providers of that finance, that there isn't a (one) solution [yet]*'.

Moreover, flexibility is also needed in the ways of attracting investors, as respondent I1IE adds: *things are changing constantly (...). Five years ago, we had to write we are focusing on ecosystems, now we are setting up a water fund to attract different means of financing. We are constantly innovating*'. Simultaneously, it requires patience in convincing investors, in particular governments, to come along. Respondent I3IE mentions, *'to say, okay let's put 2 million euros towards providing upfront flexible funding to landscape restoration projects, which may result in an investment case but also just be pure grant funding without a direct financial return expectation. That is one conversation. For a government, the conversation can be really different. That doesn't mean that it is better or worse, but what they need, as a government, because of its responsibility to its citizens, it [being the investee] sometimes to have more of a track-record and examples before they can step in*'.

## 3. Very difficult to develop a business case

Whilst a business case is needed for a sustainable finance structure, within the current context of a lack of market value of environmental and social benefits, it is very difficult to derive a business case out of a (water) landscape. This is partly due to the dynamics of the landscape, the need for interaction with various landscape actors, and the specific context of the landscape. Respondent I3IE explains, using an example of a particular area they work in: *'there may be distrust of companies' type-structures, particularly outsiders coming in with a great business idea, but ultimately that leads to a no jobs for local people or forcing out local companies, but also diverting of resources, natural resources. So, there can be distrust. I haven't lived there, I can only speak from what people have told me, so it's a little bit second hand, but to go into that landscape and drive landscape level change and restore that landscape with a straight business-based only approach, wouldn't work I don't think, because people*

*don't always trust the business-based approach'*. As a result, not only is every (water) landscape finance structure dependent on the local context, it is also very difficult to replicate models as each context requires adaptation.

#### 4. Available finance not accessible

Through recent summits, such as the Paris Agreement, funding has been dedicated to the restoration of (water) landscapes. However, in practice, because of a lack of financing mechanisms, the money is only allocated towards short-term, often climate mitigation, projects. In other words, it can not be leveraged in a way suitable to (water-) landscape projects. Respondent I4IO states, *'the misleading factor is – in Paris we also gave that commitment in 2015 – that development banks and government investors say, right, there's 15 billion for climate investments. So, you apply for reforestation, and then they say, yes, no, wait a minute. We don't have money for that, because then we need to wait for 10 years. The political commitment is there, only the mechanisms meeting these long-term investors aren't. Actually, that is strange, when we look to the Netherlands, take the Delta works, we have a history here. We just know, every year, and we do this for some 50 years or longer, we need to invest in those dikes. Per definition you won't get any cash out of that, nothing. But still we do it, because we know, when we don't, the land behind [the dikes] is worthless. So, this [the need for reforestation] forms a risk, and it is not being invested in'*.

#### 5. Other complications

Finally, some other complications that are being highlighted by respondents are the lack of human capacity and expertise to take on an integrated approach towards (water) landscape investments. In addition, the financial capacity of investees to do the pre-work, the lack of access to the right networks, the size of the project, and the risks of the projects, as it involves a lot of experimenting and testing and local adaptation, further complicate the development of (best) practices.

#### **In sum: investee related financing barriers**

- Limited term-flexibility of investors leaves investees with short-term horizons. The alternative, to self-finance projects, is often not an option;
- Patience and flexible financing structures are needed to achieve optimal project outcomes;
- Whilst (water-) landscapes offer multiple opportunities, a business case cannot always (directly) be derived;
- Available finance cannot always be leveraged in a way suitable to (water-) landscape projects;
- Investees are often not sufficiently capacitated to take on (water-) landscape projects.

### 4.3 Financing solutions

Similar to the financing barriers, financing solutions can be divided in market-specific solutions, enabling environment-specific solutions, investor-specific solutions and investee-specific solutions. Each of these solutions is largely interrelated, and may well be summarized by respondent I1EX, commenting that *‘if we are successful in making sure that adaptation benefit mechanisms are put in place, in every country, and the private sector again taking into account, that when I say private sector, I do also account [for] the local SMEs, that it is in place, and what they do, like these women restoring land, and therefore securing more water, that they get [compensated for], the benefit of water being and being increased as a natural capital, then we can be in business’*.

#### 4.3.1 Market

##### 1. Market value of social and environmental benefits and market alignment

Combatting (water) landscape degradation, resource depletion and economic inequalities is only possible in a market where economic, social and environmental benefits are being recognized and valued. Moreover, considering each of these three dimensions will ultimately lead to a more sustainable business case and financial return in the long run. As respondent I3IE states, *‘recognizing that not every part of the landscape should be financially productive, but that does not mean that it does not contribute to financial productivity of the entire landscape. You need effectively to have let’s say water resources, or trees on a landscape, which improve the security of your financial return elsewhere in the landscape’*.

When there is market alignment, the sector will be able to pursue a shared interest of integrated water and landscape management. This involves radical transparency, on the impact that different actors have within the landscape, and accountability, to show that the money goes where it has been allocated for. It also involves initiatives that allow for joint teams or temporary exchange of personnel, in order to bridge the understanding gaps between the different worlds. Respondent I1IE gives the example of a local bank that invests in their project, which is largely a donation *‘because they find it important, and also because they want to understand the system better, as they don’t have any ecologists or people who understand the landscape’*. By providing investors, in addition to regularly (financial) updates, with understanding of progress on social and ecological returns, mutual understanding grows and (water-) landscape projects can be taken on in partnership.

#### **In sum: market related financing solutions**

- Recognition of social and environmental benefits in addition to financial value will allow for the market alignment within the financial sector as well as between financiers and conservationists to pursue a shared interest of (water-) landscape projects.

### 4.3.2 Enabling environment

#### 1. Effective and enabling (water) landscape governance

In order to incentivize investors to become involved with integrated water and landscape management in Africa and support investees to become investment-ready, the government will have to provide an effective and enabling (water) landscape governance. Effective in that it combats distrust against existing governance practices of corruption, political fragmentations leading to competing visions on landscapes, and decentralization, leading to converging and confusing policies around (water) landscapes. In addition, it should be effective in that it combats bureaucracy, which is to both investors and investees one of the largest barriers in doing business. Secondly, (water) landscape governance should be enabling in that it provides the necessary requirements for investors to enter the market, such as an existing legal framework, including land ownership so that investors have an opportunity to do business with legal entities (land owners, farmers, communities) who are closest to the landscape. By empowering local governance entities, responsible for (climate) adaptation and (water) landscape management, with a shared vision on integrated water and landscape management, clear directions can be given concerning the market opportunities in each area. In addition, enabling (water) landscape governance policies should target the stakeholders most directly involved in (water) landscapes, such as the local communities, land-owners and SMEs, thereby empowering the local sector to become effective stakeholders in decision-making and financing of (water) landscapes. Respondent I1EX adds, *‘we also need to make sure that the smallholder farmers, the small users at the landscape level, they should be the number one to be targeted and to be centre-stage in whatever is being designed as enabling investments for putting the environment right and for having the institution doing the right thing. And also facing out sometimes the subsidies that are actually not facilitating the efficient use of water. This is what is needed: governments must be in the frontline to do that, the enabling environment, that should be pro-poor and pro-land users and pro-SMEs, and especially at the landscape level’*.

Another important element of the enabling (water) landscape governance should be the de-risking of the private sector in investing in (water) landscapes. For this, new instruments are needed as respondent I3IO states, *‘governments, despite their great rhetoric, have actually understood very little how risks for private investors can be lowered through public interventions. Their policies, their toolbox of interventions to do so, is quite empty’*.

#### 2. Measurement tools to value (water) landscapes

In line with the acknowledgement of market value of economic, social and environmental benefits, measurement tools are needed to support the valuation of these benefits. Examples of these are payment

for ecosystem (PES) schemes. Whilst in the area of carbon, already multiple validation tools have been developed, a similar development is needed for water and landscapes. Governments and public institutions may well take the lead in this. Respondent I1EX mentions an initiative by the African Development Bank, explaining that *‘a proposal submission is being made by the African Development Bank to the UNDC (?) process, hopefully it will make it to the book. The call for it is I think essential. It is ensuring that as we have had the CDM [UNFCCC Clean Development Mechanism, which includes the carbon credits earlier mentioned], as a development maker that has put in place mechanisms to incentivize the pricing of carbon and then has been successful in bringing the private sector on board. We need mechanisms that will also make sure to capture, even though it is complex, the benefit of adaptation, [as] they are not one, they are many. In mitigation, one benefit is easy to monitor and price, carbon. In adaptation we also have carbon, we have water, we have many different benefits’*. Respondent I2IE mentions SD Vista as a complementary standard of non-profit organisation Verra on previous standards on Carbon and Climate, Community and Biodiversity. However, problematic is the different standards being developed, as the respondent adds that *‘I know the one through Verra because that is the one I have been mainly exposed to. If it is private sector investment, or if it is the IFC [International Finance Corporation, part of the World Bank], they have their own standards that you then again would have to meet. I wouldn’t know’*. Again, the government may well take the lead in creating market alignment by setting standards in terms of measurement tools.

### 3. Financing tools to invest in (water) landscapes

Thirdly, financing tools should be developed to encourage the financial sector to transition towards an integrated approach of investing in (water) landscapes. Developments are on the way. For example, respondent I5IO refers to a working group of FAO on financing mechanisms, stating *‘what FAO did was establish a global framework on water scarcity. There’s a Working Group there called financing mechanisms, I’m a member of that working group. What we are trying to do with that working group is to look at sustainable finance. We are trying to look at it and I already started to use it in our projects. Not necessary the corporate skill, but in the water project that we do, we are basically looking at it in this way: firstly we say, what value do we intent to create for the local people. Once we identified that value, we say, how do we finance the activities we need for this value to be created. That financing, previously we would only look at our own funding, which is very public funding, and the community contributions, which you can consider to be equity funding. But now we are more and more trying to ask ourselves, is there a person, can we if this is short-term funding, can we get the private sector involved and to what benefit?’*



**In sum: enabling environment related financing solutions**

- Effective and enabling (water-) landscape governance is key to create investment opportunities for (water-) landscapes. These include the necessary legal framework providing land ownership and geographical planning, as well as empowerment of the local sector and de-risking of the private sector in (water-) landscape investments;
- Similar to what has been done for carbon, measurement tools need to be developed to value (water-) landscapes, such as PES schemes, as well as the implementation of market-wide standards as opposed to competing standards;
- The creation of flexible financing tools and structures that suit (water-) landscape dynamics.

**4.3.3 Investor**

## 1. Locally-driven (water-) landscape investments in Africa

Whilst (international) investors and entrepreneurs often come with a vision of what a (water) landscape could look like, initiative and invitation from local (African) parties is the key starting base to ensure ownership and success on the long term. As respondent I4IO mentions, *‘it starts with an analysis of the current land-use, then the interests and desires and needs of all stakeholders. In fact, you can draw it all on a map, and analyse it with the capacity of the soil and water etc., and from there you develop such a vision holistically’*. And later on, *‘I can imagine that there’s some sort of a basis model [for a (water) landscape], there’s always some elements that come back. But the challenge is, how to adjust that to a specific country or area, as you need to be very sensitive to how they are used to do it. Without that, you get nowhere. Then they say, that’s not how we work. We are used to do things like this and that. So that is what you should add your main elements to’*. As a result, elements such as local culture become equally important in designing (water-) landscape investments. The alternative, operating driven by an (inter-)national set agenda may result in risks of conflicting land-uses by local owners.

## 2. Alignment with longer-term investment horizon for (water) landscape investments and flexible approach towards multiple returns

Firstly, investors should align with a longer term investment horizon needed for specific activities within (water) landscapes. For this, the necessary investment vehicles or funds should be developed as discussed later on. It is important that both the public and the private sector acknowledge the need for a longer period for (water) landscape restoration and organize funding opportunities accordingly.

Secondly, in line with the dynamic nature of a (water-) landscape, investors, in particular public financiers, should develop a more flexible attitude towards financial, social and environmental objectives being achieved. As respondent I3IE explains, *‘What you should see, you have a set of criteria and objectives at the start, but they should never be fixed. Because [if] in a few years’ time, you [are] still trying to meet the objectives within that criteria, you’re ignoring the learnings. That for me is a*

*key, the need for flexibility and an openness to learning, which will allow you, maybe not in the next 3 or 5 or 10 years, to ultimately have better outcomes, because you are adapting to the local circumstances or the landscape circumstances, rather than trying to fit everything back into the pre-conceived notions that were there at the start of the project, (...) sometimes what you think would be easy, is really hard, and what you think would be difficult, moves very smoothly’.*

### 3. Publicly financed (water-) landscape services should be sold for a market price

Simultaneously, interventions provided by the government and public actors in developing a healthy (water) landscape, for which the private sector may directly reap benefits, should not be marketed for free, but rather be compensated for by the private sector, as they improve the financial productivity of the landscape elsewhere. With these compensations, the public sector in turn is increasingly able to provide a sustainable finance structure for social and environmental (water-) landscape interventions on the long term. Hence, the importance of market value of social and environmental benefits to make such a structure financially viable.

### 4. Partnership-driven

Landscape approaches can only be successful when they are financed in partnership with all stakeholders at the landscape level, involving investors (public and private), governments (national and local), private sector (international and local), farmers and local communities. There needs to be a sense of respect and equality between investors and investees, as respondent I3IE suggests, *‘particularly where all our landscape level projects are at now, this is still quite early stage, but if we can say that we’re working in partnership with investors or funders, let’s say, project developers and people that live in the landscape, in particular farmers, and you are interacting as peers, that is super important for me’*. The respondent continues, *‘it is not that organizations delivering landscape-level projects have all the answers. Particularly if you are an outside organization that is then entering into a different landscape, socially and ecologically as well as the financial systems may be very different. And it is also recognizing that it is needed to do on the funding side that the funders don’t have all the answers either. But they do have something to offer, more than just money’*.

Secondly, there needs to be a successful partnerships between the governments and the private sector. Whilst piloting projects are often organized in cooperation with funding structures from donors such as governments and philanthropic actors, it should not be expected that after successful outcomes, the private sector will naturally step in and follow its example. Rather, it is important to involve both the public and the private sector from the start in developing (water) landscape visions and financing

structures to build understanding and ownership of its complexities and opportunities, whilst at the same time ensuring a continuous involvement from the public sector to finance activities within the landscape that even on the long term will not reap any direct financial benefits. This will provide the private sector with the necessary confidence to step in and become involved for a longer term. As a result, the money that currently already been allocated for (water) landscape restoration projects by public and private parties, in line with commitments from political, public and private stakeholders through the Paris Agreement, the SDGs and similar initiatives, will also be leveraged for that purpose.

Thirdly, and equally important, is between the (international) private sector and the – often less empowered – local private sector. As stressed earlier, by inviting the local private sector to take part – both as experts of the landscape, as well as potential contributors in the long-run, as soon as they profit from the financing structures resulting from the partnership, and thereby become able to contribute (even with a small amount) on a regular basis to the continuation of the finance streams at the (water-) landscape level. Here, it is key for local parties to organize themselves as cooperatives, or similar structures, to obtain legal status and thereby become a (more) reliable entity for (local) banks and investors to do business with.

##### 5. Investment vehicles or funds: land restoration / water fund

What is needed are investment vehicles or funds focusing on (water) landscapes, which are suitable for the type of structures a landscape / restoration investment requires: a mandate to take a long time (up to 20 years) investment term horizon, flexibility in the ways different returns are being accomplished and allowing experimenting to adjust to the landscape as much as possible, as it will guarantee a higher level of success. In addition, the fund should allow for partnerships, and accompanied financing structures such as blended finance, where private parties fund the larger investments that contribute to the landscape approach and also reach an economic benefit on the short term, such as irrigation systems, whilst public parties provide funding for the non-economic activities that indirectly contribute to the financial productivity of the landscape. Simultaneously, the structure should allow for PES (Payment for Ecosystem Services) schemes, where governments are responsible for the management of ecosystem services, whilst private parties pay premiums for their use of these resources. Finally, the structures should allow for a central role of local parties, where local communities and the local private sector takes a key role as to ensure the long-term ownership of the solution, and where the local private sector, or in case of a community ground, the local communities are empowered to contribute to the solution, even in a small way and at a later point, as soon as their personal businesses and projects are gaining revenues due to the renewed (water) landscape investments.

## 6. Development banks could pioneer (water-) landscape funds

For the development of such funds, particularly in Africa, development banks could be suitable vehicles to scale up investments in (water-) landscapes, as it matches their sustainable development mandate and long-term institutional change focus, as well as the expertise they could bring in in matching different investees and investors and creating blended finance structures. Moreover, they could take the lead in developing such a fund, which should be done in partnership with other financial institutions such as (local) banks. Simultaneously, the development of such funds is found to be an important responsibility of the government and should therefore also be encouraged from their position. In addition, governments and public finance actors are not restricted by their need to make a financial return of 10 to 15% on their investments, and are therefore in position to create a fund with the parameters needed to fit in long-term (water-) landscape projects.

### **In sum: investor related financing solutions**

- Initiative and ownership by local (African) parties should be the starting base to ensure success on the long term;
- Investors should align with a longer-term investment horizon needed for specific activities within (water-) landscapes. In addition, financiers should develop a more flexible attitude towards financial, social and environmental objectives being achieved;
- Public interventions contributing to a healthy (water) landscape by which the private sector may directly reap benefits should not be marketed for free, but rather be compensated for by the private sector, as they improve the financial productivity of the landscape elsewhere;
- Landscape approaches can only be successful when they are financed in partnership with all stakeholders at the landscape level, governments (national and local), private sector (international and local), farmers and local communities;
- Necessary investment vehicles or funds such as land restoration and water funds should be developed that accommodate the dynamic nature of (water-) landscapes;
- Given their mandate to contribute to sustainable development, development banks could be suitable to pioneer (water-) landscape funds in Africa and leverage the enabling investments needed to bring in more private capital.

### **i. Investee**

#### 1. Business case combining multiple returns adjusted to the specific context of the (water-) landscape

In order to attract the private sector, the development of business cases to achieve multiple returns on a financial, environmental and social level, is crucial. Examples of business cases for (water-) landscapes mentioned are regenerative farming, such as Wide Open Agriculture, which is being combined with landscape restoration and inspiration of local farmers to become involved, whilst also being stock-listed, inviting private sector (impact) investors to join in. In addition, agroforestry, where agriculture and forestry are being combined to increase biodiversity and strengthen the overall landscape, and rainwater harvesting, where rainwater is collected to be reused within (water-) landscapes, may form examples of

combing financial with environmental benefits. A fourth example includes sustainable intensification, meaning that the sustainability (of agriculture) is improved by intensifying the resource use per produced quantity of food. As respondent I11O explains, *'smallholder farmers should become more productive, not by using more land or deforesting more land, particularly not that, but by using the existing land much better. This means investing in soil restoration, crop rotation, knowledge development, market linkages, access to finance, technology, irrigation, etc. This is a mainstream vision of how ENS, environmental and social, go very well together, by actually increasing the economic component'*.

Another example is combining financial with social returns, for example by addressing social inequalities by creating work opportunities for disadvantaged groups of people. The key is to create a successful financing structure by adjusting it to the specific characteristics of the landscape, including all the stakeholders that form part of the landscape. As respondent I3IE explains, *'those interventions, social interventions for example, are not going to deliver a financial return, not directly, not a direct cash-return. So, you need a different structure within the landscape, in this case like a not-for-profit, where you take donor money and in the long term, it should contribute to overall financial value in a landscape as well but really, the sources of the money are going to be very different'*. Ultimately, as respondent I3IE continues, *'all parts of every activity [intervention] in the landscape, whether performed by a for-profit or not-for-profit, or whether in relation to natural, social or economic capital, it's all interrelated and you have to have that system working together. Otherwise, you create inequality'* and that is never sustainable.

However, again, adjusting to the landscape is the most important element to create a successful business case and financing structure. Respondent I3IE adds, *'that is why for different aspects of the landscape you need different types of money, because different types of interventions are required. Ultimately, I believe that if you can contribute to improving the livelihoods of disadvantaged people, ultimately that will deliver financial value to the entirety of society. But as an intervention, it is not going to deliver to an investor through direct cash-returns. So, you need to have those different types of money to address the different types of interventions that when you put them all together, in the language of Commonland, that results in the 4-returns on an overall landscape level. If you just look at the business, obviously that is going to be more skewed towards the financial return, if you look towards the non-profit, it will be more skewed towards natural capital or social capital. When you put it all together, the picture means that each of those returns (...) are being delivered'*.

## 2. Co-facilitation of (water) landscape investments in the long run by local partners

Investees should, one way or another, become active stakeholders in both the decision-making and the financing of (water) landscapes in the long run. For example, by giving back to the fund they received finance from once they start gaining revenues. As respondent I5IO suggests, *‘even in the beginning, when you are getting access to this fund, you need to make a commitment to pay something. To be honest, I do not worry about how much it is, it is a principle. You are benefiting from a fund which people are putting together’*. That way, sustainability of the fund in the long-term can be ensured, and it creates additional ownership on a local level of providing the solution towards financing (water) landscapes. In addition, as mentioned earlier, solutions need to be local-driven as opposed to local-imposed. As respondent I4IO explains, *‘I do believe in the stakeholder-approach (...), but only initiated and by invitation of people from the area, and not the other way around, absolutely not’*.

### 3. Empowerment of local private sector

In line with the previous statement, it is important for local parties to become organized as an important stakeholder, for example through cooperatives and local community initiatives. This will allow local parties to make a (stronger) statement and be (more easily) recognized by financial institutions as essential legal parties to do business with. In order for the local private sector to take such a position, it is important for these parties to be not only financially supported (for example through micro-credit), but also to be supported with human capital (in the form of advice on various (legal) aspects).

#### **In sum: investee related financing solutions**

- Business cases should be developed that are accommodated to the specific context of the (water-) landscape and aim at achieving multiple returns as opposed to only financial return. Moreover, the financing structure should fit the context of the landscape and the specific intervention(s) it concerns;
- (Water-) landscape investments should be co-facilitated by local partners from the start, it should be their initiative-driven and co-facilitated by local parties, by whatever means available as to increase the local commitment and long-term sustainability of (water-) landscape investments;
- In order for the local private sector to take such a position, it is important for them to be organized for example through cooperatives or community initiatives as to make a (stronger) statement and be a recognized party to do business with.

## **4.4 Stages of market transformation**

In addition to the identified financing barriers and potential ways of addressing these, respondents have suggested several insights regarding transitions that resemble to the different stages of market transformation as mentioned within the literature review, varying from the stage of inception, to first

movers, to critical mass mobilisation and to institutionalization. Each will be shortly mentioned here, and further reflection upon within the discussion.

#### 4.4.1 Inception

Indications of the stage of inception, characterized by a major crisis, a sense of urgency, and high-profile, yet isolated projects, may be found in respondents' comments regarding the involvement of the political and private sector with an ecosystem approach – and later on integrated, or landscape approach – towards natural resources. Respondent I3IO described developments starting some 40 years ago, when *'the ecosystem approach came higher on the political agenda. In the 80s some treaties have been negotiated. That came to a (temporary) political height in 1992 at the Rio Summit in Rio Janeiro. This resulted in the Climate agreement, as well as the Convention on Biodiversity. The Biodiversity agreement is fully grounded in integrated thinking, an ecosystem approach. It approaches the question of natural resources within the living environment in an integrated way, in contrast to the climate convention'*. However, following *'its first wave of popularity and political attention in the mid-90s'*, its popularity declined – at least in the Netherlands – as respondent I3IO explains, referring to the (Dutch) political climate, *'we have become more neo-liberal, more market-minded, cutbacks, those entities have all had their assignments [to economize]'*.

However, whilst within the ecosystem approach, *'man – or human activities were always a bit of a second thought'*, *'the landscape approach is now very fashionable'*, as *'the term landscape is understood by many as one where man also has a place'*. Continuing to where we are now, *'there [referring to current increased (political attention)], I see that wave (movement), also pushed forward by public attention around climate [change]. The [Global] Landscape Forum is organized in parallel with the Climate COP. If you are not so closely engaged, people always think that it is the same. But the landscape forum finds a place somewhere in the same city where consuls or parties of climate [sit] because there's already a lot of people coming together, there's political attention, there's media attention etc. etc. So, there has been a wave (movement), [from] ecosystem to landscape. Within the slipstream of the climate agenda, the landscape approach also gets some more attention'*.

#### 4.4.2 First movers

The stage of first movers is characterized by smart industry players using their insights as competitive advantage. Moreover, instead of creating a shared advantage, little is being copied by other industry players (Simons, 2018). Findings suggest that nowadays very few private investors are found that prove the profitability of (water-) landscape investments. In terms of investees, however, respondents are a

bit divided on how to define first movers and consequently, whether they see first movers operate or not. Some mention (water) landscape projects that are 100% funded by private investors as first movers, and state that they don't know of any parties in that field. Others suggest that (water) landscape projects are not possible without public funding, and thereby see parties such as Commonland as first movers. Again, others see similar projects with their (majority of) funding from public parties as artificial economic return, as there's so much donations or public money involved, that it is almost impossible to not expect some financial return.

When our definition is limited to a private investor financing a (water-) landscape project with an integrated approach, few examples such Wide Open Agriculture, which combines regenerative farming with land restoration and recently got listed on the Australian Stock Exchange, may be mentioned. However, when we take a (water-) landscape as the sum of economic, environmental and social activities within a set context that are being financed by various public and private actors, through blended and coordinated funding structures and in cooperation with landscape platforms, local community initiatives and or local cooperatives, other examples such as the SAGCOT initiative can be mentioned, which is a partnership for sustainable business in the Southern corridor of Tanzania, accelerating sustainable investments for agriculture in the region (SAGCOT Centre Ltd., 2016). In addition, various activities such as sustainable intensification initiatives that Rabobank supports could potentially form part of the landscape approach.

In addition, first movers may be found at the level of conservation agencies such as Conservation International, initiating an accelerator fund to support investees to become investment-ready and thereby attract more private finance towards (water-) landscapes, bridging the world between conservation and finance. However, with increased understanding comes competition, as findings suggest that different standards and measuring tools are being implemented. For example, in the case of payments for ecosystems, respondent I2IE suggests, *'I know the one through Verra because that is the one I have been mainly exposed to. If it is private sector investment, or if it is the IFC, they have their own standards that you then again would have to meet'*. As a result, investees face the consequences of having to familiarize themselves with various standards in order to qualify for investments. Consequently, as findings suggest, what is needed is the coordination of financing structures and stakeholder cooperation that would increase overall returns on the landscape and prevent competition through sustainable initiatives.

As respondent I3IO added, *'we need to realize that fundamental global changes can only be initiated by a relatively small group of powerful players. In many instances those aren't governments but companies. However, this has been the case for a long time already, and within the last 100 years we have already had quite some transitions, so it is very well possible'*.



#### 4.4.3 Critical mass

The critical mass stage is characterized by multi-stakeholder initiatives, scrutiny and transparency. Respondents insights show elements of multi-stakeholder initiatives as well as the need for critical mass and transparency, suggesting that the market is at a transition point from first movers up to critical mass.

Respondents firstly mention several initiatives, such as the Global Landscape Forum, the Working Group Financial Mechanisms by FAO, the Climate Finance Assessment as well as the CoP FIIWRM as multi-stakeholder initiatives that aim to create a truly sustainable market for investments in integrated water and landscape management, rather than building best practices which impact remains limited to the initiator itself. In addition, respondents mention the need for a shared database, the need for a fund that is open to different (water) landscape projects, and the desire to share insights to inspire other parties to follow, suggestions that indicate the interest from within the sector to pursue systemic change with multiple actors.

In addition, respondents acknowledge that there is not sufficient critical mass to bring the transition forward. and that currently, it is only an elite group of people, the *crème-de-la-crème* that is coming together at the interface of finance and (water-) landscapes, both on a market level as within companies internally. Respondent I3IO describes it as follows, *‘the moment you say, what, how, when can the two do something together: that is not only when they see their own interest in that cooperation, or in understanding each other, it is also, and that is the second ingredient for success, that a critical mass arises so-to-say, mass between those different components in the financial world. So that there is a movement, both pension funds, private equity investors and project developers, you name it’*.

#### 4.4.4 Institutionalization

The stage of institutionalization is characterized by multi-stakeholder approaches that are being perceived as the ‘new normal’, and the punishment of laggards. All respondents acknowledge the need for institutionalization in order to go forward. They mention systemic changes, such as the creation of market value of social and environmental benefits as well as continuous (water-) landscape governance to ensure financing structures on the long-term, for which the government takes on a key role and will need institutionalization in order to go forward.

#### **In sum: stages of market transformation**

- Signs indicating the stage of inception include several water and drought crises that have passed over recent years, as well as the political momentum for climate as well as landscapes that has been building up for a longer period, and currently receives a new wave of attention.
- Signs indicating the stage of first movers include several market initiatives such as new PES-standards and incubator programs, aiming to attract more private investments, first mover

landscape companies such as Wide Open Agriculture Ltd, landscape investments for sustainable intensification

- Signs indicating the stage of critical mass may be found in an increasing desire to mobilize larger parts of the financial sector, stakeholder initiatives such as Finance Working Groups and the upcoming CoP FIIWRM and interest to bring together and mainstream achievements by several frontrunners.
- Signs indicating the stage of institutionalization have not been found, although its need is expressed abundantly by respondents.



In the previous chapter, several financing barriers for integrated water and landscape management in Africa have been identified as well as potential ways of addressing these barriers, in order to incentive (water-) landscape investments. This chapter will firstly reflect on these findings, and secondly relate these to the concept of transition management, using Simons’ framework of sustainable market transitions (Simons, 2014). There, barriers and solutions will be placed in a new understanding of the current stage of market transition, and further steps can be defined, resulting in ten principles for acceleration towards a market for (water-) landscape investments.

### 5.1 Financing barriers

This section will set out to see how financing barriers as identified by the findings in the previous chapter relate to literature. A more elaborate explanation of each of the barriers can be found in the previous chapter.

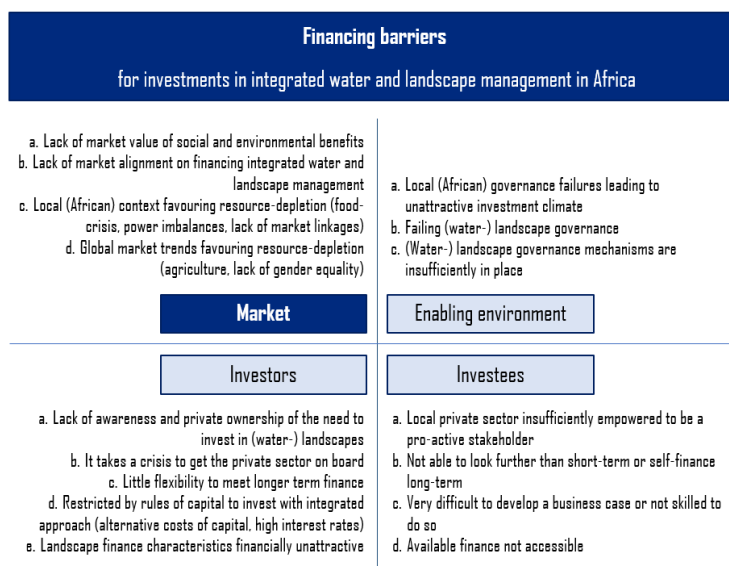


Figure 5 Financing barriers

#### 5.1.1 Market-related financing barriers

Most of the identified barriers resemble with existing literature. For example, starting with the market-related financing barriers, the lack of market value of social and environmental benefits (market-a) is elaborately discussed by WRI (2017). Likewise, the identified barrier of local (African) context favouring resource-depletion (market-c), through its food-crisis, power-imbalances and lack of market linkages forcing land-users to manage (water-) landscapes for short-term benefits, resembles with WRIs identified barrier of ‘incentives to degrade land outweigh incentives to restore land’ (World Resources Institute, 2017), although it does not link this to a specific geographical context, which also confirms the final market-related barrier of global trends favouring resource-depletion (market-d). The lack of

market alignment on financing integrated water and landscape management is more inexplicitly mentioned by WRI (2017) and Lambooy et al. (2017).

#### 5.1.2 Enabling environment-related financing barriers

Continuing with the enabling environment-related financing barriers, local (African) governance failures leading to unattractive investments (enabling environment-a) may be classified as a highly generalist barrier conclusion, which could be explained by the fact that it refers to a combination of fragmented governments, corruption, political instability and the like, which will differ in every African country and to which also exceptions can be noted, such as the achievements the Botswana government has made with its integrated water resource management vision, resulting in more than USD 31 million in funds being allocated since 2012 towards IWRM activities (GWP, 2018, p. 1). In addition, EcoAgriculture provides a report showing the policy and legal context in Kenya as a ‘strong foundation for the development of ILM’ (Heiner, Shames, & Spiegel, 2016, p. 4), which is however limited by capacity and resource constraints, as well as bureaucratic challenges of budgeting processes, limiting the ‘funding available for integrated programs’ (Heiner, Shames, & Spiegel, 2016, p. 5). However, as findings suggest, government failures prevent the private sector, including private investors, from working closely with government agencies, which is crucial for achieving (water-) landscape projects and which will likely require a collaborative effort from both sides (Heiner, Shames, & Spiegel, 2016). Similarly, Lem et al. (2015) suggest ‘African uncertainties are becoming ‘normal’ business risks and opportunities’ (p. xvii), which again does no right to each countries’ differences, yet does confirm general doing business challenges within the African region (World Bank, 2018).

Moving on to failing (water-) landscape governance (enabling environment-b) and (water-) landscape governance mechanisms are insufficiently in place (enabling environment-c), Heiner et al. (2016) mention to have identified over 250 financial mechanisms, whereas in particular in Kenya mechanisms that incentivize agroforestry and climate smart agriculture are being used, whilst mechanisms for PES and certification schemes are under development. However, its recommendation to ‘clarify policy and law on relevant financial mechanisms’ (Heiner, Shames, & Spiegel, 2016, p. 6), which potentially indicates an acknowledgement of current landscape governance insufficiently in place in Kenya, and likely across more countries within Africa.

#### 5.1.3 Investor-related financing barriers

Following the investor-related financing barriers, the lack of awareness and private ownership of the need to invest in (water-) landscapes (investor-a) is confirmed by a study commissioned by the Dutch Environmental Assessment Agency (PBL), showing that when it concerns investor performance on biodiversity and natural capital, attention is drawn to carbon emissions for several reasons, whilst water,

land and chemicals ‘hardly played a role in designing investment policies and in the financial analysis of companies’. Rather, a more reactive approach is taken as water, land and chemicals are looked at by investors ‘when problems or issues are expected or occurring’, after which they become ‘part of the engagement process’ (Lambooy, 2018 , p. 5). Little flexibility to meet longer term finance (investor-c) is again confirmed by WRI (2017) stating that ‘restoration often requires a long investment time horizon (e.g. 10-20 years’ (p. 21). However, it should be noted that in addition to suggested terms of 20 years for restoration projects (Ferwerda, 2015) or forestry, findings suggest that investment terms are dependent on the conditions and opportunities of the specific landscape and could vary from much less than 20 years up to even more. Most important is that (water-) landscape projects require terms that accommodate the landscape-specific needs, and this type of flexibility is uncommon or currently rather discouraged within traditional finance. Similarly, investors are restricted by current of capital such as alternative costs of capital and high interest rates to invest with an integrated approach (investor-d). This is in line with WRI’s findings on incentives to degrade land outweigh incentives to restore land (2017), although within the findings a reference is made particularly to the nature of the financial (or rather capitalistic) system, favouring economic interests at all costs. Following, the barrier landscape finance characteristics being financially unattractive (investor-e), including the dynamics of the landscape leading to higher risks as well as the size of the investment, is in line with WRI’s findings (2017) mentioning that ‘many restorations are too small in size to attract private finance’ and ‘restoration is considered to be a risky investment (p. 21). Finally, the barrier of taking a crisis to get the private sector on board (investor-b) might not be literally mentioned within literature, yet the urgency for the private sector to actually become involved is referred to by many including (Ferwerda, 2015). In addition, the necessity of a crisis in order to further increase willingness within the market to transition to a more sustainable market, is confirmed by Simons (2014), although hopefully alternative ways can be found to mobilise the private sector to come on board, some of which will be suggested near the end of this chapter.

#### 5.1.4 Investee-related financing barriers

Coming to the investee-related financing barriers, firstly the lack of local private sector empowerment as a pro-active stakeholder (investee-a) forms a key barrier as it means that the local private sector is unable to contribute with human and financial resources to an integrated approach towards water and landscapes. In addition, it indirectly stimulates larger companies’ abuse of resources, whilst local companies can make no stand against their right and ultimately bows for a vicious circle of resource depletion. Solutions such as micro-credit are explicitly set up for such situations, and could potentially increase their impact by explicitly providing investees with the support to manage water and land in an integrated way. Secondly, the inability to look further than short-term or self-finance long-term

(investee-b), with money that is often not available, is in line with WRI’s findings on the longer investment term horizon (2017). The difficulties developing a business case (investee-c), or the lack of capacity amongst conservationist to do so is recognised within multiple studies, including one by EcoAgriculture (2015), suggesting the development of business incubators to ‘to provide the technical capacity needed to design landscape investments so that they are seen as bankable by potential funder’ (p. VIII). Finally, the barrier of available finance not being accessible (investee-d) is in line with WRI’s conclusion of ‘climate finance being difficult to access’, explaining that most climate finance becomes allocated towards ‘renewable energy, energy efficiency and transportation’ (p. 25).

## 5.2 Financing solutions

This section sets out to see how potential ways of addressing existing barriers as identified by the findings the previous chapter relate to literature. Similar to the financing barriers, financing solutions may be divided over market, enabling environment, investors and investees. However, only a few solutions that have been recognised as key potential solutions will be discussed. A more elaborate explanation of each of the proposed solutions can be found in the previous chapter.

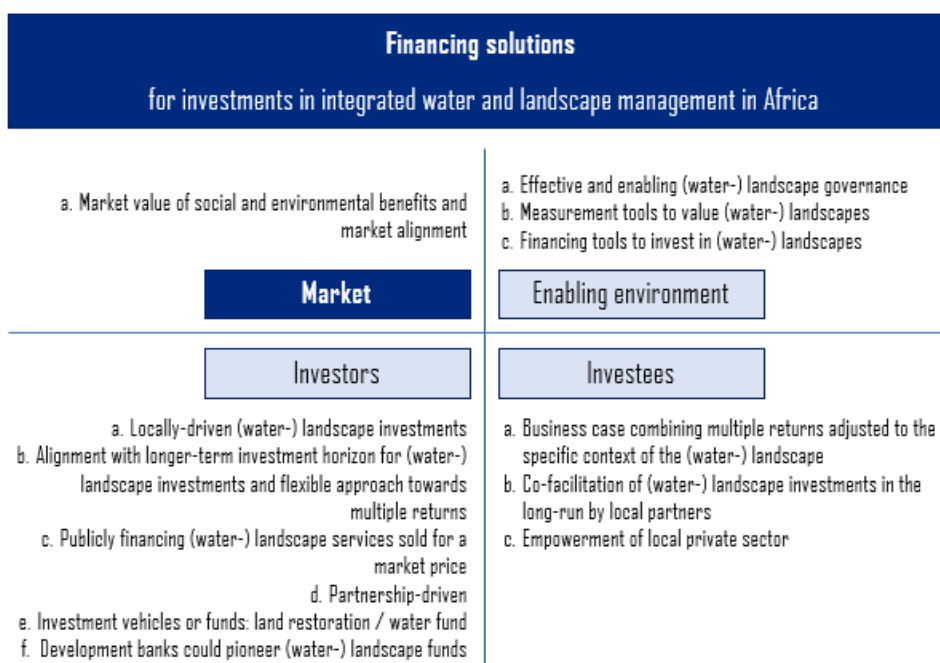


Figure 6 Financing solutions

### 5.2.1 Investor-relation financing solutions

Starting with the solution of locally-driven (water-) landscape investments (investor-a), as findings show, it cannot be emphasized sufficiently how important the initiative of local parties is. Too often, in

particularly in Africa, people have come in to decide what looks best from their perspective, even with the most noble intentions. However, landscape initiatives need to be embedded in the local culture in order to be successful. Secondly, the proposed (water-) landscape fund (investor-e) that accommodates to the needs of the landscape is in line with earlier suggestions for ecosystem restoration partnerships as proposed by Ferwerda (2015). Third, the potential of development banks in pioneering water and landscape funds (investor-f) that can accommodate to the needs of the landscape, may prove key in initiating systemic change. Development banks can take the lead in designing funds that match the flexibility and long-term developments landscapes require. In addition, fund managers will have to broaden their expertise and skills towards increased understanding the context-specifics of each landscape.

### 5.2.2 Investee-related financing solutions

Moving to the investee-related financing solutions, the first one would be to develop business cases that combine multiple returns adjusted to the specific context of the (water-) landscape (investee-a). Acknowledging that each landscape requires a different approach is in line with findings by Sayer et al. (2012), and to develop a business case accordingly confirms suggestions by Shames et al. (2015), as well as models such as the triple layered business model canvas, that suggest to combine financial, social and environmental dimensions (Joyce & Paquin, 2016). Whilst it proves complicated to create business cases combining multiple returns, involves a lot of experimenting and might require additional TA or alternative support when applied to dynamic (water-) landscapes, creating market value of social and environmental benefits will help investees to convince investors of the bankability of their project, as it provides another bridge between the world of finance and the world of ecology. Secondly, investees may contribute to funds that focus specifically on (water-) landscapes that initially supported their project by setting aside a minor part of their newly generated revenues due to the fund. Thereby, they could support the sustainability of (water-) landscape funds over the long-run. This is currently piloted by IFAD and is an often-used principle for many incubator and accelerator projects globally, to let startups join a support program and ask for a small stake in their project once they start gaining revenues in return. Thirdly, the empowerment of the local private sector will ultimately help them to gain the skills needed to manage (water-) landscapes sustainability, become active and acknowledged stakeholders and contribute to the financing structures suited to the (water-) landscape.

### 5.2.3 Market-related and enabling environment-related financing solutions

Starting with market-related solutions, to ensure market value of social and environmental benefits and accompanied market alignment (market-a), firstly requires the development of the necessary tools and



mechanisms to value (water-) landscapes, which as respondents mentioned, is extremely technical and will require further actions by the industry. However, once such standards have been sufficiently developed, standardisation can be used to penalize initiatives that refuse to take an integrated approach for their actions, be it investing in or directly managing resources. Thereby, market value of social and environmental benefits will prove key to drive systemic change (World Resources Institute, 2017). Finally, effective (water-) landscape governance (enabling environment-a), including the necessary mechanisms (enabling environment-b) and financing tools (enabling environment-c) are directly in line with earlier mentioned studies by Heiner et al. (2017), providing several recommendations for successful (water-) landscape governance

However, these solutions only form a part of the picture of what is needed to bring about the transition the market for integrated water and landscape management in Africa needs. For this, the following section will use the four phases of sustainable market transition as defined by Simons (2014).

### **5.3 Stage of transition**

Using the findings regarding the different phases of transition as well as alternative literature, an analysis of the current phase of transition towards a market for (water-) landscape investments can be made. Understanding which phase of the transition the market is at will help to position the different barriers and solutions identified and defining more concrete next steps whilst making use of current developments. This is key as ‘each phase calls for a different set of strategies and tools to achieve progress and safeguard the momentum and gains already achieved’ (New Foresight, 2018, p. 3).

Firstly, it may be argued that the stage of inception has been passed, following the suggestions by findings around increasing political momentum for climate change, and in its slipstream (water-) landscape restoration, this years’ Cape Town water crisis, following some other major water crises in the past 10 years globally in Australia, Spain, India, China, California and Brazil (Iceland, 2015) as well as the earlier mentioned drought and land degradation costing several African countries up to billions in restoration costs, could indicate passing of the stage of inception, characterized by multiple crises, a increasing sense of urgency, and high-profile, yet isolated projects (Simons, 2018) such as the Paris Climate agreement. However, without further private (financial) sector mobilisation, systemic change is far to be found and crises might continue to occur as nature may surprise humanity as long as no further action is being taken.

Secondly, it may be argued that several characteristics of a first mover stage can be found, in particular front runner industry players of both investors and investees that make their best effort to show how things can be done differently, yet fail in effectively cooperating with other industry leaders, leading to

competition and a confused market. Whereas findings suggest that nowadays very few private investors are found that prove the profitability of (water-) landscape investments, several actors can be mentioned such as ACTIAM, Ceres and Athelia that acknowledge the need for (water-) landscape investments and adjust their funding strategies to accommodate such investments. Competition, however, is shown for example through the different measurement and standardization tools being used, such as the ones from SD Vista, IFC and the like, creating increasing hazards for investees trying to access finance as standards are different everywhere. Simultaneously, first movers may be found in initiatives such as incubator and accelerator initiatives set out by conservation agencies such as IUCN, Conservation International and TNC, to support investees with the additional hurdles of developing a business case out of a (water-) landscape project. Whilst these are highly beneficial in order to connect the world of finance and business (investors) with the world of conservation (investees), in order to achieve systemic change, frontrunners will need to team up even more. In addition, it may be argued that although both investors and investees may play a key role in driving change, investors might be in the highly strategic position to do things differently (Schoenmaker D. , 2017) (Hesp & Van Leenders, 2015).

Third, it may be argued that the first signs of multi-stakeholder initiatives are coming about, which focus on achieving a change that exceeds the shared interest the participating actors, systemic change. Within this context, communities of practice of investors may provide highly useful, as they can bring together industry leaders and facilitate co-learning of best practices as well as a platform to highlight the most problematic barriers withholding the industry from further transition. Through such initiatives, ultimately critical mass can be more easily mobilised. Moreover, the realisation dawns that additional standards will not resolve remaining negative feedback loops. Key opportunities thus for progress are to ‘bring industry leaders together to create a common, inclusive approach towards a sustainable sector; from standards and certification to sustainable transformation’ (New Foresight, 2018, p. 5). Simultaneously, whilst private investors might not easily engage with long-term ecosystem restoration investments directly, as these are often seen as a public responsibility, the government could very well ensure long-term financing of ecosystem restoration whilst asking private parties a market-price for their use of specific ecosystem-services. To make (water-) landscapes financially viable, public and private parties should seek (the development of) new structures of business cases (Shames & Scherr, 2015).

#### **5.4 Ten principles to accelerate (water-) landscape finance**

As it is being argued that the market is about to transition from stage 2 to three, the question is how to move from competition to collaboration (New Foresight, 2018). To further encourage the transition to

(water-) landscape investments, several principles have been distinguished that may provide useful as the market transitions from competition to collaboration and further develop standards for best practices that can be shared sector-wide. These principles reinforce and build further on ten principles that bring together landscape practices as defined by Sayer et al. (2012). The principles by no means provide a complete picture but rather form a reflection of continuous learning and outcomes of explorative research, and will be further explained following the overview below.

Table 2 Ten principles for (water-) landscape finance

<i>Ten principles for (water-) landscape finance based on findings</i>	<i>Corresponding principles for landscape practices (Sayer et al., 2012)</i>
<b>1</b> Flexible targets that allow for the dynamics of the landscape and for learning on the way;	Continuous learning & adaptive management
<b>2</b> Shared landscape level need met by financing opportunity;	Common concern entry point
<b>3</b> Effective public-private cooperation and accompanied coordination of multiple financing structures to address various needs and potential of landscape	Multiple scales of decision-making
<b>4</b> Recognition of financial, social and environmental inputs, outputs and management and coordination thereof;	Multifunctionality of landscape
<b>5</b> Partnership approach (all (ENS) types of expertise being valued);	Multiple stakeholders
<b>6</b> Landscape vision shared internally and across all stakeholders, supported by effective landscape governance;	Negotiated and transparent change logic
<b>7</b> Effective landscape governance resulting in necessary legal framework in place, including land ownership and ENS-based geographical planning;	Clarification of rights and responsibilities
<b>8</b> Development of monitoring and accounting tools for water and landscapes, similar to those developed for carbon;	Participatory and user-friendly monitoring
<b>9</b> Risk-mitigation through sustainable management of (materiality and dependencies of) financial, social and natural capital;	Resilience
<b>10</b> Empowerment of local sector to contribute to financing solutions through organisation in cooperatives and community initiatives, supported with human and financial capacity by effective landscape governance.	Strengthened stakeholder capacity

Firstly, findings suggest that instead of strong 1-3-5year KPIs, there's a need for both investors and investees to take a more patient and flexible approach towards managing the dynamics of the landscape in order to have optimal outcomes. In line with these findings, a study is currently being set out to show how (water-) landscapes treated well may increase up to three times in value when the landscape is best accommodated (Voyles, 2018). As findings show, targets set at the beginning of the investment-term may have worked in a relatively predictive and closed financial context, whereas a (water-) landscape requires continuous feedback-loops that can be subject to change and need to be learned from, instead of being neglected in order to stick with initial targets, a need for continuous learning and adaptive management within landscape management that is also confirmed by Sayer et al. (2012).

Secondly, a common concern entry point forms a key starting base for (water-) landscape investments. In addition, findings show that local initiative, understanding and continuous ownership and engagement of the problem(s) and solution(s) needed to be addressed are key for sustainable (water-) landscape outcomes, which also relate to Ferwerda (2015) mentioning local farmers and landowners as initiators of ecosystem restoration partnerships. Thirdly, multiple scales of decision-making are key to be managed and coordinated in good public-private partnership. As part of the decision-making and coordination regarding finance, findings show that various (blended) financing structures are needed to adapt to the needs and opportunities of (water-) landscapes. Fourthly, the multifunctionality of the landscape requires equal recognition by investors of financial, social and environmental inputs, outputs and management and coordination thereof.

Fifth, as a (water-) landscape naturally involves multiple stakeholders, findings suggest that both investors and investees benefit from a multiple stakeholder approach, where each is treated as partner as opposed to a more hierarchical cooperation based on financial partner. Moreover, it is key that all environmental, social and financial types of expertise are valued as they each contribute to the overall performance of the (water-) landscape. In addition, findings suggest that the local sector should take a more central role in designing landscape solutions, as their understanding of the local context and ownership is key in designing the most optimal financing structure and agenda-setting of the project as opposed to a more invasive, outside-in approach.

Sixth, findings suggest that a landscape vision needs to be shared across all stakeholders involved, and that clear marking of the land through effective landscape governance will prove helpful in this regard. A resulting negotiated and transparent change logic (Sayer, et al., 2012) resembles with (private) investors as negotiated terms and transparency are key principles within corporate governance. However, it also implies there is internal and external alignment concerning the financial stakes in a landscape vision. Seventh, clarification of rights and responsibilities are crucial when it concerns partnerships. This is equally true for investors. This includes the legal framework that defines land ownership as well as geographical planning, whereas the latter should be developed with an integrated approach, acknowledging the multifunctionality of landscapes for economic, social and environmental returns to achieve mutually-strengthening results as opposed to competing land-uses.

Eight, participatory and user-friendly monitoring is required for optimal (water-) landscape outcomes. Whilst monitoring and accounting tools for financial results for a key part of the decision-making process to investors, findings suggest that similar tools are needed to be developed for environmental and social benefits in order to equally consider those. Following achievements made within the field of carbon, reporting tools on water and landscapes are key for further progress in this area, such as the recent LIFT Tool. Moreover, whereas several actors already have developed certain tools,

standardisation is key to ensure optimal outcomes. Ninth, resilience is key to protect the value of the landscape to achieve the highest outcomes. Similarly, for investors, risk-mitigation through sustainable management of (materiality and dependencies of) financial, social and natural capital, will allow for the most optimal (water-) landscape overall returns.

Finally, tenth, strengthened stakeholder capacity is key to ensure all actors can adequately contribute to the stakeholder process. For investors, increased (human) capacity is required to make such commitments. In addition, empowerment of the local sector to contribute to the landscape-specific financing structures will be key to increase the attractiveness of the investments for investors. This can be done for example through organisation of local farmers or actors within cooperatives or community initiatives. In addition, landscape governance, for example through Technical Assistance for investees to become investment-ready will ease the investment process even more.

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The aim of this research was to provide an answer to the question, ‘*what financing barriers exist to integrated water and landscape management in Africa and how can these be addressed?*’. In addition, it set itself to provide an answer to the perspectives and roles of investors and investees as the supply and demand side. Whereas the barriers have been widely discussed within chapter four and five, their key findings confirm earlier findings by business actors, whilst they add an important perspective with regards to landscape: the local perspective. In addition, potential ways of addressing existing barriers include local-driven solutions, where the local sector is empowered to take an active role as stakeholder, in designing landscape solutions and in contributing financially and in other ways. Below, each of the conclusions regarding financing barriers and solutions will be summarized.

### **6.1 Financing barriers**

Starting with the market-related financing barriers, a lack of market value of social and environmental benefits forms a barrier for creating a viable business case for (water) landscapes. Consequently, a market failure arises as larger companies are not threatened (yet) by their use of depleting resources, whilst local organizations or communities are doing the work no one is paying for. In addition, a lack of market alignment, in particular between financial and ecological actors, but also within the financial sector, results in different priorities for different actors within the market, pursuing their (short-term) self-interest rather than a (long-term) shared interest. A complicated investment climate in Africa arises due to the former food-crisis and persistent hunger as well as power imbalances resulting in a weak private sector and short-term thinking and resource management, add to a complicated investment climate for (water-) landscapes in Africa. Finally, global market trends such as land degradation through agriculture, increasing water scarcity and a lack of gender equality require interventions in order to foster (water) landscape solutions.

Moving to the enabling environment-related financing barriers, general governance challenges such as bureaucracy in addition to corruption, political instability, fragmented governments and – linked with that – decentralization across African countries lead to an unattractive investment climate. Consequently, failing (water) landscape governances arise, in particular regarding the necessary legal framework, including putting in place land ownership, geographical planning and a shared landscape vision. Absence of these governance systems result in an environment that favours resource depletion. Finally, the necessary (water) landscape governance mechanisms, such as measurement tools and payments for ecosystems for (water-) landscapes, are lacking.

Third, regarding the investor-related financing barriers, only a small group of (private) financiers is aware of its dependency on natural resources, leading to a lack of ownership of the need to invest in (water-) landscapes. When no further action is being taking, it could take a crisis – or multiple – to achieve the scale of awareness needed to invest in (water-) landscapes. Challenges also arise as different

activities within the landscape require different financing structures and accompanied terms, whereas investors usually don't provide this much-needed flexibility for optimal and sustainable project-outcomes. The private sector may also be restricted by rules of capital such as alternative costs of capital and high interest rates which further complicate taking an integrated approach. In addition, the dynamics of (water-) landscape investments and its – often too – small sizes lead to unattractive investment opportunities. To counter this, enabling investments are needed. Last but not least, the local private sector – whilst critical for a landscape approach – is insufficiently empowered as stakeholder, as its financial contribution is often valued less compared to that of MNEs and its social and environmental contributions are not equally valued. In addition, its lack of organizational structures such as cooperatives, leaves the local private sector small and divided.

Reaching the investee-related financing barriers, firstly the limited investment term-flexibility of investors leaves investees with short-term horizons. The alternative, to self-finance projects, is often not an option. Patience and flexible financing structures are needed to achieve optimal project outcomes. Also, whilst (water-) landscapes offer multiple opportunities, a business case cannot always (directly) be derived. In addition, available finance cannot always be leveraged in a way suitable to (water-) landscape projects and finally, investees are often not sufficiently capacitated to take on (water-) landscape projects.

## **6.2 Financing solutions**

Concerning the market-related financing solutions, it shows key to recognize social and environmental benefits in addition to financial value, as it will stimulate further market alignment within the financial sector as well as between financiers and conservationists to pursue a shared interest of (water-) landscape projects.

Regarding enabling environment-related financing solutions, effective and enabling (water-) landscape governance is key to create investment opportunities for (water-) landscapes. These include the necessary legal framework providing land ownership and geographical planning, as well as empowerment of the local sector and de-risking of the private sector in (water-) landscape investments. Secondly, similar to what has been done for carbon, measurement tools need to be developed to value (water-) landscapes, such as PES schemes, as well as the implementation of market-wide standards as opposed to competing standards. In addition, flexible financing tools and structures should be developed that suit (water-) landscape dynamics.

Moving to investor-related financing solutions, firstly, the initiative and ownership by local (African) parties should be the starting base to ensure success on the long term. Investors should align with a



longer-term investment horizon needed for specific activities within (water-) landscapes. In addition, financiers should develop a more flexible attitude towards financial, social and environmental objectives being achieved. Then, public interventions contributing to a healthy (water) landscape by which the private sector may directly reap benefits should not be marketed for free, but rather be compensated for by the private sector, as they improve the financial productivity of the landscape elsewhere. Also, understanding should be in place that landscape approaches can only be successful when they are financed in partnership with all stakeholders at the landscape level, governments (national and local), private sector (international and local), farmers and local communities. Simultaneously, the necessary investment vehicles or funds such as land restoration and water funds should be developed that accommodate the dynamic nature of (water-) landscapes. Finally, given their mandate to contribute to sustainable development, development banks could be well suitable to pioneer (water-) landscape funds in Africa and leverage the enabling investments needed to bring in more private capital.

Ending with the investee-related financing solutions, firstly, business cases should be developed that are accommodated to the specific context of the (water-) landscape and aim at achieving multiple returns as opposed to only financial returns. Moreover, the financing structure should fit the context of the landscape and the specific intervention(s) it concerns. The necessary (water-) landscape investments should be co-facilitated by local partners from the start; it should be their initiative-driven and co-facilitated by local parties, by whatever means available as to increase the local commitment and long-term sustainability of (water-) landscape investments. Finally, in order for the local private sector to take such a position, they should be organized for example through cooperatives or community initiatives as to make a (stronger) statement and be a recognized party to do business with.

### **6.3 Implications and limitations**

Whereas several implications have already been mentioned within the discussion, one final contributing would be to make business and investors part of the solution to restore and sustain landscapes, line with suggestions about ecosystem restoration by Ferwerda (2015). Ultimately, as this research might show, the value of an integrated approach, is by far not sufficiently realised, as it allows to bridge different complex challenges and can form the basis for any type of investment, not just limited to those directly involving natural resources such as water and land, but rather using the (water-) landscape as starting perspective from which all investments can be derived. Within studies of system-thinking, such an approach has been recommended for sustainable management, as it requires ‘to adopt a multidisciplinary systemic lens capable of appreciating the interconnectivity of economic, political, social and ecological issues across temporal and spatial dimensions’ (Williams, Kennedy, Philipp, & Whiteman, 2017, p. 866). This way, the integrated approach would provide a key way to addressing the

majority if not all SGDs (Shames & Scherr, 2015). In sum, whereas former and current markets have failed by stimulating self-interest and maximizing economic return, the intended market would foster cooperation and integration at the economic, social and environmental level, whereby the set context of a (water-) landscape is being used as the integrative factor.

Implications directed specifically to investors would be to include such an integrated approach, as to ensure the sustainability of their investments, and expand their investment opportunities to meet the longer investment term that a particular (water-) landscape requires, and to make sure that – in line with the ten principles suggested earlier – the starting base for (water-) landscape investments is a local need, that its financing structure is aligned to the different economic, social and environmental returns that match the particular landscape and that management of the investment allows for continuous learning and adaptation to these multiple returns.

Several limitations may also be mentioned, including the limited time to properly finish this thesis, as the attention of the author has been primarily directed towards setting out key findings, whereas more attention could have been drawn to the discussion and implications of this research. Secondly, difficulties in reaching out to potential interviewees resulted in a limited number of interviews, allowing for a perspective that is relatively true to a limited audience, albeit a unique perspective representing different types of FIs and investees as frontrunners within the field of (water-) landscape finance. Still, further research is needed to verify these findings on a broader scale, in particular with regards to a more local (African) perspective, as only two out of the nine interviewees were held with individuals with an African nationality. Simultaneously, the broad scope of the research has led to potential generalisations of several Africa-specific financing barriers, whereas a country-focus could potentially have allowed for financing solutions adjusted to specific contexts, as integrated water and landscape management is a highly context-specific issue.

#### **6.4 Future research**

As this research provides by no means a complete picture, but rather a starting point in understanding of the complexities of financing integrated water and landscapes in Africa, several areas of future research may be suggested, which may be divided over the four types of barriers and solutions discussed earlier. Starting with the investor-perspective, further research is needed to verify key barriers and potential ways of addressing these within public and private finance institutions, including research concerning measurement and accounting tools for water and landscapes and PES-schemes, as well as more flexible investment term horizons. From the investee-perspective, further investigation of integrated business model development, as well as sharing of (best) practices for (water-) landscapes in specific regions within Africa and abroad would provide highly useful. On the level of market and

enabling environment, studies investigating the necessary policy framework and success factors for effective (water-) landscape governance in Africa to attract private finance, similar to what has been conducted by Heiner et al. (2016), would be highly relevant. Simultaneously, further research is needed towards the development of (best) practices for stakeholder cooperation on a landscape level as well as cooperation between financial institutions across different investment stages, including blended finance solutions and the enabling environment needed to stimulate such financing structures. In addition, to ease the use of (water) landscape approaches, it would help the different parties at stake to define whether there are any primary beneficiaries and what these implications entail.

Finally, as a general statement, this research has been an attempt to close a (small) part of the relevance gap between academic practice and management practice. In each of the above-mentioned areas of further research it will be key to ensure that as this field is in an exploring phase, academics will on the one hand learn from the experience already available in the field, in particular frontrunner investors and investees, and partner with (development) institutions working on the subject, and on the other hand use their independent, objective position to develop knowledge that benefits actors within the market as a whole to further transition to finance for integrated water and landscape management in Africa, and abroad.

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## Appendixes

### I. Profiling Questions

These may include 1) a short description of company

- Kind of financial service
- How much money under management
- Dominant asset classes
- General CSR-policy

2) Short description of investment(s) in integrated water and / or landscape management in Africa

- Scope and size of project
- Size of investment, etc.

3) Short description of interviewee

- Role / position in company

### II. Questions for semi-structured interview

*Start*

*Consent for recording, writing, coding interview, permission to disseminate results, potentially at RSM and Netherlands Enterprise Agency (RvO).*

#### **Sustainable Finance (for water / landscapes)**

- I. How does your organization relate to sustainability / sustainable finance (e.g. ESG / SDGs / IFC standard 6)?
- II. How does this influence your investments in water / landscapes projects (e.g. transition technical > integral approach)?

#### **Description of integrated water and landscape investment projects, funds, etc.**

1. Name and short description of specific funds / investments in water and / or landscapes that have taken an integrated approach
2. Include kind of investment, monitoring activities, asset class, risk / return ratio etc.
3. Include relevant partners for the projects / investments

#### **Description of context investment in water and / or landscape project**

1. Overall experience investing in integrated landscape management projects?
2. Barriers experienced when investing (investigate, then contrast to barriers WRI etc).
3. Current approach / ways of dealing with these barriers
4. Financing barriers specific to the African context; Do you have experience with integrated landscape management projects in areas other than Africa? If yes, how would you compare them?

#### **Potential solutions**

1. Which solutions / approaches do you think are needed to better finance integrated landscape management projects in Africa? What would be the role of your institution in this solution? Which other roles do you see and for which parties?
2. Which parties (persons / peers) inspire you in this regard / who would you like to learn from?
3. Relevant other international organizations and developments that contribute to financing IWRM (mapping the ecosystem)

Additional

1. Which other issues do you feel should be addressed in this interview?
2. Would you be open for follow-up / clarification questions?
3. Which other person would you recommend to also talk to for this research?

**III. Findings framework | Inspiration I**

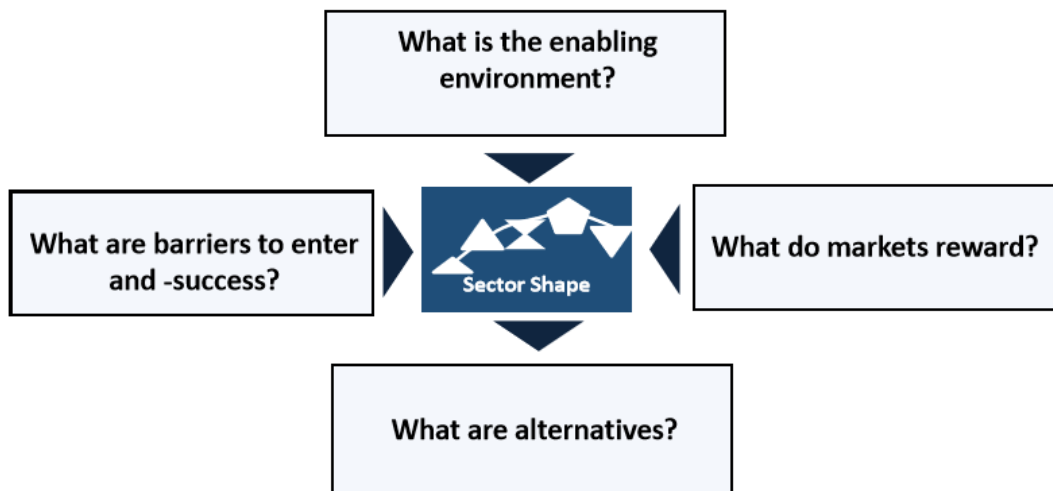


Figure 7 Sector structure determined by a set of macro forces (New Foresight, 2014)

**IV. Findings framework | Inspiration IV**

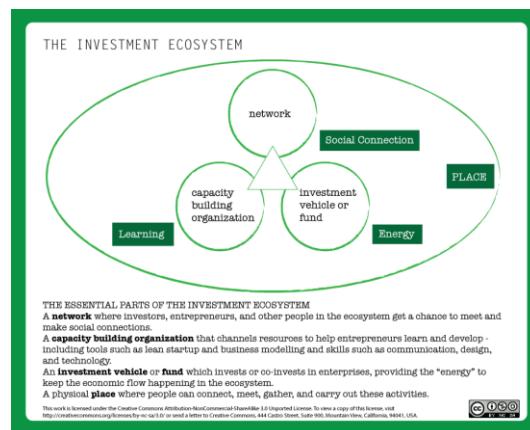


Figure 8 The Investment Ecosystem (Creative Commons, 2012)

## V. Coding tree

<i>1<sup>st</sup>-order codes</i>	<i>2<sup>nd</sup> order codes</i>	<i>Aggregate codes</i>
<ul style="list-style-type: none"> <li>▪ No price for (water) landscapes</li> <li>▪ Large companies are not held accountable for resource use</li> <li>▪ Local level organisations or communities pay the price, without being compensated</li> <li>▪ Integrated approach not possible without valuing ENS benefits</li> </ul>	Lack of market value of social and environmental benefits	Market related financing barriers
<ul style="list-style-type: none"> <li>▪ Finance and ecology two different worlds</li> <li>▪ Short-term self-interest leading to competing use of water and land</li> <li>▪ Recognition of shared interest needed</li> </ul>	Lack of market alignment on financing integrated water and landscape management	
<ul style="list-style-type: none"> <li>▪ Food-crisis leading to short-term land-use</li> <li>▪ Large MNEs prevent local private sector to mature</li> <li>▪ Lack of market linkages abused by market traders</li> </ul>	Barriers related to local (African) context	
<ul style="list-style-type: none"> <li>▪ Agriculture globally favouring (water-) landscape degradation</li> <li>▪ Gender inequality, whilst women make up of large part of (water-) landscape users</li> </ul>	Barriers related to general market trends	
<i>1<sup>st</sup>-order codes</i>	<i>2<sup>nd</sup> order codes</i>	<i>Aggregate codes</i>
<ul style="list-style-type: none"> <li>▪ Bureaucracy</li> <li>▪ Corruption</li> <li>▪ Political instability</li> <li>▪ Fragmented governments</li> <li>▪ Decentralization</li> </ul>	General governance failures leading to unattractive investment climate	Enabling environment related financing barriers
<ul style="list-style-type: none"> <li>▪ Climate adaptation policies barely executed</li> <li>▪ Unsustainable geographical (land-) planning</li> <li>▪ Lack of human capacity for landscape governance</li> </ul>	Failing (water-) landscape governance	
<ul style="list-style-type: none"> <li>▪ Lack of PES schemes for water and landscapes</li> <li>▪ Lack of certification standards</li> <li>▪ Development of tools extremely technical</li> </ul>	(Water) landscape governance mechanisms insufficiently in place	
<i>1<sup>st</sup>-order codes</i>	<i>2<sup>nd</sup> order codes</i>	<i>Aggregate codes</i>
<ul style="list-style-type: none"> <li>▪ Increased realisation dependencies only concern limited group of investors</li> <li>▪ (Water) landscapes conservation is seen as government responsibility</li> </ul>	Lack of awareness and private ownership of the (personal) need to invest in (water-) landscapes	Investor related financing barriers
<ul style="list-style-type: none"> <li>▪ Crisis primarily affecting local parties</li> </ul>	It takes a crisis to get the private sector on board	
<ul style="list-style-type: none"> <li>▪ Investors are limited by standard 5-year term</li> <li>▪ 4-yearly rotation of politicians complicates long-term commitment</li> </ul>	Investors have little flexibility to meet longer term finance	
<ul style="list-style-type: none"> <li>▪ Alternative costs of capital</li> <li>▪ Looking for short-term high financial returns</li> </ul>	Restricted by rules of capital to invest with integrated approach	

<ul style="list-style-type: none"> <li>▪ Dynamics of the landscape</li> <li>▪ Size of the investment</li> <li>▪ Enabling investments by governments needed</li> </ul>	Landscape finance characteristics need to become financially attractive	
<ul style="list-style-type: none"> <li>▪ Social and environmental contributions local sector insufficiently valued</li> <li>▪ Lack of organisation structures such as cooperatives or community initiatives</li> </ul>	Local private sector is insufficiently empowered to a pro-active stakeholder	
<i>1<sup>st</sup>-order codes</i>	<i>2<sup>nd</sup> order codes</i>	<i>Aggregate codes</i>
<ul style="list-style-type: none"> <li>▪ Bound by 3-5 term investors</li> <li>▪ Equity not often available</li> <li>▪ Long-term loans leading to high interest rates</li> </ul>	Not able to look further than short-term or self-finance long-term	Investee related financing barriers
<ul style="list-style-type: none"> <li>▪ Learning on the way</li> <li>▪ Constant adaptation and innovation</li> <li>▪ Patience in convincing (public) investors</li> </ul>	(Water-) landscape investments require patience and flexibility	
<ul style="list-style-type: none"> <li>▪ Not every (water-) landscape provides a business case from the start</li> </ul>	Very difficult to develop a business case	
<ul style="list-style-type: none"> <li>▪ Mismatch between available finance and required financing structures for (water-) landscapes</li> </ul>	Available finance not accessible	
<ul style="list-style-type: none"> <li>▪ Lack of human and financial capacity</li> <li>▪ Lack of access to networks</li> <li>▪ Risks of the project</li> </ul>	Other complications	

### Coding tree | Financing solutions

<i>1<sup>st</sup>-order codes</i>	<i>2<sup>nd</sup> order codes</i>	<i>Aggregate codes</i>
<ul style="list-style-type: none"> <li>▪ Recognition of social and environmental benefits</li> <li>▪ Shared interest</li> <li>▪ Transparency</li> <li>▪ Accountability</li> </ul>	Market value of social and environmental benefits and market alignment	Market related financing solutions
<i>1<sup>st</sup>-order codes</i>	<i>2<sup>nd</sup> order codes</i>	<i>Aggregate codes</i>
<ul style="list-style-type: none"> <li>▪ Overcoming distrust</li> <li>▪ Legal framework</li> <li>▪ Land ownership</li> <li>▪ Empowerment of local sector</li> <li>▪ De-risking of private sector</li> </ul>	Effective and enabling (water) landscape governance	Enabling environment related financing solutions
<ul style="list-style-type: none"> <li>▪ Tools similar to carbon developed for (water-) landscapes</li> <li>▪ Standardisation of tools</li> </ul>	Measurement tools to value (water) landscapes	
<ul style="list-style-type: none"> <li>▪ Blended finance structures</li> <li>▪ De-risking of local private sector and communities</li> </ul>	Financing tools to invest in (water) landscapes	
<i>1<sup>st</sup>-order codes</i>	<i>2<sup>nd</sup> order codes</i>	<i>Aggregate codes</i>
<ul style="list-style-type: none"> <li>▪ Local incentives as starting base</li> </ul>	Locally-driven (water-) landscape investments in Africa	Investor related financing solutions

<ul style="list-style-type: none"> <li>▪ Decide term based on specific context (water-) landscape</li> <li>▪ Flexibility towards returns optimal to (water-) landscape</li> </ul>	Alignment with longer-term investment horizon for (water) landscape investments and flexible approach towards multiple returns	
<ul style="list-style-type: none"> <li>▪ Conservation finance government responsibility</li> <li>▪ Market price for (water-) landscape services</li> </ul>	Publicly financed (water-) landscape services should be sold for a market price	
<ul style="list-style-type: none"> <li>▪ Horizontal instead of top-down</li> <li>▪ Public-private partnerships</li> <li>▪ Co-financed by local sector</li> </ul>	Partnership-driven	
<ul style="list-style-type: none"> <li>▪ Land restoration fund</li> <li>▪ Water fund</li> <li>▪ Mandate allowing longer term</li> <li>▪ Blended financing structures</li> </ul>	Investment vehicles or funds: land restoration / water fund	
<ul style="list-style-type: none"> <li>▪ Sustainable development mandate</li> <li>▪ Match-making public-private investments</li> </ul>	Development banks should pioneer (water-) landscape funds	
<i>1<sup>st</sup>-order codes</i>	<i>2<sup>nd</sup> order codes</i>	<i>Aggregate codes</i>
<ul style="list-style-type: none"> <li>▪ Business cases</li> <li>▪ Multiple returns</li> <li>▪ Landscape-specific</li> </ul>	Business case combining multiple returns adjusted to the specific context of the (water-) landscape	Investee related financing solutions
<ul style="list-style-type: none"> <li>▪ Local sector contributions</li> </ul>	Co-facilitation of (water) landscape investments in the long run by local partners	
<ul style="list-style-type: none"> <li>▪ Organisation within cooperatives and local communities</li> <li>▪ Financial support and technical assistance</li> </ul>	Empowerment of local private sector	