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Monitoring the Impact of Public Private Partnerships for Landscape Restoration

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Preface

"At first people refuse to believe that a strange new

thing can be done. Then they begin to hope it can be

done. They see it can be done. Then it is done and

all the world wonders why it was not done centuries

ago"

(Hodgson Burnett 1911, p. 288)

This thesis has been written in conclusion of the two-year Master program in Earth Science and Economics that I attended at the Vrije Universiteit of Amsterdam. Its results are based on a traineeship that I have conducted at the international non-profit organization Commonland.

During this experience I had the possibility not only to get passionate about the topic of ecological restoration, but also to meet extremely nice and motivated people. I would like to thank all the team of Commonland for being the primary source of my inspiration in the past two years, and the whole team of Living Lands who made the time spent at the Learning Village both constructive and enjoyable.

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A special thought goes to my best friends who have always been there for me when I needed them.

Finally, I would like to dedicate this thesis to the most important people in my life.
To my family who despite the geographical distance has never stopped supporting and loving me, and to Amrit for his patience and for keep on having faith in my abilities.

Contents

Executive Summary

Introduction

The aim of this thesis is to contribute to the on-going debate on the effectiveness of Public-Private Partnerships (PPPs) for Sustainable Development. In this context, the topic of Monitoring and Evaluating (M&E) appears to be extremely relevant in theory, yet, scarcely considered in practice.

The empirical part of the study has been carried out during a seven-month internship in the non-profit organisation Commonland whose aim is to support large-scale restoration initiatives with the creation of a 'Restoration Market' in which: (i) ecosystems are restored and managed on the basis of sustainable business cases; and (ii) Restoration Partnerships are formed at a landscape level to co-create, together with the local stakeholders, solutions for a sustainable and long-lasting development.

The last two and a half months of this internship have been spent in a fieldwork at the Presence Learning Village at the Kouga Dam - Eastern Cape, South Africa. Here it has been possible to assess the restoration partnership that Commonland is forming in the Port Elisabeth catchment area via its local branch, the Four Returns Development Organisation.

Contextual findings

The main research question that this research intend to provide an answer to is:

> ***How should the impact of public private partnerships for landscape restoration be monitored?***

In order to answer to this question the following sub-questions have been addressed:

> ***1 – In which way can ecosystem restoration support sustainable development?***

By reverting the trends of degradation, ecological restoration has shown to have a potentially positive impact on all the spheres of sustainable development - ecological, social and economic. For this reason, and especially once that its potential to enhance economic activities has been openly recognized in the climate arena, international institutions have finally started to address ecological restoration as a potential approach to the Governance of Ecosystem Services. In fact, restoration projects have shown to be applicable: (i) at a landscape level in which ecosystems are evaluated as a mosaic of different ecosystems, interrelated to each other; (ii) in multi-stakeholder contexts in which partnerships are created between local communities, governments, private sectors and other non-state actors; and (iii) throughout a set of different policy and market tools to guarantee the sustainability of the restoration activities in the long term.

> ***2 – Which role would public private partnerships have in supporting landscape restoration?***

Public private partnerships may have a crucial role in up-scaling those activities for the governance of ecosystem services, which require a landscape, participative, multi-disciplinary approach. Most importantly, landscape restoration partnerships would be able to cope with those trade-offs between conservation and development which have limited the effectiveness of traditional conservation approaches. In fact, on the one side decision makers have to consider the costs of not exploiting ecosystems and the costs of reducing the provision of services to local users/communities by applying restrictions on the use of resources, with potential impacts on local livelihood. On the other hand, they have to consider the global benefit which ecosystem protection may

deliver both in the short term, by enhancing ecosystem productivity, and in the long term thanks to healthier ecosystems.

3 – Which are the criteria underpinning effective M&E systems for sustainable development initiatives?

The literature study on M&E (Chapter 4) has lead to the identification of the main trends in M&E and of the best practices used in development aid and natural resource management. On the base of this literature, it has been possible to develop four main criteria that M&E system ought to comply with in order to be effective. These are: (i) being inserted in a broader theory of change; (ii) be multi-level; (iii) be multi-method; and (iv) be multi-stakeholders.

Case study approach

Three main methods have supported research in the fieldwork:

(1) *Participatory observations of meetings between partners*

(2) *Interviews*

Partners have been interviewed in order to investigate their previous experience with Restoration Partnerships and M&E systems. The topic of the interviews: covered: (i) previous experience with PPPs or Restoration partnerships; (ii) motivations for success/failure of previous experiences, if any; (iii) motivations encouraging to take part in the partnership; (iv) methods used to manage partners activities; (v) methods used to monitor progress of the activities; (vi) systems/frameworks/processes used in their organisations; (vii) international framework with which the organisations have to comply with; (viii) M&E system used by partner's organisations; and (ix) division of responsibilities in the organisation with respect to M&E.

(3) *Support in the organisation of a two-day workshop for the signature of the Letter of Intent for the Four Returns Restoration Partnership (Dec. 8th -9th, 2014)*

Results

Based on this experience it has been possible to:

- **Assess the potential of ecological restoration for sustainable development.**
  By studying the approach of Commonland, it has been possible to assess the potential that ecological restoration would have in terms of social and economic improvement. In fact, by designing *ad hoc* business cases, Commonland plans to restore degraded ecosystems and, at the same time, to create the opportunity for sustainable businesses to grow, both inside the community and across the whole landscape.

- **Assess the potential of PPPs in supporting landscape restoration.**
  An essential step in Commonland's approach is that of creating Restoration Partnerships at landscape levels. These are public private partnerships created with international, national and local stakeholders in order to facilitate the implementation of the restoration activities, on one side, and to create a 'Restoration Market' on the other side. In fact, by engaging all the stakeholders in the co-creation of sustainable solutions for restoration, Commonland aims at enhancing the socio-economic resilience of the communities together with that of the surrounding ecosystems.

- **Design a Self-Assessment Tool for PPPs.**

Based on the success criteria identified by Pattberg and Widerberg (2014), it has been possible to design a tool with which partners can track the progress of their partnership and evaluate its effectiveness throughout time.

- ***Identify three indicator dimensions to be used while monitoring the Four Returns in landscape restoration project.***
  In order to lay the foundation for an indicator framework for the Four Returns, three dimensions have been identified for each Return. In this way, even if the indicators will change according to the different projects and partnerships, it will still be possible to assess them from a 'Four Returns' perspective'.

- ***Design a Multi-Level M&E Framework for sustainable development initiatives.***
  Since monitoring initiatives for sustainable development has shown to be quite a complex issue, a multi-level M&E framework has been designed. This framework is divided in three levels. In general terms, these levels could be referred to as: the headquarter level, the PPPs level and the project level. In the specific case of Commonland, these levels become: the Commonland level, the Restoration Partnerships level and the project level. By making this distinction, it is possible to account for the fact that at each level the success of the initiative is monitored and evaluated by different stakeholders. Hence, the M&E approaches will have to adjust to each level's requirements, by still guaranteeing coherence among levels.

These findings support the theoretical study by giving the possibility to answer the main research question:

How should the impact of public private partnerships for landscape restoration be monitored?

The impact of PPPs should be monitored in two different but complementary ways. First its *internal* performance should be evaluated via a Self-Assessment Tool based on the success criteria defined by Pattberg and Widerberg (2014). Secondly, its *external* performance should be evaluated according to its capacity to deliver results both to partners at the headquarter level and to stakeholders at the project level. In order to do this the M&E of the restoration partnership should fit into a Multi-Level M&E Framework.

Implications

By using the Self-Assessment Tool for PPPs, partners are expected to be able to: (i) identify the actual performance of the partnership on each criterion; (ii) identify the areas in which the partnership is underperforming and on which partners need to invest more effort; (iii) evaluate the progress of the partnership every year; (iv) keep track of the progress over time; (v) learn from reflecting on why certain criteria have not been accomplished; (vi) adapting plans to increase performance of the criteria; and (vii) aim at achieving max scores on all criteria so as to be effective in the long term.

In this way, the Self-Assessment evaluation will support partners in reaching the specific output and outcomes defined in their projects, hence enhancing their possibilities of success. Simultaneously, if inserted in a Multi-Level M&E Framework, the results from this evaluation tool can support a stream of information from the project level up to the headquarters one, triggering off the formation of knowledge at all the different levels.

By assisting the team of the Four Returns Development Company it has been possible to notice a gap of information between the approach designed by Commonland and the actual approach required to identify the indicators for the Four Returns in the South African project. In order to fill this gap, additional information on

Commonland approach has been gathered and translated into some instructional material (see Appendix III). This includes: (i) a representative map of the stakeholders engaged by Commonland; (ii) a list of outcomes and outputs that Commonland could aim at (A similar list has been made for the case study. Here, information has been gathered in a Workshop held on Oct. 28th in Cape Town among the partners); and (iii) a representation of the path that should be followed in order to define the indicators for the four Returns.

Moreover, in order to simplify the future selection of indicators, three different *Indicators Dimensions* have been identified for each Return. In this way, even if different indicators will have to be identified for each level of the M&E Framework, at least they will all have to fit the same dimensions. These dimensions will also allow Commonland to make its M&E more transversal and adaptable among different projects, which in fact may require different indicators.

By approaching its Four Returns projects with a multi-level perspective, Commonland will be able to be more flexible and to keep its identity across different levels and different projects. In fact it will be able to understand the requirements for success at each level and the information that is needed to monitor this success. More specifically, the Self-Assessment Tool will help the stakeholders involved in the Restoration Partnership in estimating the likelihood of successful of the partnership itself and of the interventions applied on the landscape.

Chapter 1

Introduction

1.1 Introduction

The following chapter provides the broad context in which this Master Thesis fits. Section 1.2 assesses the level of degradation of ecosystems and the implication that this has on ecosystem services. Then, the latest trends in the global governance of ecosystem services are analysed. In section 1.3 the research questions are identified and explained. Section 1.4 clarifies the contributions that this Thesis aims to give by answering the research questions. Finally, section 1.5 explains the methods used in the study and 1.6 concludes giving information on the structure of the thesis.

1.2 Research context

This research has been triggered by the realisation that, being ecosystems services fundamental for different aspects of human's life (Millennium Ecosystem Assessment, 2005), their degradation is an issue of great concern for current and future generations. The urgency of this problem lies in the fact that the losses caused by this degradation have ecological, social and economic relevance, and occur at local, national and international scale (Millennium Ecosystem Assessment, 2005). For this reason, experts agree that in order to revert this trend, comprehensive approaches for the governance of ecosystem services are needed (Ansink & Bouma, 2015; Bouma, 2015; Gupta, 2015; Mert & Pattberg, 2015).

In this context, restoration activities have shown a great potential both in reverting degradation and in creating the opportunity for social amelioration. Simultaneously, Public-Private Partnerships are showing to have a key role in dealing with complex issues where the interests of multiple stakeholders have to be taken into account.

This research aims at supporting the thesis that Public-Private Partnerships applied in Ecological Restoration contexts might have a great ecological, social and economic impact at different scales. Given their innovative nature, few cases of such combination have been found in the literature. Though, by also answering to the current needs of a sustainable governance of Ecosystem Services, Restoration Partnerships might occupy the international scenery for many years to come.

1.2.1 Ecosystems' degradation in modern societies – Why is it relevant?

> *'At present, even were human populations to decline substantially or use of land become more efficient, the current global extent, duration, type and intensity of human transformation of ecosystems have already **irreversibly** altered the terrestrial biosphere at level sufficient to leave an unambiguous geological record differing substantially from that of the Holocene or any other period.'* (Ellis, 2011 pg. 1010)

Being supported by a considerable amount of scientific evidences, the degradation of Earth's ecosystems is an indisputable fact with which modern societies cannot avoid to be confronted. (Millennium Ecosystem Assessment, 2005; Morley et al., 2005; Nellemann & Corcoran, 2010; TEEB, 2010b; UNEP, 2012) In 2000, the

Nobel Prize Paul Crutzen and the emeritus American professor Eugene Stoermer were the first ones to acknowledge the fact that humans have become the main driver of change in the Earth System. Together with a team of scientists they analysed and compared the trend over time of the most important ecological variables - such as GHGs concentration in the atmosphere, the wellness of marine ecosystems, forest cover etc. - and of some variables of '*anthropization*' - such as population density, total real GDP, use of fresh water etc.

As a result, they observed that around the year 1950 all these variables have been subject to what they defined, a 'Great Acceleration'. More specifically, they observed that most of the ecological variables have increased up to values that are well beyond their natural variability[1]. On this basis, they state that alteration of natural processes, like the ones we are facing, might lead to abrupt changes in the biology of our Planet with consequences that have not been seen before in the geological history. For this reason they proposed a term to define the start of a new epoch in which human activities have a central role in the functioning - or better dis-functioning - of the Earth System (Crutzen, 2002). This term, nowadays broadly recognized by the scientific community, is *Anthropocene*.

The irreversible transformation of Earth's Ecosystems has also been confirmed in 2005 by the findings of the *Millennium Ecosystem Assessment*. This study, called for by the UN Secretary General in 2000 and coordinated by the United Nations Environment Programme between 2001 and 2005, has been prepared by 1360 experts among representatives of international institutions, governments, business, NGOs, and indigenous peoples of 95 different countries. Its main objective has been to understand both the benefits people obtain from ecosystems, translated in the concept of Ecosystem Services[2], and the consequences on human well being caused by the direct and indirect alteration of ecosystems.

According to researchers of the Millennium Ecosystem Assessment, degradation of Ecosystem Services is one of the major causes for the decrease in the long term benefits delivered by ecosystems (Millennium Ecosystem Assessment, 2005). Similarly, also in the Global Biodiversity Outlook n.4 (Secretariat of the Convention on Biological Diversity, 2014), ecosystem degradation is addressed as one of the most crucial issues to be solved to accelerate the progress towards the goals of the Strategic Plan for Biodiversity 2011-2020 and towards the related Aichi Biodiversity Targets agreed by the CBD –Convention for Biological Diversity. The reason why degradation is considered so relevant is because of its cross sectorial consequences.

(I) Ecological relevance

In the past sixty years, environmental issues have grown global in scale and have become very much interconnected one to the other (Gupta, 2015). Issues that were thought to be isolated and localized revealed to be the symptoms of global processes triggered by unsustainable human activities. For instance on a local level, species extinctions, declining species abundance or widespread shifts in species and biome distributions have all shown to be related to the degradation that ecosystems are undergoing because of human interference (UNEP, 2012). Considered one of the biggest challenges for environmental governance, biodiversity loss has shown to be driven by the expansion of agricultural areas; overexploitation of natural habitats; pollution; invasive species;

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[1] http://www.anthropocene.info/en/anthropocene/the-great-acceleration/the-great-acceleration
[2] Ecosystem Services have been divided in four different groups according to the benefit they provide: **supporting** (nutrient cycling, soil formation, primary production etc.), **provisioning** (food, fresh water, wood and fiber, fuel etc.), **regulating** (climate regulation, flood regulation, disease regulation, water purification etc.) and **cultural** (aesthetic, spiritual, educational, recreational etc.).

and climate change (PBL, 2010; UNEP, 2012). Throughout the *Millennium Ecosystem Assessment* scientists found out that 60% - 15 out of 24 - of the services provided by ecosystems have been already degraded or used unsustainably, including fresh water, capture fisheries, air and water purification, regulation of regional and local climate, natural hazards, and pests. More specifically they discovered that: 20% of the world's coral reefs have been lost, and another 20% degraded; 35% of the area of mangroves have been lost; 3-6 times as much water lies in reservoirs as in natural rivers, while withdrawals from rivers and lakes has doubled; the biological diversity of the planet is declining; the distribution of species is becoming more homogeneous; the population size, range - or both - of most species across a number of taxonomic groups is also declining; and finally that 10-30% of mammal, bird, and amphibian species are currently threatened with extinction with a rate by as much as 1,000 times over the background rates previously recorded in the Planet Earth's history (Millennium Ecosystem Assessment, 2005; Morley et al., 2005).

Unfortunately, the consequences of such degradation go well beyond the boarders of ecosystems and affect human well-being on a global scale. (Ferwerda, 2012; Gupta, 2015) By degrading the capacity of ecosystems to function properly, the resilience of the Planet Earth as an interrelated system is dangerously reduced (Alliance, 2010). In 2009, Rockström and other scientists of the Stockholm Resilience Centre identified nine environmental threats which could lead to abrupt and irreversible global changes – among these climate change, biodiversity loss, land use change and fresh water consumption. By negatively impacting most of these components, ecosystems' degradation triggers a positive feedback loop that enhances the chance of facing global irreversible changes in the future (Millennium Ecosystem Assessment, 2005; Nellemann & Corcoran, 2010). For instance, climate experts have claimed that atmospheric concentrations of greenhouse gases such as carbon dioxide (CO_2), methane, and nitrous oxide have increased to levels not previously recorded, in at least the last 800,000 years. In particular, CO_2 concentrations have increased by 40% since pre-industrial times, coming primarily from fossil fuel emissions and secondarily from net land use change emissions (Parry, Canziani, Palutikof, van der Linden, & Hanson, 2007). As a result the climate system of the whole Planet has been modified causing, among others, the increase in intensity of extreme events and the alteration of precipitation patterns (Parry et al., 2007).

(II) Economic relevance

Scientific evidences show that it is mainly because of the social and economic patterns followed to reach the current levels of human well-being that ecosystems have been degraded. (Millennium Ecosystem Assessment, 2005; TEEB, 2010b; UNEP, 2012) In fact, activities such as land use change, unsustainable farming, over-grazing, mining activities and felling of trees for the production of charcoal and timber have led to an increase in human well-being but at the same time they have decreased the possibilities of keeping this same level of well-being in the future (Millennium Ecosystem Assessment, 2005). The reason for this short-sightedness is that the value of natural capital has long been underestimated (Ibáñez et al., 2012; KPMG, n.d.; Morley et al., 2005; Nidumolu, 2013). As reported by the OECD, '*private decision makers do not always consider the social costs and benefits of natural resources and ecosystem conservation and sustainable use, but rather generally focus only their own private costs and benefits. As a result, biodiversity continues to be under-valued and lost* (OECD, 2013, pg. 3).

In 1997, in order to point out the economic loss that the degradation of ecosystem would have meant for modern societies, Costanza et al. evaluated the economic value of each service provided by an ecosystem. By then the global value was estimated to average $33 trillion/yr. Nowadays that value has been updated and it now reached

an average of \$135 trillion/yr[3] (Costanza et al., 2014). On the base of this number it has been calculated that the loss of ecosystem services from 1997 to 2011 has amounted to \$4.3–20.2 trillion/yr. Similarly, the Economics of Ecosystems and Biodiversity has estimated that land degradation has so far caused an economic loss of about \$21-71 trillion\yr, a figure comparable to the Gross World Product that in 2012 amounted to \$84.97 trillion. Similarly, the World Resources Institute (WRI) estimated that 2 billion hectares of land - 15-20% of all lands above sea level- is now undergoing sever degradation with repercussion on agricultural productivity and other related economic activities. According to the Land Degradation Assessment in Drylands (LADA)[4] conducted in 2011, most of this degradation is, in general terms, due to the effects of soil erosion and biodiversity loss in the less populated areas; and water shortage, soil depletion and soil pollution in the most agricultural ones (Nachtergaele, Biancalani, & Petri, 2011).

In the TEEB Report in National and International Policy Making (2011)[5], investments in 'ecological infrastructures' are seen as a profitable opportunity in terms of both cost-effectiveness and rates of returns. TEEB experts support the thesis that by investing in natural capital and conservation of ecosystems, crises and catastrophes could be avoided, or at least their consequences mitigated. What is more, in a world where adaptation to Climate Change will constitute a considerable cost for all World countries, investing in protecting ecosystems from degradation is seen as directly relevant to many affected policy sectors (TEEB 2011).

However, TEEB researchers also recognized that still limited efforts have been made to develop and implement proactive strategies for investment in natural capital (TEEB 2011). According to their study, the ways to fill this gap would be: (i) the explicit linkage of natural capital with natural hazard risks; (ii) the systematic assessment of natural capital; (iii) the creation of natural capital accounting systems and maps in which risk reduction is combined with economically efficient investments; (iv) the conversion of degraded ecosystems by ecological restoration; and (v) the creation of Public-Private Partnerships to administrate the many returns which lie in the realm of public goods and the interests that will be realized only in the long term (TEEB 2011).

(III) Social relevance

Ecosystems' degradation has also been identified as one of the main drivers of growing inequities and social conflicts (Morley et al., 2005). As verified by the studies conducted by the Economics of Ecosystems and Biodiversity, '*in many countries poor households rely directly on natural capital for a disproportionately large fraction of their income - e.g. in agriculture, forestry, fisheries. Moreover these households have few means to cope with losses of critical ecosystem services, such as drinking water purification or protection from natural hazards. Sustainable management of natural capital is thus a key element to achieving poverty reduction objectives as reflected in the Millennium Development Goals* (TEEB, 2010a, pg. 26).' Moreover, according to the estimates reported in the *Millennium Ecosystem Assessment* in 2005, 1.1 billion people was surviving on less than \$1 per day of income, among which 70% living in rural areas and with a lifestyle highly dependent on ecosystem services. During the 1990s, twenty-one countries experiences declines in their ranking in the Human

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[3] \$125 trillion/yr (assuming updated unit values and changes to biome areas) and \$145 trillion/yr (assuming only unit values changed), both in 2007 \$US.

[4] Implemented by the United Nations Environment Programme (UNEP) and executed by the Food and Agriculture Organization of the United Nations (FAO).

[5] TEEB (2011), The Economics of Ecosystems and Biodiversity in National and International Policy Making. Edited by Patrick ten Brink. Earthscan, London and Washington

Development Index. Between 2000 and 2002, an estimated 852 million people were undernourished, whereas up to 37 million from the period 1997-99. Finally, 1.1 billion people were still lacking access to improved water supply and more than 2.6 billion to improved sanitation, whereas 1 to 2 billion people were facing water scarcity (Millennium Ecosystem Assessment, 2005).

Already in 1987, the World Commission on Environment and Development recognized the need to tackle together environmental, social and economic issues in what has been defined as sustainable development. This new concept arose from the awareness that environmental and developmental issues are closely connected and that they are the result of a series of 'inter-locking crises' deeply rooted in the ideological foundations and consumption patterns of modern society (Gupta, 2015). Along this same line of thought, contemporary scholars argue that if a solution to ecosystems degradation want to be found, governments have to take structural approaches to deal directly with the way economy and society are developing (PBL, 2010). Old dogmas of consumptions and growth - such as profit maximisation and unlimited growth - have to be substituted with new paradigms where the relation between people and ecosystem services is brought towards an equilibrium point (Ferwerda, 2012).

By bringing together governments, the international community, civil society and the private sector, the Millennium Development Goals agreed in the 2000 Millennium Summit[6] have shown that a positive impact can be made if economic development is designed in a comprehensive way and in balance with the boundaries of our Planet. For instance, the latest report on the MDGs (United Nations Publications, 2014) showed that the rate of extreme poverty dropped to 22% by 2010, reducing the number of people living in extreme poverty by 700 million. Access to improved drinking water source becomes a reality for 2.3 billion people and the proportion of undernourished people in developing regions has decreased to 14% in 2011-2013. However, even if progresses have been made, rates of socio-economic and environmental amelioration are, in some cases, slowing down and many of the MDGs targets are still far from being achieved. '*More needs to be done to accelerate progress, (...) bolder and focused action are needed where significant gaps and disparities still exists (Ban Ki-Moon, Secretary-General, United Nations)'.* Currently, Member States are working together to define the targets to be achieved in the post-2015 development agenda, which follows under the name of Sustainable Development Goals (SDGs) (United Nations Publications, 2014). Here, the cooperation among different sphere of society is seen as the only way to make a step forward.

1.2.2 Towards a global governance of ecosystem services

The introduction of the concept of ecosystem services has heavily modified the approaches towards nature conservation, natural resource management and other areas of public policy related to it (de Groot, Alkemade, Braat, Hein, & Willemen, 2010). Whereas the first environmental treaties focused on individual issues - such as the depletion of the ozone layer and atmospheric pollution; nowadays, the focus is moving towards the governance of whole landscapes, seen as a mosaic of different but interlinked ecosystems and services (Rands, Adams, & Bennun, 2010).

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[6] During the Millennium Development Summit help in September 2000, world leaders adopted the UN Millennium Declaration committing their Nations to a new global partnership to reduce extreme poverty and setting out a series of time-bound targets, with a deadline of 2015, known as the Millennium Development Goals.

By considering biodiversity as an international resource, the Convention on Biological Diversity[7] (CBD) has been the first international treaty in which governments committed to conserve global biological diversity, promote the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources (Gupta, 2015). Similarly, in 2005, biodiversity preservation was incorporated in the UN Millennium Development Goals[8] - to be reached by 2015 - because its role in reducing poverty and sustaining human livelihoods and well-being by underpinning food security and human health; providing clean air and water; and finally supporting economic development (Millennium Ecosystem Assessment, 2005; UNEP, 2012).

However, despite the commitment and the efforts put through by the international community, scientists have recorded little progresses in slowing down the rate of ecosystem degradation and biodiversity loss (PBL, 2010; Rands et al., 2010). The reason for this is that traditional tools of international environmental policy - such as conservation programmes and the establishment of protected areas - struggled in dealing alone with the complexity of current environmental challenges (Doak, Bakker, Goldstein, & Hale, 2014; Marvier & Kareiva, 2014; Rands et al., 2010). On the one hand, local improvements have been successfully recorded in well-designed and well-managed protected areas; on the other hand, scholars have shown that these approaches are not enough to secure the flow of services from, and among, ecosystems at higher scales (Mora & Sale, 2011; Jeffrey Sayer et al., 2013).

Experts divide the shortcomings of these approaches in technical and practical ones (Mora & Sale, 2011). The technical shortcomings refers to the fact that global threats have been faced only at a local level whereas interventions at a larger scale were needed – e.g. hydrological issues have not been considered at a catchment level. The practical ones relate to the fact that the financial and social aspects of degradation have not always been considered at all while planning the activities. For example, the lack of funds and the mismanagement of the financial resources have many times caused the interruptions of conservation activities. Similarly, conflicts with human social development and the growing human pressure have compromised the overall success of the projects - e.g. In a world in which population is growing at a frightening speed[9], global demand for agricultural land is increasingly building pressure on the existing protected areas and on what is left of pristine ecosystems (Jeffrey Sayer et al., 2013).

All the above mentioned issues, especially because deeply related one to the other, require a type of governance which is multi-level and based on innovative governance mechanisms (Pattberg & Stripple, 2008). In order to deal with such complex and dynamic circumstances, horizontal linkages have to be established between policy fields and institutions – e.g. biodiversity, forestry and climate change; and vertical linkages, between different levels of policymaking – e.g. subnational, national and regional; international and transnational[10] (Biermann, Pattberg, Chan, & Mert, 2007; Gupta, 2015).

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[7] Agreed at the 1992 UN Conference on Environment and Development, the Convention on Biological Diversity is one of the most widely ratified environmental treaties in the world.

[8] **Goal 7**: Ensure environmental sustainability. **Target 7.A**: Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources. **Target 7.B**: Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss.

[9] By 2050 population is projected to reach 9.1 billion.

[10] **Transnational** is used to define action across national boarders, whereas **international** for action among national boarders.

Three factors in particular have fostered the shift from a hierarchical, centred, top-down type of governance to a global, multi-layer, ecosystem services-oriented one (Pattberg & Stripple, 2008). These are: (I) the interdependence of policy issues and arenas at a landscape level, (II) the emerging role of non-state actors and transnational approaches in the policymaking and finally (III) the birth of new steering mechanisms for the governance of ecosystem services.

(I) Landscape approach

The use of a 'landscape perspective' can be dated back to 1980s to the early biodiversity conservation theories where this term was used with a pure ecological meaning[11]. Since then, it underwent an evolution towards a more inclusive perspective. It now comprehends practices that directly aim at solving complex socio-economic interactions between different spatial scales, and at embracing the full complexity of human institutions and behaviours in a landscape (Jeffrey Sayer et al., 2013). Once applied, landscape-scale initiatives have shown their effectiveness both in improving key ecological functions and in increasing the ecosystems' service provision for the benefit of human well-being (Hodder, Newton, Cantarello, & Perrella, 2014). Flows of water, sedimentation of nutrients and organic matter, biological diversity, carbon storage, recreation and aesthetic value are the services most positively affected.

Landscape approaches have also shown their effectiveness in increasing the decentralization of institutional frameworks by supporting a more community-orientated management. In this way, the formation of new partnerships and alliances have been enhanced with the aim of addressing shared objectives while substituting ineffective policies (Sayer et al., 2008). It is in the year 2007 that, thanks to the IUCN's initiative 'Landscape and Livelihood', such approaches gained international endorsement. This has been the first official attempt of creating strategies to deliver human and environmental needs in large areas of land throughout a sustainable use of ecosystems and of their services. Although different from each other, these strategies combine technical, local and organizational knowledge, and aim to be environmental friendly, financial sustainable and socially equitable[12].

In 2013, as a result of an extensive literature review, Sayer et al. defined ten principles for an effective environmental and socio-economic management of landscapes. Among these, concepts such as adaptive collaborative management, multi-stakeholders engagement, resilience, multiple scales and multiple objectives play a key role. These principles have been officially adopted by the Subsidiary Body on Scientific, Technical and Technological Advice of the CBD, and have been submitted for consideration by the Conference of the Parties of the CBD in Hyderabad, India, in November 2012 (Jeffrey Sayer et al., 2013). The most common obstacles related to the implementation of these principles are the costs which would be required to scale-up the practices at a landscape level and to the fact that these costs would be extremely site- and context-specific, making it difficult to design the activities in advance (Hodder et al., 2014).

(II) Emerging role of non-state actors and transnational approaches

The second factor that has fostered the shift towards a multi-level governance is the transnational nature of environmental treaties and the role that non-state actors have gained in such occasions (Mert & Pattberg, 2015).

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[11] Mainly dealing with concepts of island biogeography and size, number and distribution of reserves and connectivity between them.

[12] http://www.iucn.org/about/work/programmes/forest/fp_our_work/fp_projects/fp_our_work_ll/fp_livelihoods_landscapes_about/

In particular, three categories can be identified: public actors, private actors and hybrid actors. The first group comprehends all actors active in the civil society such as governmental and non-governmental agencies, cities and other international organisations directly involved in the governance of public goods – e.g. National Governments, UN Agencies, CBD, IUCN etc. Private actors are represented by multi-national corporations and other business agents, which are regulated through Corporate Social Responsibility (CSR) policies. Finally, hybrid actors are composed by Public-Private Partnerships, City networks and other trans-governmental networks - e.g. Critical Ecosystem Partnership Fund and the Climate Leadership Group C40[13]. The last group in particular is becoming particularly popular in governance arenas.

In the specific case of ecosystem services, the need for such collaborations arises from the cross-sectorial benefits deriving from ecosystems which follow under the category of public goods, but which also have an economic value to be managed together with other financial assets. As a result, on the one hand local authorities up to national governments are involved in their administration as representative of the civil society. On the other, businesses and many other type of investors are integrating natural capital in their investment strategies in support of more sustainable activities (Brink, 2011; Morley et al., 2005; TEEB, 2010a).

(III) New steering mechanisms

The concept of ecosystem services did not only revolutionize environmental governance in its theoretical approaches, but it also contributed to the birth of non-conventional mechanisms for ecosystem management. In its study 'Scaling-up Finance Mechanisms for Biodiversity' (2013), the OECD Working Party on Biodiversity, Water and Ecosystems considered six "innovative financial mechanisms" aimed at scaling-up finance for biodiversity. These are: environmental fiscal reform; payments for ecosystem services; biodiversity offsets; markets for green products; biodiversity in climate change funding; and biodiversity in international development finance (OECD, 2013). Such market-oriented mechanisms have been directly addressed by the Convention on Biological Diversity as necessary tools for the achievement of the Strategy for Resource Mobilization[14].

The need for data on which to draw informed policies also brought the attention on mechanisms such as disclosure and reporting of environmental performances and Prior Informed Consent policies[15]. Together with these, community-based conservation continues to play an important role in raising awareness in local contexts where local community are directly involved in the protection of biodiversity and ecosystems (Bouma, 2015).

1.3 Research questions

In the light of the above discussion it is possible to conclude that Environmental Governance is currently undergoing an evolution towards more ecosystem services-oriented approaches. Among these, Public Private Partnerships have shown to be potentially useful in facilitating the governance of ecosystem services at a landscape level where multiple stakeholders are involved.

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[13] http://www.c40.org/

[14] Goal 4: *"Explore new and innovative financial mechanisms at all levels with a view to increasing funding to support the three objectives of the Convention"* (Available from http://www.cbd.int/decision/cop/?id=11654#cop-09-dec11-fn018).

[15] The **Prior Informed Consent Regulation** (PIC, Regulation (EU) 649/2012) administers the import and export of certain hazardous chemicals and places obligations on companies who wish to export these chemicals to non-EU countries. It implements, within the European Union, the Rotterdam Convention on prior informed consent procedure for certain hazardous chemicals and pesticides in international trade. (Available from http://echa.europa.eu/regulations/prior-informed-consent-regulation)

However, experiences related to Partnerships for Sustainable Development have shown that few of these partnerships are actually effective in the long term. The main reason for this is the lack of a monitoring system able to track their progress and their impact throughout time. In fact, even if identified among the criteria for success (Pattberg & Wilderberg, 2014), monitoring and evaluation (M&E) has been given little attention by practitioners.

This becomes all the more relevant if Public-Private Partnerships are being used in support of Ecological Restoration activities. In fact, considering the long time that Ecological Restoration usually requires before showing significant results, it is crucial to define a monitoring system able to show its ecological, social and economic impact and to justify its – sometimes very considerable – costs.

Therefore, this research aimed at answering the following question:

> ***How should the impact of public private partnerships for landscape restoration be monitored?***

In order to answer this question the following sub-questions have been addressed:

> ***1 – In which way can ecosystem restoration support sustainable development?***
>
> ***2 – Which role would public private partnerships have in supporting landscape restoration?***
>
> ***3 – Which are the criteria underpinning effective M&E systems for sustainable development initiatives?***

1.4   Research contributions

The aim of this research is to contribute to the on-going debate on the effectiveness of Public-Private Partnerships for Sustainable Development. Specifically, it aims at investigating the best way in which the impact of these Partnerships should be monitored – on all the different levels: ecological, social and economic. This topic appears to be extremely relevant in theory, yet, scarcely considered in practice.

The insights gained in this research contribute to this academic debate in different ways:
- By highlighting the interconnection between ecosystem degradation and modern economic and social issues, it supports the thesis according which current environmental problems should be governed in a comprehensive, global and multi-layer way.
- Throughout an extensive literature review, it analyses the strengths and limitations of Ecosystem Restoration practices in a multidisciplinary context.
- It assesses the opportunities that lie in the use of Public-Private Partnerships in the context of Landscape Restoration and more specifically, by using the criteria defined by Pattberg & Widerberg (2014), it designed a Self-Assessment Tool to be used to monitor Restoration Partnership in the long-term.
- It reports the state-of-the-art of the best practices used to monitor and evaluate the impact of Sustainable Development Projects.
- It provides four criteria to be considered when designing M&E systems for sustainable development initiatives.
- It provides a Multi-Level M&E Framework to monitor landscape initiatives.
- Based on the experience gained on a fieldwork in South Africa, it supplies practitioners with recommendations to monitor restoration partnerships.

1.5 Research method

The approach that has been used for this research can be divided in three phases. Firstly, in order to answer all the sub-questions, an extensive literature review has been conducted on the topics of Ecosystem Restoration, Public-Private Partnerships, and Monitoring System for Sustainable Development. The literature review has been conducted by taking into account different type of sources. Among these, the latest publications from the most important international institutions in the field of sustainable development; the most recent scientific articles (from 2005 until now); and information from different grey literature such as websites and non-scientific articles.

In the second phase, the 9 success criteria identified by Pattberg and Wilderberg (2014) have been used to understand how a successful Partnership for Landscape Restoration should look like. On the base of this study, a tool for the periodic evaluation of Partnerships has been designed[16].

Finally, the theoretical knowledge gained from the literature has been used to design a monitoring framework for a Landscape Restoration Partnership in South Africa. Here, qualitative research has been conducted: (i) by interviewing Partners and practitioners; (ii) by participating to meetings and visiting the area of interest of the project; and (iii) by supporting the organisation of a workshop for the formation of a restoration partnership.

1.6 Thesis structure

The following chapter assesses the emerging role that Landscape Restoration is gaining in the arena of Sustainable Development. Similarly, Chapter 3 analyses the reasons why Public-Private Partnerships are being internationally endorsed in different fields. Chapter 4 investigates the trends and best practices that have been used so far to monitor sustainable development projects - with special attention to three main domains identified as relevant in for this thesis: international development aid, nature conservation and PPPs for sustainable development. Finally, the insights gained in these chapters are put into practice to design a monitor framework for a project financed by the international non-profit organization *Commonland* in South Africa. Chapter 5 explains the methodology that has been applied on the field, whereas Chapter 6 dive into the case study and into the results that have been achieved. Chapter 7 reflects on the results that have been achieved by conducting this research. Finally, Chapter 8 summarises the lessons learnt both from theory and from practice and sets the foundation for further studies.

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[16] See paragraph 6. 1.2.

Chapter 2

Landscape Restoration as a tool for the Governance of Ecosystem Services: A review of the current knowledge

2.1 Introduction

The next two chapters – n.2 and n.3 - present the state-of-the-art of two different topics that have shown to be all the more relevant in the realm of a sustainable governance of ecosystem services: Ecosystem Restoration and Public-Private Partnerships (PPPs) (Bäckstrand, 2006; Choi, 2007; Society for Ecological Restoration International & IUCN Commission on Ecosystem Management, 2004). In fact they both share a great potential as tools for the 'mutual attainment of social equity, environmental health and economic wealth', as stated in the definitions of 'sustainable development' (Van Huijstee, Francken, & Leroy, 2007).

This chapter aims at answering the sub-question:

In which way can ecosystem restoration support sustainable development?

The next paragraph identifies the reasons why Ecosystem Restoration is thought to be able to enhance sustainable development. Then paragraph 2.2 retrace the way throughout which Ecosystem Restoration gained its role in the International Arena for sustainable development. In paragraph 2.3 the obstacles that have constrained most of ecosystem restoration projects are assessed. Finally, in paragraph 2.5 the potential of landscape restoration is investigated by analysing the approach applied by the international non-profit organization *Commonland*.

2.2 Ecological Restoration for Sustainable Development

In the 1980s, the practice of Ecological restoration - described for the first time by the Society for Ecological Restoration as: *'the process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed'* - was mostly addressed in the spheres of biological conservation and ecosystems protection (Turner 1994, Jordan 1994). However, a most recent definition refers to it as '*process that recovers and improves the functionality of ecosystems within landscapes consisting of lands in agricultural production as well as set-aside nature reserves* (Aronson, Clewell, Blignaut, & Milton, 2006).' The reason for this upgrade is that restoration has shown to be complementary not only to nature conservation, but also to sustainable, equitable socio-economic development (Aronson et al., 2006; Society for Ecological Restoration International & IUCN Commission on Ecosystem Management, 2004). In fact, especially in developing countries, where most of biodiversity hotspots occur, restoration has show to find local support especially because of it capacity to create jobs and improve livelihood at different level of society.

Yet, according to a literature review conducted on 1575 papers on practices for sustainable development, it emerges that only the 8% refers to the establishment of markets and/or payment for ecosystem services or surrogated. That means that the linkages between ecosystem services and natural capital are not being fully explored and that restoration is still not being integrated into development planning (Aronson et al., 2006). In this context, Aronson et al. agree that in order to overcome such gap a better communication of the socio-economic and political benefits of restoration is required if restoration is to be advanced.

As discussed in Chapter 1, the degradation of ecosystems is shown to affect societies on different levels and from different angles. Hence, by bringing back ecosystems as close as possible to their functional state, restoration is shown capable of restraining these trends of degradation and consequently their negative consequences (Aronson et al., 2006).

Clewell et al. (2006) identify five motivations supporting the rationale behind investing in sustainable ecological restoration: technocratic, biotic, heuristic, idealistic, and pragmatic. As described in their study (Clewell & Aronson, 2006, pg. 420):

> *'The **technocratic** rationale encompasses restoration that is conducted by government agencies or other large organizations to satisfy specific institutional missions and mandates. The **biotic** rationale for restoration is to recover lost aspects of local biodiversity. The **heuristic** rationale attempts to elicit or demonstrate ecological principles and biotic expressions. The **idealistic** rationale consists of personal and cultural expressions of concern or atonement for environmental degradation, reengagement with nature, and/or spiritual fulfillment. The **pragmatic** rationale seeks to recover or repair ecosystems for their capacity to provide a broad array of natural services and products upon which human economies depend and to counteract extremes in climate caused by ecosystem loss.'*

Despite their individual relevance, Clewell et al. (2006) also recognize the inadequacy of each rationale if implemented in isolation. In order to further explore the interrelated benefits of restoration in the field of sustainable development, the next sub-paragraphs will further discuss these motivations by integrating them in the broader ecological, economic and social contexts.

(I) Ecological relevance

The main reason supporting the **biotic** rationale identified by Clewell et al. (2006) is that restoration is seen as a tool to recover lost aspects of local biodiversity. More specifically it can: (i) benefit rare and endangered species; (ii) perpetuate threatened biotic communities, such as those occurring in coral reefs; (iii) conserve local ecotypes and thus assure species fitness at a genetic level; and (iv) benefit ecosystems at a landscape level.

Moreover, being a testing ground for the application of new ecological theories, restoration can support research on succession theories by at the same time investigating the conceptual trajectories of restoration outcomes (Choi, 2007). In fact, according to the **heuristic** rationale of Clewell et al. (2006), restoration has a crucial pedagogic role in ecological science. It has the potential to: (i) give insights into ecological processes; (ii) investigate whether or not increases in genetic compositions or species diversity could lead to ecosystem stability and resilience; investigate the roles of mutualists and animals in shaping plant communities; (iii) elaborate principles of community ecology; and (iv) provide significant first-hand opportunities for environmental education at all educational levels.

Finally, from a **pragmatic** point of view, restoration should aim at supporting the provision of natural capital and the restitution of anthropogenic climate change. Clewell et al. (2006, pg. 424) stress the importance of these two actions by affirming that: '*Without restoration conducted specifically for these reasons* - provision of natural capital and restitution of climate change - *human well-being will suffer, and the planet will become less habitable. The current rate of environmental destruction is leading to this eventuality. Surprisingly, in the literature on*

ecological restoration, the pragmatic approach is the least well developed of all despite being the most compelling for a broad, international constituency.'

As a matter of fact, in the specific realm of climate change, restoration of coral reefs, mangroves, wetlands, catchment forests, marshes and natural riparian vegetation have shown to be effective towards the prevention and mitigation of floods, tsunami, storms, droughts and other environmental disasters enhanced by climate changes (Nellemann & Corcoran, 2010). It is thanks to this potential in addressing some of the major global issues such as climate change, food insecurity and sustainable development, that restoration is now gaining, with some reserves, a role of 'active policy option' even at the international level.

(II) Economic relevance

Institutions such as The Economics of Ecosystems Services and Biodiversity have not underestimated the pragmatic potential of restoration. According to their studies, by investing in ecological infrastructure and especially in the restoration of ecosystems, economic benefits would be achieved in terms of cost-effectiveness and increased well-being (TEEB, 2009). Ecosystem Restoration has revealed to be a new environmental asset with both local and international trading opportunities. In this regard, the global carbon market put in place by the UNFCCC mechanisms grew from virtually nothing in 2004 to over US$ 140 billion in 2009 (TEEB, 2009) making the investments in biodiversity credits and intangible ecosystem services a fairly attractive bait even for the most non-environmental businesses.

Moreover, ecological restoration is portrayed as a strategy that augments natural capital, which is defined as an aggregate of '*sustainable ecosystems and ecological landscapes from which human derive services and products that improve their economic well-being without costs of production* (Aronson et al., 2006, pg. 425)'. Hence, the economic necessity of restoring degraded natural capital lies on the fact that: (i) people of all cultures depend on the natural products and services derived from natural ecosystems to provide much (or all) of their sustenance and well-being; (ii) economic well-being is contingent upon the availability and sustainability of natural capital at or above existing levels; and (iii) restoration is the only option for appreciably improving the quality and augmenting the inventory of natural ecosystems.

This perspective is strongly supported in the report 'The Economics of Ecosystems and Biodiversity in National and International Policy Making' (2011) issued by the TEEB in which the literature around the economic value and potential of restoring natural capital - here referred to as 'ecological infrastructure' - is carefully analysed. From this study it emerges that: (i) investing in 'ecological infrastructures' makes economic sense in term of cost-effectiveness and rates of returns, once the full range of benefits provided by the maintained, restored or increased ecological services are considered; (ii) it is usually much cheaper to avoid degradation than to pay for ecological restoration; (iii) investments in ecosystem restoration can benefit multiple policy sectors and help them to achieve their policy goals - this applies, but it is not limited to: urban development, water purification, waste treatment, regional development, transport, tourism, as well as protection from natural hazard and policies for public health; (iv) in the light of the expected needs for significant investment in adaptation in climate change, investments in restoring degraded ecosystems is directly relevant to maintain and enhance the productive capacity of agricultural systems under conditions of increased climate fluctuations and unpredictability and also to provide buffering services against extreme weather events; (v) investments in natural capital and conservation of ecosystems can help to avoid crises and catastrophes or to mitigate their

consequences; (vi) direct government investment is often needed since many returns lie in the realm of public goods and interests and will be realized only over the long term, but opportunities exist and can be expanded to create public-private partnerships; and finally (vii) proactive strategies for investments in natural capital need to be further developed and implemented and to link natural capital explicitly with natural hazard risks.

Therefore, by investing in restoring natural capital, money is not detracted from nature conservation, but rather it eventually results in additional meaning, relevance and effectiveness to conservation efforts and to human well-being in general (Aronson et al., 2006).

(III) Social relevance

According to the Global Footprint Network[17], humanity is currently living far beyond the planet's means, consuming the Earth's resources at an incredible high speed. One of the reasons for this is that mainstream economic policies have failed to deliver inclusive and sustainable growth. Simultaneously, decision makers have failed to recognize the interconnectedness of the major global challenges such as climate change, financial crises, food price volatility and common price increases (Raworth, 2012).

It is in this context that, according to Clewell et al. (2006), restoration can show its **technocratic** potential. In fact it has shown to be able to support government agencies or other large organizations to satisfy specific institutional missions and mandates. However, as it will be explained in Paragraph 2.4, it took a long time before this potential of restoration was recognized at the international level.

For instance, among the Millennium Development Goals defined in 2007, only one of them aims directly at environmental sustainability – MDG7 on environmental sustainability. Yet, studies show that in order to achieve each of the others goals, the support of functioning ecosystems is required. In turn, achieving the goals on poverty, education, health, food security, equality and partnerships will then support the delivery of MDG7 (Morley et al., 2005).

Also in the specific case of restoration, this interconnectedness has long been overlooked (Aronson et al., 2010). In order to assess whether restoration scientists and practitioners used their project to demonstrate the socio-economic benefits of restoration, Aronson et a. (2010) conducted a Meta-analysis of 1582 peer-reviewed papers dealing with ecological restoration, published between the years 2000 and 2008. What they found out is that practitioners are failing to signal links between ecological restoration, society and policy, and are underselling the evidence of benefits of restoration as a worthwhile investment for society.

As a matter of fact, restoration has shown to have positive influence on: (i) the development of legal mechanisms; (ii) the support of financial markets; and (iii) the creation of direct payments for rewarding the promotion, conservation, or enhancements of ecosystem services (Aronson et al., 2010).

The main benefit that societies can have from restoration in the short term is that it improves and enhances the supply and quality of all ecosystem services provided locally by natural systems. Moreover, other benefits on the long term are: (i) protection of watershed used to support society; (ii) waste treatment; (iii) secondary productivity of use to people; (iv) Carbon sequestration to mitigate anthropogenic global warming; (v) increased

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[17] http://www.footprintnetwork.org/en/index.php/GFN/

productivity of farmland and rangelands; (vi) reduced soil erosion and mudslides; and (vii) greater protection against floods and offshore storms (Aronson et al., 2010).

Since most of them are implemented at a community-level, if well-designed, restoration projects have also shown great potential in: (i) creating jobs; (ii) improving livelihoods; and (iii) enhancing the prospects for developing effective marketplaces and legislations to provide payments for ecosystem services (Aronson et al., 2010).

Finally, being an applied science, restoration ecology has shown to have a direct impact on human interests and on their purpose. As a matter of fact, goals and scopes are based on humans' judgments and should then fit an economically and socially acceptable framework (Aronson et al., 2006).

In this connection, one of the most interesting reasons identified by Clewell et al. (2006) is the **idealistic** one. This is supported by four particular elements: (i) the atonement for environmental damage; (ii) the re-entry into nature; (iii) the renewal of the nexus between nature and culture; and (iv) the spiritual renewal.

The atonement for environmental damage refers to that feeling which is shared by those who feel to be living in a culture that is responsible for causing morally unacceptable environmental degradation. The re-entry in nature recalls that strong impetus existing among many people of urbanized and highly technical cultures to seek respite in nature, whether in a context of meditation, contemplation or recreation. The renewal of the nexus between nature and culture emerges from the acknowledgement of the great damages that have been caused to many indigenous tribes when disrupted by the excessive exploitation of their land as a consequence of globalisation. Finally, the spiritual renewal relates to that personal and subjective realization to be an active component and a vital participant in the ecosystem process to be restored (Clewell & Aronson, 2006).

As stated by Cheney (2008):

> *'As self-conscious creatures, humans experience the world as something they are both part of and apart from. That being the case, if the aim of environmentalism is to provide the means for negotiating a healthy relationship with the environment, then it has to provide psychologically effective ways of dealing with both aspects of this experience.'*
>
> *J. Cheney, "Postmodern Environmental Ethics," Environmental Ethics 11, no. 2 (2008): 130*

In their book *Making Nature Whole*, William R. Jordan and George Lubick have been the first ones identifying a fourth dimension of restoration as that of 'imagination, performance, and meaning'. On this line of thought, Ferwerda (2012) supports the idea according which the whole society should rethink its relationship with ecosystems and restoration activities should also aim towards a **Return of Inspiration[18]** on a more spiritual level.

2.3 Limitations of Ecological Restoration

When evaluated in theory, ecosystem restoration appears to be one of the most valuable win\win options in terms of biodiversity protection, social well-being and climate changes mitigation\adaptation (Nellemann &

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[18] Being the focus of the Case study of this thesis, the '4 Returns' model applied by Commonland will be further explained in paragraph 2.5.1.

Corcoran, 2010). However, on the field there are only a limited number of the large-scale restoration projects that have been completed so far. Two of which that are worth considering in relation to the astonishing results they achieved, the Loess Plateau in China and the Everglades in Florida. Despite their success, their emulation was limited by the fact that the costs that the governments of these two countries had to face are among the highest ever paid in the history of natural resources management (USD 4 billion in China and USD 7.8 billion in Florida).

Yet many examples can be found on a smaller scale. Of these ones though, little information is founded on costs and in their Monitoring Systems in general. For instance, over the 20,000 case studies and peer-reviewed papers on ecological restoration assessed by the TEEB in 2011, only 96 were found to provide meaningful economic data on restoration (TEEB 2011). Among these, some only provided aggregate costs, others only capital or labor costs. Cost-benefit analyses have rarely been conducted and sometimes even simple records of registration costs or of benefits to society were completely missing (TEEB 2011). Moreover, in this context researchers found out that costs tend to vary as a function of the degree of degradation, the goals and specific circumstances in which restoration is carried out and the methods used (TEEB 2011).

As a consequence, restoration has not always been able to figure as an attractive measure for policy makers and most importantly, it did not allow for potential investors to evaluate the cost and the benefits that they would gain by financing ecosystem restoration (TEEB 2011).

Already in 2009, to close this information gap, the TEEB (2009), assessed 104 restoration studies covering 9 major biomes and estimated the average value of the costs and of the benefits of 22 ecosystem services provided by these biomes (see the table below). By doing this they managed to show the great economic potential hidden behind the restoration of degraded ecosystem and in more detailed the exceptional internal rates of return investor can gain from it.

	Biome/Ecosystem	Typical cost of restoration (high scenario)	Estimated annual benefits from restoration (avg. scenario)	Net present value of benefits over 40 years	Internal rate of return	Benefit/cost ratio
		US$/ha	US$/ha	US$/ha	%	Ratio
1	Coral reefs	542,500	129,200	1,166,000	7%	2,8
2	Coastal	232,700	73,900	935,400	11%	4.4
3	Mangroves	2,880	4,290	86,900	40%	26.4
4	Inland wetlands	33,000	14,200	171,300	12%	5.4
5	Lakes/rivers	4,000	3,800	69,700	27%	15.5
6	Tropical forests	3,450	7,000	148,700	50%	37.3
7	Other forests	2,390	1,620	26,300	20%	10.3
8	Woodland/shrubland	990	1,571	32,180	42%	28.4
9	Grasslands	260	1,010	22,600	79%	75.1

Note: Costs are based on an analysis of appropriate case studies; benefits have been calculated using a benefit transfer approach. The time horizon for the benefit calculation are 40 years (consistent with our scenario analysis horizon to 2050); Discount rate = 1%, and discount rate sensitivity by flexing to 4%, consistent with TEEB 2008). All estimates are based on ongoing analyses for TEEB (see chapter 7 TEEB D0 forthcoming). As the TEEB data base and value-analysis are still under development, this table is for illustrative purposes only.

Tab. 1 Estimates of costs and benefits of restoration in different biomes (TEEB 2009)

Based on average values, these costs and benefits vary greatly according to the specific ecosystem to be restored, the social context and the economic reality in which the project take place. However, in the literature it is possible to identify two main financial obstacles that are common to every restoration project, and especially the large-scale ones.

What makes the investment in restoration projects so difficult is the time gap between the investment, which is generally substantial, to the moment in which the economic benefits return to its investors (Thomas, Dargusch, Harrison, & Herbohn, 2010). In this connection, two main factors can be identified in the literature as the ones limiting the effectiveness of ecological restoration. These are:

High transactions costs. These costs are incurred while gathering information about the specific site where the degraded ecosystem is located. They also include the 'bargaining cost' incurred for connecting with the stakeholders and to monitor and enforce the restoration activities throughout the whole duration of the project. So far, these large sums have been faced mainly by local NGOs, or by the scientific institutions directly involved in the project or, in the most successful cases, by the local governments.

Opportunity costs. These costs are referred to as 'the loss of potential gain from other alternatives when one alternative is chosen'. In the specific case of restoration projects, such costs are usually related to the change in land use that restoration activities would require from local communities. For instance, these costs would be the income that a farmer would lose while substituting agricultural areas with areas for the protection of nature where no agriculture is allowed.

Together with these, Ferwerda (Ferwerda, 2012) identifies six other factors with a direct impact on the success of large scale restoration projects. These are:

Short-term thinking. Although few years are enough to degrade an ecosystem, many more are necessary to restore its ecological functions. Underestimating the time scale needed for the implementation of restoration activities is what causes an inefficient management of the projects themselves and, most importantly, of the financial resources needed to support them. Restoration projects should then move from a time scale of 2\3 years to a more realistic one of 20+ years.

Low understanding of the economic value of ecosystems. Even if still in its infancy, the concept of ecosystem service has already shown its great potential by bringing together ecologists and economists. However, a lot more ought to be done to develop the economic terms of an exhaustive assessment of the value of an ecosystem. Nevertheless it is crucial to take these services into account if more sustainable business models are to be applied. Restoration projects such as the one in the Loess Plateau in China[19] showed that it is possible to build ecosystem service-based economies and the challenge is now to find a way to scale up such approach worldwide.

Under-consideration of local communities continue patterns. Local communities, the primary users and beneficiaries of the services supplied by the ecosystem, play a key role in the restoration process. In many cases, traditional activities turn out to be 'unknowingly detrimental' and, generation after generation, degrade the land. If the shift towards more sustainable practices is introduced and supported, this could not only be beneficial for the socio-economic well-being of the local communities, but also for the vital functions of the degraded ecosystem.

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[19] https://www.youtube.com/watch?v=41qnjXKdE70

Under-use of scientifically proven tools and already existing techniques. In the past twenty years, the number of scientific researches about ecological restoration has notably increased and with it the portfolio of scientifically proven restoration activities. Despite the fact of having a scientifically sound foundation, these techniques have rarely been implemented on a large scale.

'Silo thinking approach'. Nowadays, integration amongst different fields of knowledge is all the more needed in order to cope with modern socio-environmental and economic challenges. However the communication between experts of different disciplines is not always as easy as it is pictured in the theory. Different jargons, different mind-sets and different methods usually decrease the effectiveness of such multi-integrated approach resulting in 'Silo thinking' solutions. In the specific case of nature conservation this may result in the underestimation of the economic value of the services provided by the ecosystem and in projects focused only on the ecological functions. Ecologists, economists and sociologists should then be able to talk 'the same language' in order to reach holistic and systematic solutions.

Exclusion of the business. In the field of ecosystem service governance, experts identified many financial mechanisms which can provide incentives for business parties in investing in more sustainable use of natural resources. Some well-known examples are: the payment for ecosystem services; biodiversity off-sets; certifications and markets for green products. However, none of them really managed to get the attention of big companies and to eradicate those business-as-usual practices which are actually degrading the ecosystems worldwide.

2.4 The walk-on of Ecosystem Restoration in the International Arena

> *'Global warming may dominate headlines today.*
> *Ecosystem degradation will do so tomorrow*.'

> Corporate Ecosystems Services Review, WRI et al. March 2008

The warming of the climate system is unequivocal. For the fifth time in twenty-three years, the Summary for Policymakers of the Working Group I has been internationally accepted by the Intergovernmental Panel for Climate Change. In this Report all Parties agree that: '*It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century* (IPCC, 2013, pg 15).'

Climate experts think that the driving force of this process is to be found in the atmospheric concentrations of greenhouse gases such as carbon dioxide (CO_2), methane, and nitrous oxide that have increased to levels not previously recorded, in at least the last 800,000 years. In particular, CO_2 concentrations have increased by 40% since pre-industrial times, coming primarily from fossil fuel emissions and secondarily from net land use change emissions.

When referring to carbon in the climate debate, scientists mainly point out to two specific types of carbon: *'Brown carbon'* and *'Black carbon'*. The first one is related to the direct industrial emissions of CO_2, while the second one refers to the carbon formed through incomplete combustion of fuels used for industrial and domestic purposes.

However, in order to entirely understand the carbon cycle and eventually mitigate global warming, two other sources of carbon should be taken into account. These are the carbon stored in terrestrial ecosystems e.g. plant biomass, soils, wetlands and pasture, also called *'Green carbon'*; and the *'Blue carbon'* stored in the world's oceans. An estimated 55% of the carbon produced by all living organisms is stored in mangroves, marshes, sea grasses, coral reefs and macro-algae. (TEEB, 2009).

Not only the key role of these two sources of carbon has long been underestimated in the actions taken to mitigate climate, but far too often their degradation has been enhanced leading to positive feedbacks between biodiversity loss and global warming. According to IPCC studies, by halting the loss of green and blue carbon, the world could mitigate as much as 25% of the total greenhouse gas (GHG) emissions with co-benefits for biodiversity, livelihood and food security (Parry et al., 2007).

Hence, if the role of Ecosystem Restoration is to be assessed in the International Climate Architecture, it is possible to identify two different phases: one in which Restoration has '*passively'* been monitored as effective mitigation measure to sink great quantities of atmospheric carbon; and another one in which it has been '*actively'* incentivized because of its economic value related to the carbon credits that it generates.

At the beginning of its activity, the IPCC mainly focused on collecting data to understand the sources from which CO_2 was released in the atmosphere or captured from the atmosphere. Article 4 of the Guidelines for National Greenhouse Gas Inventories (1996) is the first one in which the monitoring of the GHGs emissions related to land use change is considered. In this occasion the process through which carbon was removed by sink was not thought to be restoration *per se* but mainly natural reforestation of degraded areas.

> ***Article 4, paragraph 1(a):*** *Develop, periodically update, publish and make available to the Conference of the Parties, in accordance with Article 12, national inventories of anthropogenic emissions by* <u>*sources*</u> *and* <u>*removals by sinks*</u> *of all greenhouse gases (GHGs) not controlled by the Montreal Protocol, using comparable methodologies to be agreed upon by the Conference of the Parties.*

And more specifically, this article is the first to promote the conservation and/or the enhancement of CO_2 reservoirs of Green and Blue Carbon.

> ***Article 4, paragraph 1(d):*** *Promote sustainable management, and promote and cooperate in the* <u>*conservation*</u> *and* <u>*enhancement*</u>*, as appropriate,* <u>*of sinks and reservoirs of all GHGs*</u> *not controlled by the Montreal Protocol, including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems.*

However, back then data were gathered only on the emissions coming from process of land use change such as land conversion (e.g. clearing of forest for agriculture or conversion of grassland to forest) or from the degradation of the amount of biomass in existing carbon stocks (e.g. forest, village trees, savanna). No direct data were collected about those activities enhancing the sink of CO_2, such as agriculture or restoration.

It is only in 2006 that agricultural sector gained a central role in the international debate. As a consequence, the IPCC decided that agriculture should have been integrated in order to allow for more consistent measurement of GHG emissions through land management. This lead to the birth of a new, more comprehensive category of

options to be accounted as carbon-sink measures: AFOLU - Agriculture, Forestry and Other Land Uses. Among these:

- Afforestation, Reforestation and Revegetation (ARR)
- Agricultural Land Management (ALM)
- Improved Forest Management (IFM)
- Reduced Emissions from Deforestation and Degradation (REDD)
- Avoided Conversion of Grasslands and Shrublands (ACoGS)
- Wetlands Restoration and Conservation (WRC)

Thanks to their capacity to reduce GHG emissions in the atmosphere, AFOLU projects gained more and more fame in the context of international negotiations on climate policies. As a result, they passed from being 'passively monitored' to be 'actually implemented' as measures to enhance carbon-stock capacity of different land uses. In fact, it did not take long before international financial institution recognized their economical potential in the realm of the Clean Development Mechanisms. For instance, the World Bank has been the first one to recognise in sustainable land management practices, such as Ecosystem Restoration, a potential quantifiable and cost-effective tool able to support the Parties in accomplishing their commitments. (Alexander et al. 2011) As stated below:

> *'The CDM offers the opportunity to explore market-based climate change mitigation opportunities. Land use, land-use change and forestry (LULUCF) activities are among the few opportunities available to developing countries. However, eligible land use activities under the CDM are limited to afforestation and reforestation (A/R). This limitation is a constraint for most LDCs in harnessing mitigation opportunities. As a result, these projects account for less than 1% of the total projects registered under the CDM.'[20]*

These new developments in the International Climate Arena represented a turning point for Ecosystem Restoration activities. If at first they had only been listed in the IPCC Guideline for National Inventories on GHG emission, they then started to play an 'active' role as effective Clean Development Mechanism.

More specifically, the topic "*Reducing emissions from deforestation in developing countries and approaches to stimulate action*" was first addressed into the 11th COP session in Montreal (December 2005). Although not explicitly addressed in the official text of REDD+, the inclusion of sustainable management and carbon-stock enhancement, made forest restoration activities suitable for the REDD+ funding system.

However, it took a long time before these kinds of projects could be operationalized in practice. The reason for this is that A/R CDM projects did not manage to attract many investors because of their high transaction costs, the rigorous monitoring requirements and the liability of buyers for the sequestered carbon (Pistorius 2012).

In this connection, Thomas et al. (2009) identified two types of obstacles to the success of A/R CDM: (i) financial constraints, particularly from the landholders' perspective - as described in the previous paragraph; (ii) and constraints associated with proponents' lack of the technical knowledge and skills which are required to successfully manage the complex administrative requirements - which could be seen as an implementation

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[20] At this regard, the **Verified Carbon Standard** - world's leading voluntary greenhouse gas program for the certification of voluntary carbon credits - recently unlocked the carbon reduction potential of AFOLU projects by developing appropriate Methodologies for the registration of their credits in terms of CO_2 removal units (RMU).

deficit. The author also states in his article that to solve these issues, a more holistic approach is needed. In this way, different stakeholders are recognized and engaged, multiple-use benefits are optimized and long-term management is put in place. Simultaneously ecosystem resilience is enhanced and strategies that integrate carbon sequestration and climate mitigation bridge the gap towards a sustainable development (Thomas et al., 2010).

These technical obstacles have been just one of the arguments discussed by the UNFCCC while evaluating the feasibility of REDD+ as potential mechanism for the reduction of deforestation. After more than ten years of negotiation, only in 2013 at the 19th Conference of the Parties, the *Warsaw Framework for REDD+* was signed. As a result, few are nowadays the projects that have been accomplished in terms of forest restoration and many are the degraded ecosystems which are not under the REDD+ schemes but that are in a urgent need of being restored.

2.5 A new approach towards Ecological Restoration: from top-down to bottom-up

Ecological Restoration gained relevance at the international level mainly thanks to its relation with the issue of Climate Change. Unfortunately, it is because of the political complexity which characterized the climate debate, that many potential projects did not manage to be applied in the context of the CDM scheme (Thomas, 2009).

However, by using this momentum, international environmental institutions finally managed to bring the attention of the international audience on the relevance of ecosystem degradation in relation to the current environmental challenges – climate change, biodiversity loss etc. Ecosystem Restoration was finally being listed among the tools to be used to reach international targets such as the CBD Aichi Target 15, the UNFCCC REDD+ goal, the Rio+20 land degradation target and the SDGs – Sustainable Development Goals.

In September 2011, to facilitate the implementation of these existing international commitments and to overcome political obstacles, the German Government and the Global Partnership on Forest Landscape Restoration[21] (IUCN) came together and signed '*The Bonn Challenge'* with the aim to create a global movement to restore 150 million hectares of degraded and deforested land by 2020[22].

To increase the chances of reaching this new target, the International Union for Conservation of Nature (IUCN) together with the company Airbus launched "*Plant a Pledge campaign*", an online petition to empower stakeholders to call on governments, landowners and communities to contribute land to the Bonn Challenge.

So far, almost 20 million hectares have already been pledged and commitments of further 40 million hectares are being finalised in these years thanks to the investment of several governments, private sector companies and community groups (NGOs). This global movement gained further momentum at the December UN Climate Talks in Doha (2012) where Costa Rica and El Salvador each committed up to 1 million hectares.

In accordance with the goals of the Bonn Challenge, the Economics of Land Degradation (ELD) Initiative[23] has also been funded by some private organisations in order to enhance a global capacity building process towards land restoration. It consists in a learning platform for stakeholders from the private sector, science and the policy

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[21] http://www.forestlandscaperestoration.org/
[22] http://www.iucn.org/news_homepage/news_by_date/?11666/The-Bonn-Challenge-approaches-50-million-hectares-mark
[23] http://www.eld-initiative.org/index.php?id=1

sector, aiming at a global study on the potential benefits derived from adopting sustainable land management (SLM) practices and from reducing ecosystems degradation.

In this connection, Choi (2007) defines a 'future-oriented restoration' as one in which: (i) restored ecosystems are able to sustain themselves in the future, not in the past, environment; (ii) multiple alternative goals and trajectories for unpredictable endpoints are defined; (iii) the focus on rehabilitation practices are the ecosystem functions rather than the re-composition of species or cosmetics of landscape surface; and (iv) the 'value-laden' identity of the restored ecosystem is acknowledge by institutions both at a scientific, economic and social level. (Choi, 2007).

However, many studies show that in order for this to be possible, institutions need to relinquish some authority and actively work in partnerships with the stakeholders (Aronson et al., 2006; Society for Ecological Restoration International & IUCN Commission on Ecosystem Management, 2004; TEEB, 2010a). . In facts, even if a central institutional power is needed to guarantee the enforcement and the compliance with the regulations, it has been shown that partnerships might enhance the effectiveness of complex issues such as climate change and land degradation.

Conversely, stakeholders – particularly local citizenry – must be motivated to assume responsibility in a partnership and inject restoration projects with idealism, cultural meaning and heuristic value. (Aronson et al., 2006). As a matter of fact, researches on the field show that participation of the local community in restoration projects has been able to lessen the financial constraints by at the same time increasing the chances of success of the project (Thomas et al., 2010). In many projects, by applying a multi-stakeholders approach it has been possible to diminish the transaction costs on multiple scales. For instance, the information costs have been reduced by the use of local knowledge, the implementation costs by directly involving landowners and finally the enforcement ones by relying, where possible, on the cohesion of the community at a landscape level (Bouma, 2015).

Such a collaborations, have shown to be effective in meeting the priorities of both conservationists, who seek to maximise net biodiversity growth and system function, and of economists, who seek to maximise financial return and promote economic growth as a means to creating employment opportunities, to banish poverty, hunger and homelessness, and to improve the lives of most people. (Aronson et al., 2006)

These findings are in line with the current trends in the global governance explained in Chapter 1. A shift from 'hierarchical' approaches to a 'network' is currently being recorded in many different disciplines. In addition to this, by overcoming the slow pace at which international agreement achieve concrete results, Public-Private Partnerships are showing to be successful in including a broader set of stakeholders to enhance the success rate of international targets[24]. One of the first companies that understood their potential in the context of large-scale Ecosystem Restoration initiatives is Commonland.

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[24] It is for this reason that this topic is further explored in Chapter 3.

2.5.1 Commonland: a new approach towards Sustainable Development through Landscape Restoration

Founded by the IUCN Commission on Ecosystem Management and the Rotterdam School of Management-Erasmus University in 2013, Commonland is a non-profit international organisation built on a trustful network of experienced institutions in the field of natural resource management, sustainable development, business and finance. Among these: CoMon Foundation, IUCN, UN Convention to Combat Desertification, UN Environmental Programme, McKinsey & Company, Wetlands International, Egon Zehnder, Baker & McKenzie, Wageningen University, Global Partner on Forest and Landscape Restoration, Doen Foundation, Hivos, Enviu, EEMP, and APG Asset Management.

The vision that Commonland aims to embody is that of being an effective catalyst for the restoration of large-scale degraded ecosystems worldwide. By establishing a new paradigm for the restoration and for the sustainable management of ecosystems, Commonland wants to break the 'Silo thinking approach' and to create a common 'restoration language' so as to make restoration understandable and applicable worldwide where needed.

Commonland mission is to identify existing restoration projects around the world and to scale up their activities by addressing the challenges that have caused the failure of past restoration projects. In order to do that, it applies an integrated approach in which ad hoc business cases are designed at a landscape level. As a result, the socio-economic needs of the communities are balanced with the natural resources offered by the ecosystems with benefits both for the society and the environment.

By endorsing and monitoring international agreements such as the Bonn Challenge, Action 2020 and the Sustainable Development Goals, Commonland aims at accelerating the restoration of 150 million hectares of degraded ecosystem over the next 20 years. To this end, it fosters the creation of long lasting partnerships in which companies and investors are matched with well-established local organizations with a track record in restoration activities. Yet in order to comply with its impartial matchmaker function, Commonland moves independently from these international institutions but keeps a strong commitment to their goals.

Because of its holistic approach, Commonland can be seen as a foundation, an enterprise and a fund at the same time. As a foundation, Commonland acts like an international non-profit organization directly involved in the selection and development of restoration projects on the field. As an enterprise, it engages companies and investors for the creation of sustainable business cases designed to restore degraded ecosystems while enhancing local livelihood. Finally, as a fund, it will behave as an independent asset manager, able to self-sustain restoration projects and public-private partnerships worldwide.

Thanks to this flexibility, Comonland can adjust its role depending on the site-specific circumstance in which it operates. It can either play a supporting role by influencing the enabling conditions for the formation of the partnership and for the project itself. In this case it carries out promotion and lobbying activities addressed to the different stakeholders; it suggests and organizes stakeholder meetings; it gives advice during the project design phase and formulates the agreements on the restoration plans. But it can also play a key role by holding in its hands the control on the financial aspects of the projects. In this other case it may enter into contracts, or buy

the land where to implement the projects, or set up its own business development activities or leases the land temporarily.

Commonland Model

The model applied by Commonland is rooted in the realization that as ecosystems keep on being degraded, four main losses occur: (i) the loss of the meaning in the relationship between society and nature; (ii) the loss of social cohesions and jobs; (iii) the loss of biodiversity; (iv) and finally an economic loss. According to Commonland vision, in order to reverse this debilitating trend, it is necessary to rethink the relationship among ecosystems, societies and the economy and to connect them through a common inner purpose. Societies should move away from a mentality where profit is the only value to be maximized and should embrace a new vision where social and economic well-being is achieved by the maintenance of functional ecosystems.

To support this social shift, Commonland team designed a model in which these four losses are turned into four returns.

(1) Return of Inspirational Capital

Local communities, companies and investors must be aware of the consequences that unsustainable practices have on their economy. Showing the great achievements that a community can reach if it acts as a single system will enhance pride, self-determination and long term commitment, thus allowing for the lost meaning to be regained. This return is evaluated by measuring the percentage of stakeholder groups committed in the long term partnership per year per hectare; the number of cultural and social events organized; the percentage of corruption benchmark per hectare; and the level of engagement stimulated in stakeholders.

(2) Return of Social Capital

Restoration activities will not only regenerate ecosystem functionalities but also create jobs, social cohesion and security. Moreover, by creating educational and social centres the knowledge about restoration and sustainable practices is transmitted to new generations with greater repercussions on future social development. This return is evaluated by measuring the number of new jobs per projects per municipality per hectare; the number of years spent per project; the number of social ventures per year per project; and the number of schools and services per project.

(3) Return of Natural Capital

Designing ecosystem-specific restoration plans will help to protect and reintroduce endemic species so as to reduce the biodiversity loss. Simultaneously, the hydrological cycle will be restored, the vegetation cover enhanced and the fertility of the soil regenerated. This return is evaluated by measuring the number of native species per year per hectare; the percentage of decrease in biodiversity per year per hectare; the percentage of vegetation coverage restored per year per hectare; the percentage of organic material restored in the soil per hectare; and the number of stream flows created per hectare.

(4) Return on Investment

By investing in restoration activities such as sustainable agriculture, timber production, leisure, hunting and real estate formation, companies and investors will boost local economy with direct repercussion on their financial returns and on their corporate social responsibility credits. This return is evaluated by measuring the return on

investment per year per hectare; the decrease in the costs for the input of chemicals per hectare; the ton of carbon absorbed per year per hectare; and the yield produced per year per hectare.

In order to achieve these returns Commonland assesses the ecosystems at a landscape level and designs ad hoc business cases around three productive zones as defined by the IUCN.

(I) Nature zone

Biodiversity is the key actor in this area. The most advanced restoration techniques are applied in order to maximize the return of natural capital by rehabilitating the hydrological cycles, the fertility of the soil and by increasing vegetation coverage. By preserving preexisting forests and green riverbanks, the basic ecological functionalities are restored with great benefits for the whole ecosystems and for its related biodiversity.

(II) Eco-agro Mix zone

In this area sustainable activities are implemented in order to increase biodiversity while creating economic opportunities for the local communities. Among these: agroforestry, silvopasture, fruit tree plantation, leisure, ecotourism and recreation activities. In this way the four returns are maximized with shared benefits for all the stakeholders.

(III) Economic zone

In this area the focus is on productive activities so as to increase the return on investment both for the local communities and the investors. Job opportunities will be created by investing in sustainable agriculture, pastures, housing, real estate and infrastructures.

Commonland Approach

Projects are identified and implemented following a six stage gate approach.

Step 1: Project identification and selection

Being an innovative and young organization, Commonland is building its project pipeline according to a dynamic search strategy that varies according to its growing experience and network. Over the first year of activity, Commonland monitored and aligned with international institutions and organizations in order to cope with the still limited availability of local entrepreneurial capacity. Its focus has been on existing restoration projects where integrated landscape restoration activities are supported by eco-agriculture initiatives, rural development projects, mining restoration programs, watershed rehabilitation schemes, conservation and forestry protection programs.

In this first phase of project selection, Commonalnd has been applying a systematic approach in which projects' feasibility is scanned through a multi-criteria analysis tool. By giving a weight to a list of criteria, Commonaland team assesses the political, technical and social feasibility of all the projects and identifies the most suitable ones for its pipeline. In this way, by knowing which are the strongest\weakest side of a project, Commonland team provides the support needed so as to upgrade it from 'restoration ready' to 'investment ready'.

Step 2: Design of the business case

In this phase Commonland experts create restoration partnerships together with local stakeholders from both public and private parties. This process is facilitated by a local '**Four Return Development Company'** which is formed by Commonland in the country in which the project is going to take place. Hence, business cases are scouted by the local team of the Four Return Company on the base of the characteristics of the ecosystem and of

the on-going activities in the area. First the degraded ecosystem is assessed from a landscape point of view and the three zones are defined. Then by improving the activities which may deliver at least one of the four returns and by co-developing new sustainable activities, the four returns are maximized. Based on a time scale of 20+ years, these business models are thought to provide returns for local communities in the first years of implementation, and by the end of the project also for the investors.

Step 3: Feasibility check

In order to facilitate the alignment of the expectations of all the members of the partnership, a series of meeting is organized both through Commonland and through scope missions on the field. Here investors meet local stakeholders and the technical feasibility of the project is assessed directly on the field, step by step.

Step 4: Implementation of the restoration activities

In this phase Commonland builds the professional project planning\development team which works directly on the field together with the local organizations. Representing the impartial nature of Commonland, this team is the reference point for the members of the partnership and assures that the 4 Returns\3 Zones model is implemented according to the right principles and with the right amount of financial resources. Stakeholders are involved through a participative people-cantered approach built on the strengths of the communities and on their traditional knowledge.

Step 5: Maintenance

The projects are maintained by the long lasting partnerships and supported by Commonland team throughout its whole duration. As one of the tools used to monitor the effectiveness of Commonland, all projects are filmed by the American film director John Liu and his crew. In this way, progresses are reported and openly shared on the media format.

Step 6: Increase the scale

By proposing an alternative to the business-as-usual activities, Commonland aims at inspiring communities to adopt the 4 Returns\3 Zones approach all over the world. While scaling up this approach, Commonland aims at creating a 'Restoration Industry' where environmental, social and economic well-being are all maximized through win\win solutions for all its stakeholders. In this way, also the basis for a 'Restoration Governance' is lied in which public-private partnerships bridge the gap between scientific knowledge and social capacity around nature conservation**.**

2.6 Conclusions

This chapter aimed at answering the research sub-question:

In which way can ecosystem restoration support sustainable development?

In order to answer this question, an extensive literature review has been conducted on the topic of Ecological Restoration and more specifically on its ecological, economic and social relevance.

Ecological Restoration has a great potential as a tool both to recover degraded ecosystems and to sustainably manage ecosystem services in the long-term. More specifically restoration is seen as a '*process that recovers and improves the functionality of ecosystems within landscapes consisting of lands in agricultural production as well as set-aside nature reserves* (Aronson et al., 2006).'

In fact, if well designed, Restoration has the capacity to deliver ecological, economic and social benefits in a way which supports the '*mutual attainment of social equity, environmental health and economic wealth'*. For these reasons, and especially after that its economic value was openly recognized in the climate arena, international institutions have finally started to address Ecological Restoration as a potential way towards sustainable development.

Interestingly, it has also been found that Restoration is developing in line with the trends that are currently shaping the Global Governance of Ecosystem Services. In fact, in order to be effective, restoration projects require: (i) a landscape approach in which ecosystems are evaluated as a mosaic of different ecosystems interrelated to each other; (ii) a multi-stakeholder approach in which partnerships are created between local communities, governments, private sectors and other non-state actors; and (iii) a set of different policy and market tools to guarantee the sustenance of the restoration activities in the long term.

However, even if effective in theory, few examples of successful restoration projects can be found in practice. The reasons for this are: (i) high transaction and opportunity costs; (ii) no proper M&E systems in place (iii) short-term thinking; (iv) low understanding of the economic value of ecosystems; (v) under-consideration of local communities continue patterns; (vi) under-use of scientifically proven tools and already existing techniques; (vii) 'Silo thinking approach'; and (viii) exclusion of the business sector.

An international organisation which seems to acknowledge both the potential of landscape restoration and of the role of Partnership in this context is Commonland. By trying to address all these constraints, Commonland aims at showing that large-scale restoration projects are possible and that they actually make economic sense. In fact, its approach, the 4 Returns/3 Zones/20 Years model, aims at creating a 'Restoration Market' in which: (i) ecosystems are restored and managed throughout sustainable business models; and (ii) Restoration Partnerships are formed at a landscape level to create the basis for a sustainable and long-lasting development with benefits for both the environment and the people living on the land. However, being a relatively young organisation, its effectiveness has still to be proven.

Chapter 3

Public Private Partnerships for Landscape Restoration: A review of the current knowledge

3.1 Introduction

The concept of sustainable development combines the need for economic development, with the need for social and environmental quality. That means that responsibilities that were traditionally separated, are now considered parts of the same coin: business has to sustain economic development, governments the protection of public goods (of which social and natural capital are important aspects) and civil society the enhancement of civility and social cohesion (of which social and environmental quality are important aspects as well) (Van Huijstee et al., 2007).

Chapter 1 discussed some of the latest trends in the governance of sustainability where traditional top-down approaches are being replaced by more bottom-up ones. What is more, it has been shown that market parties and civil society organisations are taking up their share of responsibility and the policy arena, which was previously closed to few, is now opening to actors from other sphere or sectors of society (Van Huijstee et al., 2007). One of the most significant expressions of these changes is represented by Public-Private Partnerships (PPPs). These governance mechanisms have been praised as the key solution for most of the global issues concerning the world today, but so far few have delivered the results expected (Mert & Pattberg, 2015). Nevertheless, international institutions are keeping on supporting their formation in many different areas, landscape restoration as one of them.

In the light of these considerations, this chapter aims at answering the specific sub-question:

Which role would public private partnerships have in supporting landscape restoration?

In order to answer this question, first the relevance of PPPs is assessed in the realm of Sustainable Development. Paragraph 3.3 assesses the limitations that are encountered while creating Public-Private Partnerships for Sustainable Development and the criteria that these would need in order to be successful. Then paragraph 3.4 investigates the potential of public private partnerships in the context of the governance of ecosystem services. In order to do this it reviews the benefits and the limitations of community co-management and public private partnerships compared to traditional exclusive conservation practices.

3.2 Public-Private Partnerships (PPPs) for Sustainable Development

In the literature, Public-Private Partnerships for sustainable development have been defined in many different ways (Van Huijstee et al., 2007). However, one of the most clear definition by Van Huijstee et al. (2007, pg. 75) is: *'collaborative arrangements in which actors from two or more spheres of society (state, market and civil society) are involved in a non-hierarchical process, and through which these actors strive for a sustainability goal'*.

The first publications showing the interest of societal and academic researchers for Public Private Partnerships can be dated back to the mid-1990s (Van Huijstee et al., 2007). However, only in the 2002 WSSD in Johannesburg these kinds of collaborations were internationally recognised for the first time as a tool for the attainment of Sustainable Development. In this occasion they have been categorised as 'Type II outcome' in support to the traditional 'Type I outcomes' of the intergovernmental diplomatic process (Pattberg & Wilderberg, 2014). From

then on, more than 340 PPPs for sustainable development have been officially registered and every year their importance is being recalled by some of the most influent international institutions, both in the economic and in the environmental spheres.

Two main reasons justify the use of PPPs in the realm of sustainable development: (i) the concept of sustainable development itself, which stresses the need for an active involvement of all societal spheres; and (ii) the complexity which characterize the major current global issues which societies have to face - as briefly discussed in Chapter 1 (Van Huijstee et al., 2007). In their literature review conducted on PPPs for sustainable development, Van Huijstee et al. (2007) also identify two main perspectives from which researchers have assessed these collaborations: the institutional perspective and the actor perspective.

The ***institutional perspective*** focuses mainly on the role of Partnerships in current society. More specifically, it looks at partnerships as new arrangement in the environmental governance regime, emerging naturally in order to face the complex issue of sustainable development (Van Huijstee et al., 2007). From this perspective, the driving forces that have caused the popularity of PPPs, as identified by Van Huijstee et al. (2007), are: (i) the actual and possible role and function in a global environmental governance regime; (ii) the process of globalization, liberalization and privatization; (iii) the 'sector blurring' phenomena due to the acknowledgement that large-scale, complex issues exceed by far the solution capacities of single actors since they are related to negative effects of globalization - as pollution, unhealthy and unsafe labour circumstances and loss of biodiversity; (iv) the need to mask and counterbalance the decline in democracy caused by the phenomena of 'political modernization'; and (v) the creation of a new elitist management.

In this context Van Huijstee et al. (2007) also summarize the potential roles of PPPs claimed by researchers from the filed. These are: (i) agenda setting; (ii) policy development; (iii) implementation; (iv) generation and dissemination of knowledge; (v) bolstering institutional effectiveness; (vi) facilitating a solution; (vii) learning networks; (viii) broadening participation by giving a voice to unheard groups; (ix) making and deepening markets; (x) *meta-governance*, as 'strategic steering and co-ordination in the governance system'; and (xi) ensuring good governance, as the process of ensuring that the basic elements needed for a governance system to function are functioning (Van Huijstee et al., 2007).

The second perspective identified by Van Huijstee et al. (2007) is that of the ***actor*** involved in the Partnership. This perspective focuses on the functioning of partnerships as possible strategic instrument for the goal achievement and problem solving of individual actors. Whereas in the previous perspective, society was the context in which Partnerships' actions were assessed, here society forms the *décor,* while the objective of study is the partnership itself (Van Huijstee et al., 2007). In fact, in this category researchers analyse partnerships into detail by focusing on the inter-organisational mechanisms that define them and by the actions put through during their implementation. In this context, five advantages that actor can benefit from joining a PPPs are identified. These are: (i) access to financial resources; (ii) access to (often local) knowledge and expertise; (iii) creative, innovative solutions; (iv) eco-marketing; and (v) legitimacy. Similarly, four risks are also identified: (i) blurring of tasks and responsibilities; (ii) legitimacy loss: (iii) cultural differences between parties; and (iv) insecure outcomes (Van Huijstee et al., 2007).

However, what emerges from the literature review by Van Huijstee et al. (2007) is that, despite the growing research which can be found on the topic, the concepts of PPPs and sustainable development are more clearly linked discursively than empirically (Van Huijstee et al., 2007).

In order to close this information gap, the Institute of Environmental Studies of the VU University of Amsterdam developed a database in which partnerships are registered according to 150 variables and in which the concrete activities, outputs, of the partnership are evaluated on the base of UN standards.

Box 1. The Global Sustainability Partnerships Database (GSPD)

The Global Sustainability Partnerships Database was developed between 2006 and 2009 at the Institute for Environmental Studies, VU University Amsterdam. It comprises of 150 variables on 330 partnerships registered with the UNCSD. Based on data provided by the United Nations Commission on Sustainable Development (UNCSD), extensive desk studies, and numerous expert interviews, the GSPD provides information on descriptive categories such as number of countries in which partnerships implement their activities, number of and type of partners, type of lead partners, area of policy implementation and functions performed, geographical scope, duration, date of establishment, and resources reported to be required for each of the 330 partnerships registered with the UNCSD at the time the coding was completed in 2009. In addition, the GSPD also contains information about individual partnership output, that is, the concrete activities and programmes of partnerships for sustainable development (Pattberg et al. 2012).

To evaluate PPPs for sustainable development, the GSPD uses two main variables. These are: governance deficits and function-output fit.

Governance deficits refer to those deficits in the governance system which partnerships are expected to support (Haas 2004). These are: regulatory deficit, implementation deficit and participatory deficit. In the *regulatory* area, partnerships are supposed to provide avenues of cooperation and joint problem-solving around issues which intergovernmental regulation has failed to address. At the *implementation* level, partnerships could help implementing those intergovernmental regulations which have been defined by international/national institutions but which are rarely applied in practice. Finally, and most importantly, by giving the chance to less privileged actors to have a role in intergovernmental negotiations, partnerships are seen as able to fill a *participation* deficit. In fact, they are seen as a potential tool to bridge that gap between governments and international institutions on one side, and civil society on the other (Mert & Pattberg, 2015). Given the complexity of sustainable development, these are seen as key issue to be address. More specifically, as state by Mert and Pattberg (2015 pg. 11):

> *'Increased participation from such groups (youth, poor, women, indigenous people and*
> *civil society at large) is seen as needed to improve the implementation of international*
> *agreements and to strengthen the overall legitimacy, accountability and democratic*
> *quality of current governance systems.'*

Secondly, together with these deficits, the GSPD also assesses partnerships according to their capacity to deliver the promised outputs in line with their function (i.e. measurable results such as organizing training programs;

publishing reports; developing curricula; building infra- structure). In the specific case of sustainable development, partnerships are supposed to deliver these outputs in three main dimensions: environmental (ecological), economic, and social with an overall benefit for the entire society.

However, the results coming from the overall assessment done by Mert & Pattberg (2015) on the performance of partnerships in the overall domain of sustainable development are rather astonishing. As it will be further investigate in the next paragraph, these partnerships have shown a very low level of effectiveness, if any at all (Mert & Pattberg, 2015).

3.3 Limitations and success criteria

As a result of their literature review on PPPs for sustainable development, Van Huijstee et al. (2007) found out that the overall idea that partnerships positively contribute to global governmental governance is hardly contested, and it is rather assumed to be self-evident (Van Huijstee et al., 2007). Researchers relate this optimistic assumption to the unsatisfactory performance of traditional governance arrangements and to the appealing partnership ideology, combined with the large environmental and social problems that the world is currently facing (Van Huijstee et al., 2007).

However, what they also found is that this idea is based on poor empirical evidences. Moreover, among authors there seems to be the presumption that a certain institutional design, in this case a partnership design, will 'automatically' lead to a more sustainable world. On the contrary, despite their potential, many are the issues that still need further investigation if PPPs have to be successfully implemented in practice (Van Huijstee et al., 2007). In this thesis, these have been divided between: *ethical-moral issues*, such as the degree of inclusiveness or democracy in a PPPs, their legitimacy and their accountability (Van Huijstee et al., 2007); and *practical issues*, such as the actual effectiveness of PPPs and the criteria needed to be successful.

Ethical-moral Issues

In this category, especially relevant is the disagreement on the role of partnerships in relation to traditional governmental steering functions. Van Huijstee et al. (2007, pg.80) summarize the issue in the questions: *'Could or should the former* - the Partnerships - *(eventually) substitute the latter* – the Government *-, or complement it? Or, on the contrary, is at least a minimum of 'government' a precondition for partnerships to be successful at all?'*. Similarly, Pattberg (2004, pg. 64): '*How the valuable contribution of partnerships can be integrated into a democratic and legitimate governance of global environmental affairs?'.*

Different opinions can be found in the literature on this issue (Van Huijstee et al., 2007). Some perceive the involvement of private parties in public policy making as an improved form of expansive, deliberative democracy, whereas others emphasize that the new public-private governance arrangements enable different parties to have a say in policy making processes, but that these partners are not democratically chosen. Some, with an even more extreme opinion, see PPPs as a way towards a new-corporatism and urge public interest organisations to avoid such kind of partnerships.

Similarly, Backstrand (2006) found out that most of the critics to partnerships point to problems of representation and accountability. In fact, by escaping traditional hierarchical models of accountability and legitimacy, partnerships are seen as means towards the privatization of governance and the reinforcement of

dominant neoliberal modes of globalization (Bäckstrand, 2006). However, she supports the thesis according which the rise of global partnerships implies the relocation and diffusion of authority from the government to public-private implementation. Hence, it is not partnerships that are not suitable for this new governance system, but are the notions of accountability and legitimacy themselves that need to be revisited (Bäckstrand, 2006).

Legitimacy is traditionally defined as the '*quality of the particular social and political order: the normative belief held by actors that the particular rule, institution or order ought to be obeyed*' (Bäckstrand, 2006, pg. 291). In contrast, Backstrand argues that in the new context of PPPs it should be less hierarchical and have a two-fold meaning: *input legitimacy* and *output legitimacy.*

On the one hand, input legitimacy should concern whether the process confirms to procedural demands, such as the representation of relevant stakeholders, transparency and accountability. It requires the partnership to be open to public scrutiny and to be representative and inclusive of different stakeholders interests. On the other hand, output legitimacy should revolve to the 'problem solving capacity' of the governance system of the partnership itself. It controls if the partnerships perform and deliver the promised results-based environmental governance that it is supposed to (Bäckstrand, 2006).

In a similar way, in traditional democratic systems, accountability has been defined as that hierarchical and electoral process throughout which rulers are accountable to citizens. However, by developing in global systems of rule without an electorate, networks need to find indirect accountability mechanisms. In contrast to state-centred or international organisation models, in which accountability is centralized, networks have multiple sites of governance and power is diffused among different actors. Partnership would then need to be accountable to a broad range of affected stakeholders, such as NGOs, the media, governments, donors and multilateral organisations. Based on this considerations, Beckstrand (2006) propose a type of horizontal mechanism with a pluralistic structure where accountability is evaluated as: (i) professional peer accountability; (ii) reputational accountability; (iii) market accountability; and (iv) financial/fiscal accountability (Bäckstrand, 2006).

Practical Issues

After having evaluated more than 340 Partnerships officially registered among the Type II outcomes for sustainable development, Pattberg and Widerberg (2014) found out that: (i) a number of partnerships are simply not active while approximately 40 per cent have no measurable output, and of those which are active and show signs of output, only 60 per cent match their output with their self-reported function; (ii) at an aggregate level, partnerships do not seem to address core functions where their particular role and comparative advantage was expected to lie; (iii) at the level of individual partnerships, the lack of organisational capacity, resources and transparency becomes evident – only 15 per cent (of the total sample of 340) indicate a budget plan, 23 per cent report on office space, only 30 per cent have dedicated and identifiable staff member and just 5 per cent of all have an openly available MOU – Memorandum of Understanding; and (iv) multi-stakeholder partnerships have also been reported to provide a highly visible platform for controversial technologies to gain recognition at the UN level.

Moreover, Pattberg and Widerberg (2014) also found that: (i) evaluating the performance of partnerships is difficult because of the large differences in functions, goals, capacity and membership constellations; (ii) many multi-stakeholders partnerships for sustainable development have vague and diffuse goals; (iii) many

partnerships lack appropriate monitoring and reporting mechanisms, making the causality between the output of the partnership and the impact on the ground difficult to establish; and (iv) most of the research on PPPs mainly focuses on two criteria for evaluation: effectiveness and legitimacy (Pattberg & Wilderberg, 2014).

Finally, drawing on UN data and on those coming from the Global Sustainability Partnerships Database, Mert & Pattebrg (2015) concluded that so far the entire system of partnerships for sustainable development has not manage to meet the optimistic claims which defined them as a highly innovative type of global governance Mert & Pattebrg (2015). In fact, both in terms of governance deficits and function-output fit, they did not achieved satisfactory results.

Partnerships have most frequently been created in those areas that are already heavily institutionalized and regulated so that failing in closing the regulatory deficit. They have not been focusing on implementation deficits, but rather on creating new institutions eventually increasing complexity. And finally they remained dominated by states and international organisations, especially from Northern countries. Participation of 'major groups' has been limited to stakeholders with certain competitive advantages or with useful resources. As a result, traditional patterns of political exclusion of weaker groups have been reproduced and the participation deficit has not been filled (Mert & Pattberg, 2015).

In fact, from the overall sample of public-private partnerships working on sustainable development analysed by Mert and Pattberg (2015), it emerged that around 37 % have no traceable output. Out of 330 partnerships analysed, 143 (43%) have no fit between the functions they aim to perform and the concrete outputs observed. Only 124 (38%) show a complete fit, while 63 (19%) show a partial fit between function and output.

Success criteria for PPPs for Sustainable Development

Despite their unsatisfactory performance, researchers and practitioners keep on supporting public-private partnerships as a tool with a great, not well managed, potential. In fact, most authors agree on the fact that the potentially large contribution advocated by partnerships only materializes under certain conditions. Though a clear definition of these conditions seems to be lacking (Van Huijstee et al., 2007). In this connection, a large number of studies that analyse PPPs from their internal structure have focused on defining theoretical standards and success criteria.

Common success factors have been identified: (i) careful choice of subjects; (ii) careful choice of goals; (iii) careful choice of partners; (iv) respectful, open way of working; (v) trust; and (vi) other facilitating factors such as support from media or politicians (Van Huijstee et al., 2007).

Similarly, after having evaluated the outcome of more than 340 Partnerships for sustainable development, Pattberg and Wideberg (2014) provided an evidence-based assessment of the performance of multi-stakeholder partnerships for sustainable development with a view towards identifying the building blocks for successful and effective partnerships across a number of concrete implementation contexts and specific functions. By doing this, they aimed at supporting researchers and practitioners to close the gap between theoretical expectation and practical results of public private partnerships. The building blocks are reported in the image below.
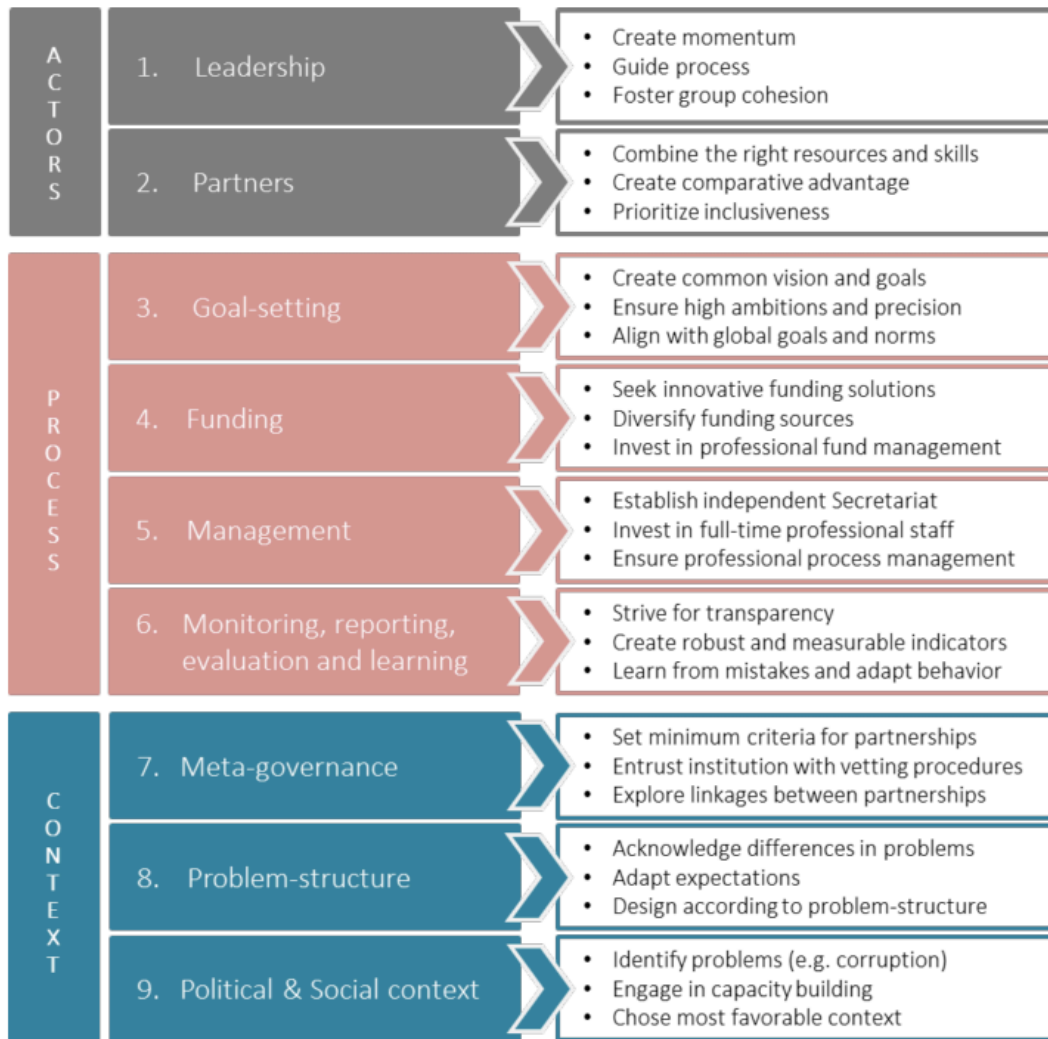
Fig. 1 Nine building block for successful partnerships (Pattberg & Wilderberg, 2014)

From their study Pattberg and Widerberg (2014) also drawn the following conclusions: (i) already in the planning and start-up phase, the likelihood of success can be enhanced by investing sufficient time and resources in formulating common goals, ambitions and visions, identifying and attracting relevant partners, and setting up mechanisms for dealing with dispute settlement among partners; (ii) Monitoring and Evaluation systems (M&E) are key parts of the procedure to create internal and external legitimacy, show-case successful implementation and identify and learn from mistakes; (iii) throughout the entire process, the partnership must adapt to a changing environment and social and political context; (iv) function matters to how partnership should be designed and implemented; (v) improved political oversight (preferable at the level of the United Nations) is essential to improve credibility and effectiveness of the entire UN approach to sustainable development; and (vi) partnerships should be conducive to commonly agree global norms and should be safe-guarded by minimum criteria.

Similarly, building on the findings of their research, Van Huijstee et al. (2007) also called for PPPs: (i) with a clear role in creating a constructive institutional environment for a 'global public policy network'; (ii) with a clear linkage to existing institutions and multilateral agreements, measurable targets and timetables, more effective leadership, improved accountability, systematic review, reporting and monitoring mechanisms; and (iii) which

sustain the 'embeddedness' of NGO-Business Partnerships within the core business of companies and in formal public policy making on the environment (Van Huijstee et al., 2007).

Yet, researchers agree that above all, the factor that has severely undermined the overall effectiveness of Partnerships at an aggregate level has shown to be the lack of proper monitoring and evaluation system (M&E) (Pattberg & Wilderberg, 2014). In this connection, Woss (2010) also claimed that *'long-term performance monitoring under a PPP contract is essential for the success of the project and the provision of 'good value for money''* (Wöss, 2010, pg. 29).

In fact, Woss (2010) defines Public-Private Partnerships as *'sophisticated form of complex international contracts where the focus is the payment for delivery of services rendered satisfactorily and the transfer of the performance and project-related risks from the government to the contractor* (Wöss, 2010, pg.28). Hence, to be successful PPPs need to have a strong professional contract and a well-structured risk management, in particular, through a long-term performance monitoring of the projects conducted by the PPP.

Little evidences can be found on M&E systems applied to partnerships for sustainable development (Pattberg & Wilderberg, 2014). What is more, the impacts of public-private partnerships are still not well understood and documented, nor it is the broader consequences of outsourcing and privatizing environmental governance (Mert & Pattberg, 2015). It is for this reason that as final finding of their study Pattberg and Widerberg (2014) stress the urge for research to focus on developing a monitoring and evaluation mechanisms to suite the complexity of sustainable development partnerships.

3.4 Governance of ecosystem services through community co-management and public private partnerships: potential and limitations

Referring to the multiple economic and social benefits that humans get from the environment, ecosystem services are characterized by an intrinsic interdisciplinary nature. For this reason, while governing natural resources it has shown to be counterproductive to not account for its potential impact on livelihood and to the trade-off that it implies on development (Bouma, 2015).

In the next sub-paragraph the potential of collaborative management practices such as community co-management and ecosystem services partnerships is assessed, both from the local and the international perspective. Then sub-paragraph 3.4.2 assesses the limitation of such approaches.

3.4.1 Potential of collaborative approaches for the governance of ecosystem services

Community co-management of ecosystem services

In the past twenty years, the global governance of ecosystems, as that of many other sectors, has resulted in a decentralization of common good resource management[25]. In the case of natural resource management, the reasons for this shift towards bottom-up approaches have been mainly three: (i) low cost-effectiveness of top-down approaches; (ii) high effectiveness of common good resource management by communities; and (iii) intrinsic human right to self-determination.

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[25] See paragraph 1.2.2.

First of all, top-down approaches to conservation have rarely been cost-effective. In fact, top down restrictions on resource use have shown to be relatively expensive and to increase socio-economic vulnerability of local communities (Bouma, 2015). Examples can be found in many different areas of ecosystem governance such as water management, fisheries management, forest management, wetland management and nature conservation and biodiversity. Here, especially conservation-oriented approaches throughout the prohibiting resources use or the displacement of local communities have resulted in enormous costs for livelihood (Bouma, 2015). In addition, costs have been increased by: (i) the trade-off between conservation and economic development; (ii) remoteness of area to be protected which resulted in high transaction costs; (iii) Monitoring & Evaluating (M&E) enforcements costs; and (iv) adverse livelihood impact caused by unsustainable practices applied by indigenous people living in/close the protected area.

Secondly, throughout a study which awarded her with the Nobel Prize in 2009, Elinor Ostrom[26] demonstrated that common good resources like forests, wetlands, pastures and irrigation systems can be managed effectively by small groups of users, without it being necessary to allocate private user rights or have an external agent enforce resource use restrictions. In fact, by making use mainly of property rights and external support, transaction costs and information costs were notably increased. On the contrary, participatory approaches have shown to be able to: (i) increase communication by giving the locals the right to participate, share ideas and concerns on management plans; (ii) lower organizational costs by letting the community design and self-enforce M&E systems; and (iii) benefit from the informational advantage of communities over the government.

In particular, self-enforced participatory monitoring has shown to be key to cost-effectiveness in community co-management. In their study, Danielsen et al.[27] (2005) define four types of participatory M&E: (i) externally driven, professionally executed monitoring; (ii) externally driven monitoring with local data collectors; (iii) collaborative monitoring with external data interpretation; (iv) collaborative monitoring with local data interpretation; and (iv) autonomous local monitoring. From their study Danielsen et al. (2005) concluded that the suitability of these different approaches is strictly related to the knowledge that local communities have of the surrounding ecosystem. In fact, they showed that by involving local stakeholders and by increasing their knowledge around the causality of the processes degrading the ecosystems, positive spill-overs effects can be generated in terms of empowerment and self-regulation. For instance, by giving the possibility to the community to participate in the data collection, costs for M&E enforcement were lowered, and so it was the cost of conservation in general (Bouma, 2015).

Finally, collaborative management approaches towards ecosystem services have sown to be intrinsic in the human right of self-determination. This is an extremely crucial point with respect to the fact that poverty has been detected high in most biodiversity-rich areas and biodiversity hot spots strongly coincide with indigenous peoples territories. These territories encompass up to 22 per cent of the world's land surface and it is estimated that as much as 85 per cent of the world's protected areas are inhabited by Indigenous Peoples (Bouma, 2015).

What has often happened in these areas is that while developing strategies to protect threatened biodiversity hot spots, decision makers have marginalised their inhabitants without considering the consequences on their

[26] Ostrom, E. (1990). Governing the Commons: The Evolution of Institutions for Collective Action. Cambridge: Cambridge University Press.
[27] Danielsen, F., Burgess, N. and Balmford, A. (2005). Monitoring matters: examining the potential of locally-based approaches. Biodiversity and Conservation, 14:2507–2542

lifestyle. As a result, ecosystems have been 'protected' with highly expensive plans and adverse livelihood impacts have not been considered (Bouma, 2015). Differently, by letting the local communities participating in the management of their own land and of their ecosystems, integrative management approaches have been recognized as a crucial means towards self-determination and legitimacy, and most importantly, toward the exertion of human rights (Bouma, 2015).

International endorsement of Public Private Partnerships

Among all the motivations that have called for new approaches for ecosystem governance, that of decreasing the costs for conservation has become especially important at the international level. In fact, the global costs of ecosystems and biodiversity conservation have become huge and budgets for ecosystem conservation are limited and insufficient to meet global conservation needs (Bouma, 2015).

Although countries assembled at the 2012's Conference of Parties of the Convention for the Biological Diversity (CBD) agreed to double funding to support the internationally agreed biodiversity targets, similar pledges before did not generate the required funds (Bouma, 2015).

However, building on the potential demonstrated by collaborative approaches, international institutions have identified public private partnerships as the way forward in most of the complex, multi-level, ad expensive issues which are affecting the world today. In fact, partnerships have been recently addressed, and will probably be for the next years, by some of the most influential institutions in the arenas of global environmental governance and world economics, both in the frame of sustainable development.

Herewith are reported the evidences from three main sources: an environmental international institution, Unite Nations Environmental Programme (UNEP), an umbrella-initiatives for sustainable development, the Post-2015 Development Agenda, and finally from an international economic Partnership, the World Economic Forum. These have been chosen because representative of sustainable development from different perspectives: UNEP for the environmental one, Post-2015 Development Agenda (Sustainable Development Goals) for the social one and finally World Economic Forum for the economic one.

While launching the next *Global Environmental Outlook 6* which will release in mid-2017, the United Nation Environmental Programme (UNEP) addresses them as:

> *'Partnerships are the cornerstone of the United Nations Environment Programme's activities. A systematic process is under way to strengthen the GEO-6 assessment by expand UNEP's expert networks and strategic partnerships with leading academies of research, international research programmes, collaborating centres and centres of excellence. The partnerships will be based on building strategic linkages with data providers in key government agencies, scientific institutions, and IGOs based in the region; assisting with the collection and dissemination of relevant environmental assessment data; facilitating the flow of national environmental data into UNEP Live; assisting with dissemination of State of the Environment findings and reports to targeted audiences; organizing a major regional environmental information networking meetings. '*
>
> United Nation Environmental Programme (UNEP) Available from: http://www.unep.org/geo/

The members of the Secretary-General's High-Level Panel Of Eminent Persons On The Post-2015 Development Agenda address partnerships in a whole report: 'A new Global Partnerships: Eradicate Poverty and Transform Economies through sustainable development'. Here they state:

> *'Perhaps the most important transformative shift is towards a new spirit of solidarity, cooperation, and mutual accountability that must underpin the post-2015 agenda. A new partnership should be based on a common understanding of our shared humanity, underpinning mutual respect and mutual benefit in a shrinking world. This **partnership** should involve governments but also include others: people living in poverty, those with disabilities, women, civil society and indigenous and local communities, traditionally marginalised groups, multilateral institutions, local and national government, the business community, academia and private philanthropy. Each priority area identified in the post-2015 agenda should be supported by dynamic partnerships. It is time for the international community to use new ways of working, to go beyond an aid agenda and put its own house in order: to implement a swift reduction in corruption, illicit financial flows, money-laundering, tax evasion, and hidden ownership of assets. We must fight climate change, champion free and fair trade, technology innovation, transfer and diffusion, and promote financial stability. And since this partnership is built on principles of common humanity and mutual respect, it must also have a new spirit and be completely transparent. Everyone involved must be fully accountable.'*

(LIVES, 2013, pg. Executive Summary)

In the latest World Economic Forum of 2014 occurred din Switzerland, financial institutions agreed on the need for Partnerships by stating:

> *'Changes at the global and regional level have renewed debate on and interest in the role of the state and policy-making, in particular whether to pursue state-led economic policy or enhance collaboration between the state and private actors. Societies have called for new forms of leadership, sufficient institutional capacity, the right forms of governance and creative thinking to address these challenges. (…) **Public-private partnerships** (PPPs) have traditionally been seen as tools to provide powerful leverage to carry out large projects, chiefly in the area of infrastructure development but also in encouraging long-term productive and export development strategies.'*

 World Economic Forum, Geneva, Switzerland, 2014

3.4.2   Limitation of Partnerships for the Governance of Ecosystem Services

Despite their notoriety, the evidence of the effectiveness of collaborative approaches towards the governance of ecosystem services is limited and, when available, it shows mixed results (Bouma, 2015). Though, if compared to the overall category of partnerships for sustainable development, those specifically aimed at governing ecosystem services have shown to be better able to deliver specific outcomes (Mert & Pattberg, 2015).

In this connection, after having assessed 55 partnerships working on issues related to ecosystem services worldwide, Mert and Pattberg (2015) found out that 72% are actually operational. More specifically, 38.2% showed to have a total fit between their function and the outcome reached (i.e. participated in UN events; updated relevant information on the website of the United Nations; contacted the national partnership focal points; showed any kind of output), and the 30.9% showed a partial fit.

In the figure below are summarized the areas of ecosystem services on which partnerships (EES partnerships) have focused their activities. Thanks to the interdisciplinary which lies in the definition of ecosystem services, most of these partnerships managed to combine different issues, ranging from environmental to social ones.
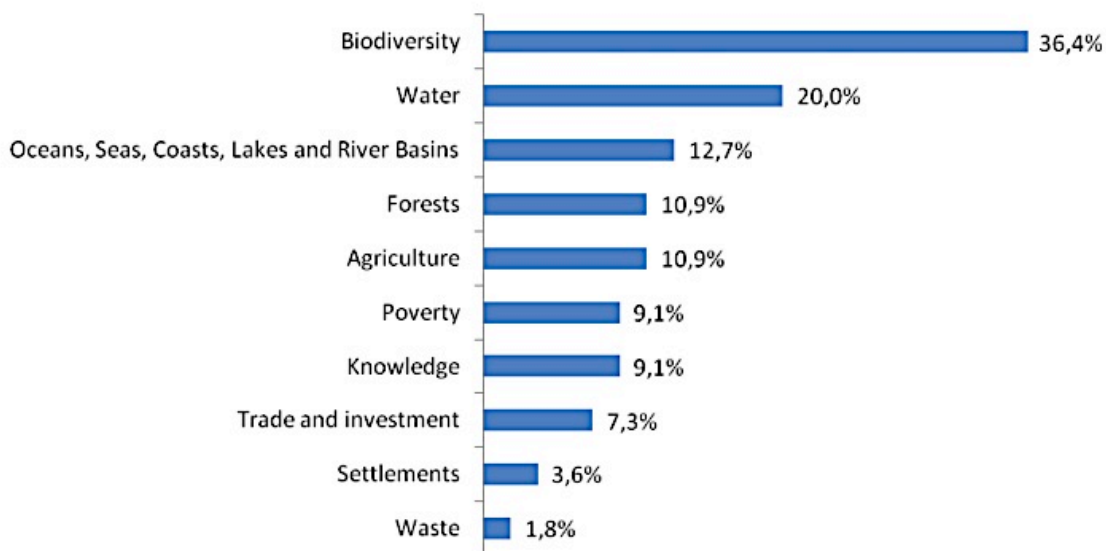

Fig. 2 Issues area covered by ESS partnerships (Mert & Pattberg, 2015).

While investigating the impact of the implementation of partnership in natural resource management Koontz & Thomas (2006) identified two types of results form the partnership actions: environmental outputs, as plans, projects, and other tangible items generated by collaborative efforts; and environmental outcomes, as effects of on environmental and social conditions. Among the environmental outputs have been identified: (i) agreements reached, such as management plans and characterization reports; (ii) restoration or habitat improvement projects completed; (iii) changes to public policy; (iv) changes to land management practices; (v) education and outreach campaign conducted; (vi) programs implemented; and (vii) land protected from development (e.g new regulation, land/easement purchases, or special designations). Whereas, among the environmental outcomes: (i) perception of changes in environmental quality; (ii) changes in land cover; (iii) changes in biological diversity (at the genetic, species or landscape level); and (iv) changes in environmental parameter appropriate to a specific resource (e.g. water biochemical oxygen demand, ambient pollution levels, or contaminant discharge rates) (Koontz & Thomas, 2006).

However, what they found out from an overall perspective is that it has been difficult to relate management processes applied by the partnerships to the actual environmental outcomes. Most importantly, it has been difficult to quantify them. Reasons for this have been: (i) data scarcity of environmental impacts; (ii) long time horizon required between the implementation of collaborative outputs and environmental change; and (iii)

failure to demonstrate the extent to which collaborative outputs (rather than other factors) changed environmental conditions (Koontz & Thomas, 2006).

Furthermore, while evaluating the capacity of these partnerships to close the *governance deficits* identified in the global environmental governance, Mert and Pattberg (2015) found out that few met the result expected. On the regulatory level, most partnerships addressed problems that are already regulated at the international level (e.g. biodiversity as regulated by the UN Convention on Biological Diversity) or for which an international normative framework is emerging (e.g. water).

On the implementation level, projects have not necessarily been implemented where capacity was lacking, but most frequently where institutional and financial capacities were the most favourable. As a result, regions of weak institutional capacity and with scarce financial and organizational resources - which are also the regions of higher interest form the point of view of the safe guard of ecosystem services - have often been disregarded.

Finally, on the participatory level, EES partnerships have shown to be predominantly led by state actors, UN organisations or other intergovernmental agencies, accounting for 74.5 per cent of all partnership in the sample (55 partnerships). Underrepresented groups have often remained such and, surprisingly, so have been business actors. In fact, despite the growing relevance of market tools for the governance of ecosystem services - such as the 'payment for ecosystem services' - the presence of business partners in such partnerships has been of only the 1.8%.

3.5 Conclusions

This chapter aimed at answering the question:

Which role would public private partnerships have in supporting landscape restoration?

In order to answer this question Public Private Partnerships have been assessed first in the overall framework of sustainable development and then in the specific context of the governance of ecosystem services. Finally, the results coming from this analysis have been related to those coming from the previous Chapter in which the potential of Landscape Restoration has been evaluated. As a result, it has been possible to identify the rational behind the application of Partnership as a tool to support Landscape Restoration Initiatives.

As identified by Van Huijstee et al. (2007), a first important aspect in the formation of partnerships is its very topic and the scoping thereof. In fact, it has been demonstrated that Partnerships can be best formulated on a topic that fits well the core business of the partners and the goals of the organisation they belong to (Van Huijstee et al., 2007).

In the context of sustainable development it has been found out that in theory partnerships would have a great potential in enhancing sustainable development, hence why many international institutions endorse them. However, few examples have been found out successful in practice. As stated by Van Huijstee et al. (2014, pg. 86): '*The presumed link between partnerships and sustainable development requires a stronger operationalization and definition of the type of partnership, of the partnership effects and of the specific part of the sustainability challenge the partnership aims at solving.*'

Moreover, partnerships have been studied from a many different disciplines, with quite different concepts, definitions, research methods, etc. However, little communication has been developed between these different

arenas, resulting in a accumulation of knowledge and insight which not always have been used in practice (Van Huijstee et al., 2007). Hence, partnership research could benefit from an integrated and multidisciplinary approach linking different perspectives into one research programme.

Also in the specific context of the governance of ecosystem services partnerships have been addressed as answer to current global trends which have seen the shift from top-down governance mechanisms to more bottom-up ones. Here, by building on the success achieved by collaborative approaches as community co-management, partnerships are seen as able to cope with the trade offs between conservation and development, which characterized the governance of ecosystem services.

 In fact, these integrative approaches (i) increased communication by giving the locals the right to participate, share ideas and concerns on management plans; (ii) lowered organizational costs by letting the community design and self-enforce M&E systems; and (iii) benefitted from the informational advantage of communities over the government.

These qualities are all the more valuable if considered in connection to the limitations which have constrained the up-scale of restoration activities. As for many top-down approaches to conservation, the major constrain for these activities has been their cost. More specifically, the constraints identified in the previous Chapter are: (i) high transaction and opportunity costs; (ii) no proper M&E systems in place (iii) short-term thinking; (iv) low understanding of the economic value of ecosystems; (v) under-consideration of local communities continue patterns; (vi) under-use of scientifically proven tools and already existing techniques; (vii) 'Silo thinking approach'; and (viii) exclusion of the business sector.

If well-designed, public private partnerships could be an important support in the up-scale of activities to the governance of ecosystem services which require a landscape, participative, multi-disciplinary approach. Most importantly, Landscape Restoration Partnerships would be able to cope with those trade offs between conservation and development which have limited the effectiveness of traditional conservation approaches. In fact, on the one side decision makers have to consider the opportunity costs of not exploiting ecosystems and the costs of lowering provisioning services for local users/communities by restrictions on the use of resources, with potential impacts on local livelihood. On the other hand, they have to consider the global benefit which ecosystem protection would deliver both in the short term, throughput enhanced ecosystem productivity, and in the long term thanks to healthy ecosystems. As concluded by researchers from the Economic of Ecosystems and Biodiversity:

> *'Typically, large-scale and complex restoration projects involve costs that exceed the benefits identified by private parties – even though the public benefits of restoration are likely to be higher. It may therefore be necessary for governments to invest in such efforts, on behalf of the common interest in those countries. Opportunities to develop public private restoration partnerships are increasing and need not only to be considered but also fostered by forward-looking government agencies.'*
>
> TEEB (2011) The Economics of Ecosystems and Biodiversity in National and International Policy Making. Edited by Patrick ten Brink. Earthscan, London and Washington

Finally, both in the broader frame of sustainable development and in the specific case of the governance of ecosystem services, Monitoring and Evaluation has been addressed as the limiting factor in the success of previous partnerships and the most important criteria for the success of future ones.

In this connection, while evaluating the performance of partnerships for the governance of ecosystem services, researchers have not been possible to evaluate their environmental impacts. Reasons for this have been: (i) data scarcity; (ii) long time horizon required between the implementation of collaborative outputs and environmental change; and (iii) failure to demonstrate the extent to which collaborative outputs (rather than other factors) changed environmental conditions (Koontz & Thomas, 2006). These are all limitations which suggest the need for a better M&E systems.

It can be stated that public private partnerships are theoretically a potential tool for sustainable development and for the governance of ecosystem services through landscape restoration. However, the lack of monitoring and reporting mechanisms has severely limited partnership effectiveness at an aggregate level. This has show to be harmful not only for the effectiveness and overall performance of multi-stakeholders partnerships, but also for the legitimacy and trust-worthiness of the UN brand in general (Pattberg & Widerberg, 2014). Therefore improved monitoring and evaluation mechanisms are urgently needed if sustainable development is to be achieved and degraded ecosystem restored.

Chapter 4

Monitoring Sustainable Development Impact: A review of the current methods

4.1 Introduction

Monitoring and Evaluation systems are defined as '*information systems* concerned with improving the *organisational effectiveness* of agencies that implement *projects* in different areas of industry' (Crawford, 2004).

Although considered a crucial criterion for the achievement of successful long-term initiatives, Monitoring and Evaluation systems have not always been given the attention they deserved. As a result they have often been ineffective or, in the worse case, they have failed completely because of a poor planning and/or a lack of focus (Lindenmayer & Likens, 2009).

This chapter aims at answering the sub-question:

Which are the criteria underpinning effective M&E systems for sustainable development initiatives?

In order to answer this questions the existing M&E frameworks used to track the progress of sustainable development initiatives are being assessed, with special attention to those aimed at creating impact throughout the restoration of degraded ecosystems.

In the next paragraph, three main arenas in which M&E has shown to be relevant are identified: Information systems, Organisational effectiveness and Project management. Paragraph 4.3 will assess the limits encountered by most of current M&E systems. Paragraph 4.4 will then focus on the trends that have interested the monitoring of development aid initiatives, focusing on ecological restoration initiatives and on partnerships for Sustainable Development. Section 4.5 discusses the variety of indicators in the arena of sustainable development. On the base of this analysis the most relevant indicator frameworks have been identified and divided according to their ecological, financial and social orientation (Appendix III). Finally the conclusions assesses the criteria for effective M&E that have been identified as a result of the literature review.

4.2 Relevance of Monitoring and Evaluation

Even if little agreement can be found on the specific definition of M&E, researches agree about its importance. M&E systems are seen as main source of 'relevant, accurate and timely information to ensure satisfactory results for a variety of stakeholders' (Crawford, 2004). More generally, as Yeo[28] stated already in 1993: *'The overall performance of a system, and sometimes its survival…are dependent on effective communication and certain controlling mechanisms based on timely and accurate feedback information'.*

However, when trying to collect knowledge around M&E systems it is not possible to stick to a single, overarching research field. Defined as 'an *information system* concerned with improving the *organisational effectiveness* of agencies that implement *projects* in different areas of industry' (Crawford, 2004), the debate around M&E is multi-disciplinary by nature. As a result, in order to understand the overall relevance of M&E, three main spheres of research have to be taken into account: Information System, Organizational Effectiveness and Project Management.

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[28] Yeo, K. (2002). "Critical failure factors in information system projects." International Journal of Project Management 20: 241-246

According to Boland and Hirschheim (1985), Information System (IS) is a '*discipline concerned not only with the development of new information technologies but also with questions such as: how information can best be applied, how they should be managed, and what their implications are*.' In order to answer such questions, Information Systems make use of four different elements, described by Checkland and Holwell (1998) as: data, *capta*[29], information and knowledge.

> *Having selected, paid attention to, or created some data, thereby turning it into capta, we enrich it. We relate it to other things, we put it in context, we see it as a part of a larger whole which causes it to gain in significance.*
>
> *Checkland and Holwell (1998, p 89)*

In this connection, M&E systems can be seen as that collective process throughout which data is selected and converted into meaningful information. As a result larger structures of related 'meaningful information' are created and ascribed as 'new knowledge' (Crawford, 2004).

From an organisational perspective, by transforming selected performance measurements – *capta* - into knowledge, M&E processes create a foundation on which organisational learning is fostered with direct benefits for the overall effectiveness of the organisation itself (Crawford, 2004). Throughout a well-defined monitoring system, informed decision-making processes are facilitated and organizational members are encouraged to understand the deeper purpose of their actions (Crawford, 2004).

However, despite its influence on the overall effectiveness of an organisation, most of M&E systems tend to be located at the project level. Here M&E shows to be particularly relevant in enhancing the accountability of the practical actions put through by the organisation. More specifically, it ensure that the outcomes of single projects are actually realized and that their purpose achieved throughout the contribution of the whole team (Crawford, 2004). As a matter of fact, scholars from different disciplines all recognise the interconnectedness of effective management with well-designed monitoring and evaluation systems (Stem, Margoluis, Salafsky, & Brown, 2005). By providing public and internal accountability, M&E is crucial in showing the impact of project interventions. Similarly, by answering questions related to how well a project is proceeding or a strategy is working, M&E helps project managers in identifying the conditions for the success or for the failure of a project. Finally, by requiring the assessment of the project interventions, M&E triggers a collective critical reflection on the conduct of the project.

It can then be concluded that, if well designed, M&E systems have the potential to constitute the basis for informed decision-making with benefits that range from the very practical level of projects until the more theoretical one where high level organisational knowledge is created (Crawford, 2004; Stem et al., 2005).

4.3 Limitation of Monitoring and Evaluation

One of the main aspects that have limited the effectiveness of M&E in practice is the ambiguity related to both terms Monitoring and Evaluation terms. While some argue that Monitoring and Evaluations are to be considered interchangeably, others assess them independently (Crawford, 2004).

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[29] Checkland and Holwell (1998) coin the word capta—from the Latin *capere*, 'to take'—to express the mostly subconscious process of **selecting** from (or 'paying attention to') small subsets of the available data in the world **in order to meet particular needs.**

This thesis assumes that '*Monitoring and Evaluation differ, yet are closely related; and further, that evaluation is an important monitoring tool and monitoring is an important input to evaluation*' (Crawford, 2004, pg. 83-84). It follows that these two processes are relevant, each for different reasons but they feed each other needs of information, hence why they should be planned systematically.

The following table by Crawford (2004) summarize the conventional differentiation that can be found in M&E literature.

Monitoring	Evaluation
Internal focus on management needs	External focus on stakeholder needs
Concerned with efficiency	Concerned with effectiveness
Structured top-down methods (positivist)	Participatory bottom-up methods (interpretive)
Regularly scheduled reporting processes	Periodically scheduled investigative processes
Emphasis on decision-making and accountability	Emphasis on organisational learning and accountability
Asks "are we doing the *thing right*"?	Asks "are we doing the *right thing*"?
Absolutist view ("are we doing what we said we would?")	Philosophical view ("is what we're doing actually worth doing?")
Project team accountable to project management	Project management accountable to stakeholders – beneficiaries and donors
Monitoring information system provides important ingredient for evaluations	Evaluations provide feedback about relevance of monitoring information system
Primary "clients" are internal (i.e. project management & program administrators)	Primary "clients" are external (i.e. donor, beneficiaries, host government)
Attempts to measure inputs, activities & outputs	Attempts to measure effects and impact

Tab. 2 A summary of the conventional differentiation between monitoring and evaluation (Crawford, 2004).

As mentioned in the previous paragraph, despite its contribution to organisation effectiveness, the majority of M&E literature is project-centric. The reason for this is that the main way through which organizations manage to demonstrate their accountability is by performing successful projects (Crawford, 2004).

However, M&E is not always provided with enough financial resources to be adequately implemented. In this connection, Lindenmayer and Likens (2009) argue that '*too often M&E systems have been driven by short-term funding opportunities or by political directives rather than being underpinned by carefully posed questions and objectives*'. As a result, lessons learnt at the project level have rarely been transformed into valuable knowledge to be used to enhance organisational performance.

Similarly, by focusing mainly on the activities and on project outputs, M&E has often been designed without considering the overall impact to be achieved in the wider context. This 'lack of perspective' has brought M&E

system to be compliance-driven and mainly used for external reporting requirements. The quantity of data to be gathered has often been preferred over their quality, resulting in M&E reports of scarce interest for project members and project beneficiaries (Kusters & McGregor, 2010). As a result, M&E have failed in providing managers and policy-makers with relevant information or even in stimulating the participation of the stakeholders participating in the project (Lindenmayer & Likens, 2009).

Finally, even at the project level, M&E approaches have not always been applied successfully. By being considered as a linear process, they have often failed to capture the complex interactions needed between the different stakeholders involved in the project at all the different stages. In his study, Crawford defines M&E as a circle in which first the data required are identified, then capture (elaborated from data to *capta*), then analysed and translated into information, and finally disseminated and utilised by the stakeholders as new knowledge. At each of these steps, different factors can limit the effectiveness of the M&E cycle. Among these are: insufficient compliance by reporting staff with data capture protocols; inadequate skills to perform the required analysis; inappropriate mechanisms to ensure knowledge dissemination to stakeholders; and insufficient incentives to promote the utilization of the information by the personnel (Crawford, 2004).

As a result, M&E at the project level: (i) has failed to focus on intended use by intended users and have not been designed to fit the context and the situations; (ii) did not focus on the crucial issues, resulting in low relevance; (iii) has been poorly understood by stakeholders; (iv) and has failed to keep stakeholders informed and involved during the process and when adjustment were needed (Kusters, van Vugt, Wigboldus, Williams, & Woodhill, n.d.).

International institutions have not overlooked the relevance of this issue. For instance, by approaching the new agenda for the post-2015 Sustainable Development Goals, the United Nations have recognized that of '*collecting reliable and relevant data through effective M&E systems*' (United Nations Publications, 2014, pg. 6) as one of the most crucial point on the to-do list. Reason for this is that effective monitoring of the MDG have made possible to achieve great progresses towards global sustainable development (United Nations Publications, 2014).

More specifically: (i) MDG monitoring has generated public support and funding for development; (ii) Reliable and timely data have allowed targeted measures against poverty; (iii) Disaggregated data have made possible the identification of problems in local areas and specific population groups, thus allowing effective interventions; (vi) Statistical capacity has been strengthened to produce internationally comparable development indicators; (v) Statistical standardization and information systems have improved; (vi) Data availability and quality of development indicators have improved

However, in the latest 'Millennium Development Goals Report 2014' (United Nations Publications, 2014), it is also shown that even if the monitoring of MDGs has successfully supported development policies and decision-making on local scales, more effort has to be put to close current data gaps between local and international levels, and between different sectors. The growing demand for better, faster, more accessible, and more disaggregated data is calling for a wider cooperation. Actors at different level of governance will have to work together to create measures to enhance the 'information flows' from local realities up to international arenas. In this way existing data infrastructures can be reinforced and the potential of new information technologies harnessed.

4.4 Trends and approaches in Monitoring Sustainable Development

If structured problem-solving approaches to M&E have been successful in monitoring Organizational Effectiveness, they did not always manage to capture the complexity of more 'wicked problems', such as Sustainable Development (Crawford, 2004). In the following sub-paragraphs current trends in M&E have been analysed. Given the interest of this thesis in identifying the most suitable way to monitor restoration partnerships for sustainable development, these have been assessed in three main domains. These are: international development aid, natural resources management and PPPs for Sustainable Development.

In each section, first M&E current trends are analysed and then the most common approaches are evaluated. Finally, for each topic a best practice is identified. It is important to notice that these best practices are not in competition on with the other, rather they should be thought as different sides of the same coin. As a matter of fact, in complex circumstances, such as the one of landscape restoration for sustainable development, they might be integrated one with the other in order to work effectively on different levels and scales.

4.4.1 Monitoring International Development Aid

Defined for the first time by the British Empire back in 1929 in the Colonial Development Act, development aid is that set of interventions applied by an aid agency in order to foster social transformation and to address the issue of global inequity (Crawford, 2004). Modern aid agencies are national or international organizations which make use of financial support coming both from public contributions - in the case of governments' official aid system – and/or from private funding – in the case of direct donations. Because of this dependence from an 'outside donor', the M&E approaches used by aid agencies have always aimed at demonstrating the agency accountability while at the same time aligning with the donor requirements.

However, donors are not the only stakeholders to which aid agents need to respond to. Beneficiaries of the projects also have a crucial role which aid agent cannot overlook. This dualism is defined in the literature as the **'NGO Dilemma'**. As explained by Crawford (2004):

> *"Donors with a strong need for accountability demand that aid agencies professionalise and adopt managerialist modes of operation. Beneficiaries, immersed in the systemic, 'wicked' reality of poverty and 'underdevelopment' expect that aid agencies participatively and iteratively engage in learning about the diversity of weltanschauungen[30] on the nature of the problems. The methods and assumptions that underpin these perspectives are in conflict, and hence pose a dilemma for NGOs."*

From this it follows that if aid agencies want to be successful they need to be accountable in the eyes of the donors while at the same time they need to create knowledge to be used by the end beneficiaries of the project. And again Crawford (2004):

> *"...to be successful, an NGO must be competent at accountability and learning. An over-emphasis on accountability at the expense of learning is likely to foster a donor-dependent and defensive organisational culture, which while exhibiting strong management and*

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[30] *Weltanschauungen* - from 'welt', world and 'Anschauung ', perception - is a German word to refer to a particular philosophy or view of life, or worldview (From Oxford Dictionaries).

> *control systems, is likely to be less responsive and adaptable to changing beneficiary circumstances. On the other hand, an over-emphasis on learning at the expense of accountability is likely to result in a decline in donor support."*

By evaluating the overall progress of the project, the M&E approaches also need to comply with both these realities. On the one hand they need to effectively collect 'accountable' data on which donors can evaluate their investments. On the other hand, they need to enhance a process throughout which knowledge is spread among the stakeholders involved in the projects. In this context, two are the main approaches that have been used by development aid agencies to M&E sustainable interventions are: the Logframe and the theory of change.

From the Logframe to the Theory of Change

A first criterion on which the type of M&E approach is selected is the nature of the intervention to be monitored. Initially aid practices have mainly been orientated in supporting technical issues - such as the creation of roads, schools and hospitals locally, and of centralized infrastructures nationally. As a result, more structured problem-solving approaches were used. In this case the most common has been the Logframe.

The Logframe, or Logical Framework Approach, has its foundation in 1960s when an American consulting firm, retained by USAID[31], proposed the matrix of the logical framework as a basis for monitoring and evaluation of development projects (Roduner, Schläppi, & Egli, 2008). This methodology was adopted by most development agencies in the 1980s and 1990s. The reason for its popularity is that it managed to support organizations in clarifying the objectives of any project, program, or policy by improving the quality of M&E design.

It supports the identification of the expected causal links – the 'program logic' – in what is defined as 'the result chain': inputs, processes/activities, outputs, outcomes, and impact (Services IFC Advisory, 2008). In this structure: (i) *Inputs* are defined as the initial financial and human resources to be employed in the project; *Activities* are those actions to convert inputs into outputs; (ii) *Outputs* are considered the tangible products of the activities such as information campaigns, trainings, action on the ground etc; *Outcomes* are divided into (iii) *intermediate* – seen as the use of outputs by the intended population; (iv) and *final* – seen as the objective of the project itself such as economic growth, social cohesion, employment status, natural protection etc (EVPA, 2013).

The Logframe requires *objectively verifiable indicators* (OVIs) to be assigned to each stage of this impact chain. This is said to promote learning and accountability by enabling judgements about the performance of the project at each stage of the change. What is more it makes use of a matrix in which a *means of verification* (MOV) is to be identified for each performance indicator (Crawford, 2004).

This approach showed to be helpful in capturing both the content of a project together with the key components of the M&E plan, such as: what a project intends to achieve; what it intends to do to achieve it and how; what the key assumptions are in achieving the objectives; and how the inputs activities, outputs, outcomes and impacts will be monitored and evaluated (Services IFC Advisory, 2008).

However, current international trends - such as globalization and the increased interconnectivity of socio-economic and environmental crises - have been calling for innovative development practices. The aim of aid agencies moved from solving technical issues towards creating sustainable socio-economic impact by enhancing

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[31] US AID – Lead U.S. Government agency that works to end extreme global poverty and enable resilient, democratic societies to realizr their potential. http://www.usaid.gov/

good governance, citizens accountability and environmental protection. As a result, approaches such as the Logframe have failed in capturing the complexity of these new social realities (Crawford & Bryce, 2003).

The limits that have been identified in the Logframe Approach are that: (i) it has been of limited use if done in isolation; (ii) it has been often based on weak assumptions of causality; (iii) it has showed to be counter-productive if adhered to rigidly; (iii) it has been unable to accommodate the unexpected; (iv) it needs trained and expert staff for its design and effective use; (v) and if not constantly updated during the implementation, it has failed to reflect changing conditions (Services IFC Advisory, 2008).

Most importantly, as highlighted by Crawford (2004), there seemed to be a gap between the theoretical design of the framework and its actual applicability in practice. Although well designed in the theory, the Logframe has often failed to be correctly implemented by practitioners and hence resulting in considerable confusion. And more, '*confusion derived from a dominant linear/functionalist perspective that, in the absence of a thorough grounding in Logframe convention, led to misallocation of logic at each stage of the impact chain, and hence an ambiguous and yet ambitious M&E plan* (Crawford, 2004)'. Similarly, processes such as the identification of the 'human actors' involved at each stage of the change chain and the choice of viable and appropriate indicators for each stage of change, have shown to be way more complex than they were described in theory.

As a result, development aid community shifted away from the mechanistic view of social change used by the Logframe and slowly embraced a different approach in which social change is seen as an iterative, non-linear, complex process where the interaction of different type of human actor and activities is needed (Crawford, 2004). This new perspective on social change has been well capture by what goes under the name of Theory of Change.

The term 'Theory of Change' (ToC) is used in the development aid field with the meaning of both: picture, process, set of activities, and deep philosophy of action (Guijt & Retolaza, 2012). Many organisations use such a process to define their strategy and to define the overall action plan to be used to reach their goals.

Four elements can be recognize in all Theories of Changes: (i) the *actors* (individuals or groups) who are trying to bring about change; (ii) the *context* or situation that influences the actors and which they are trying to change; (iii) the *ideas* that influence the actors and underpin the framework for taking actions; (iv) and the *reflection* and *decision making process* that helps actors to improve ideas and strategies (Guijt & Retolaza, 2012).

Because of the interconnectedness of these elements, ToC can be seen as a high level M&E system through which actions of, and interactions between, actors are monitored and evaluated in an iterative way *while* they are in action. Through this process organizations develop their strategies in a highly participatory way, with the aim of finding a common base on: *what is to be done, why it needs to be done, which values underpin actions and what change/impact is hoped to be achieved throughout the actions implemented* (Guijt & Retolaza, 2012).

Such kind of approach has shown to be effective in: (i) comprehend all actors and aspect of the issue at stake; (ii) analyse how change happens' and the forces at play that help hinder it; (iii) make the underlying assumptions and values explicit; (iv) create opportunity to integrate all the stakeholders involved in the process of change; (v) and support an active and dynamic guide of work both at the organizational level and at the project one (Guijt & Retolaza, 2012).

4.4.2 Monitoring Natural Resources and Ecosystem Restoration

Many approaches have been identified by practitioners and researchers to monitor and evaluate natural resources management activities. Stem et al. (2005) divide them in two categories: status assessments and measure assessments. By aiming at investigating the status and the potential threats to biodiversity, status assessments approaches includes population monitoring, rapid assessments, state-of-the-environment monitoring, report cards and scorecards. Whereas, measure assessments have shown to be effective at a programmatic level where M&E is most important for determining whether interventions are effective *per se* (Stem et al., 2005). This last category includes one-time impact assessments of an intervention and of adaptive management approaches.
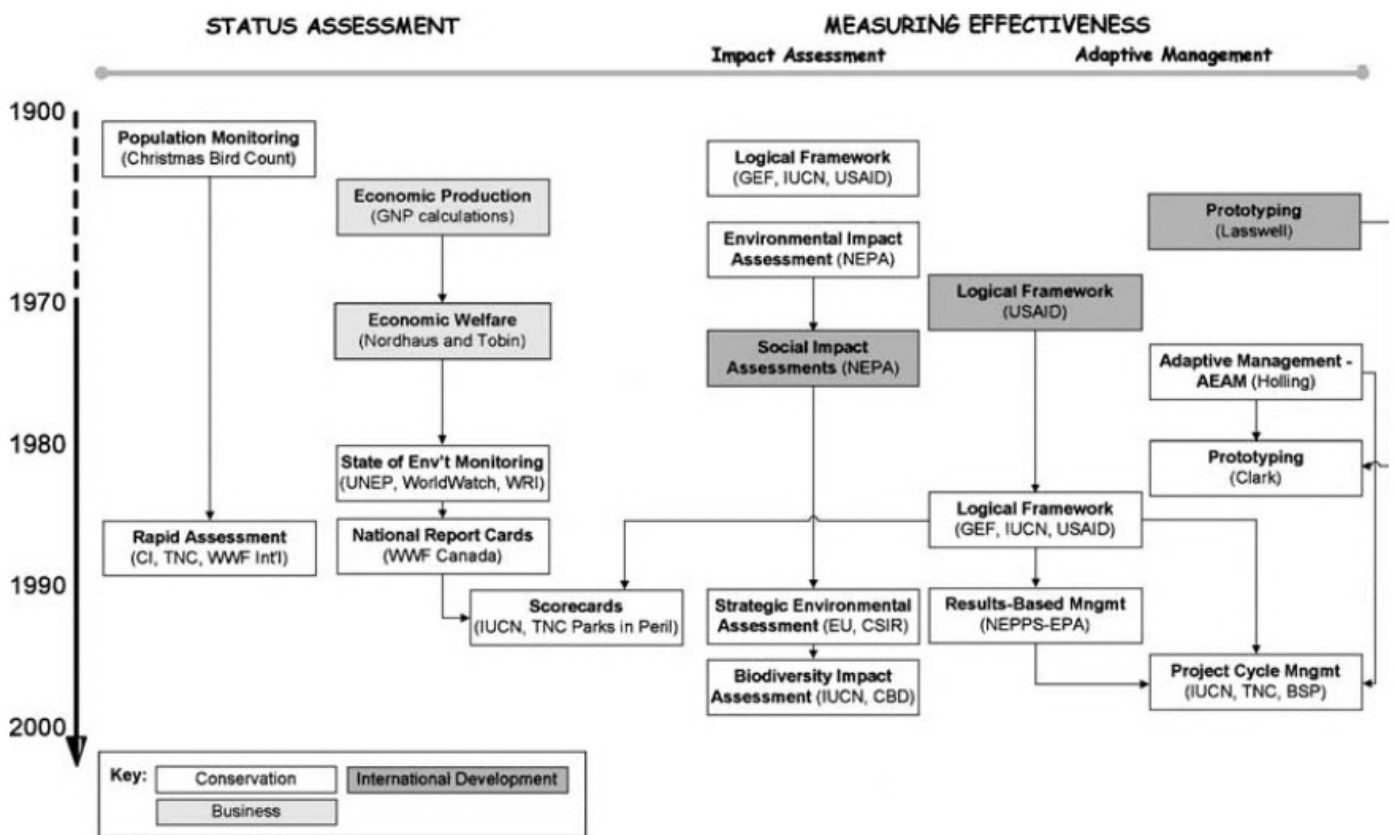
Fig. 3 'Conservation evaluation evolutionary tree' by (Stem et al., 2005)

However, new trends in the governance of ecosystem services - like the ones described in Chapter 1 - also had an influence on the development of M&E in conservation. In this connection, Gill Shepherd and Jeff Sayer, from the IUCN, emphasize the importance of monitoring the social and economic performance of natural resource management systems in strict connection both with its primary users and with international standards such as the *Addis Ababa Principles and Guidelines for Sustainable Development* defined in the COP-7 of the CBD in 2004. As they state[32]:

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[32] Available from:
https://www.iucn.org/about/union/commissions/sustainable_use_and_livelihoods_specialist_group/resources/aapg/res_monitoringandindicators/

"Monitoring the social and economic performance of natural resource management systems must be conducted within a participatory, learning framework, designed as far as possible with the people whose livelihoods are being impacted.

"Socio-economic aspects of sustainable use indicators also have a wider remit, however. This is because the frameworks within which human beings practice sustainable (or unsustainable) use are not just natural resource frameworks. There are also the frameworks set by national level laws, policies and institutions; frameworks which derive from district or provincial-level political institutions; and frameworks which are set by ecosystem-level or sub ecosystem-level local management regimes. There are also the constraints and opportunities provided by markets and market forces which monitoring systems need to understand thoroughly (and these considerations go well beyond the identification and elimination of market distortions)."

"Sustainable use is by definition a people-oriented concept. There is no excuse for making baseline development and monitoring so complex, or so abstract, that it does not speak to the people who are the users of the resource, and is of no use to them. Given finite funds and the very finite time of local people, the challenge to researchers is to keep monitoring simple and telling, and to embed it in the lives and activities of people living in the ecosystem."

As discussed in Chapter 2, Restoration initiatives are promoted at the international level as means towards a sustainable land management. In fact, they have shown to be able to support international sustainable goals while at the same time enhancing policy-makers and land managers' capacities at lower scales in managing natural resources. Though, it has been proven that in order for this approach to be effective, stakeholders need to be mobilized from the field scale to the region ones, and from the national to the international ones (Stem et al., 2005). As stated by Reed et al. (2011, pg. 262):

"For land degradation monitoring and assessment to be accurate and for sustainable land management to be effective, it is necessary to incorporate multiple knowledge sources and types using a variety of methods operating at different temporal and spatial scales. Methods must capture both biophysical and socio-economic aspects of land degradation processes operating at different scales and consider the (potentially conflicting) perspective of land managers. This may involve those who benefit from the ecosystem services, but also who live far away from the land in question. In short, approaches to land degradation M&A (monitoring and assessment) that are **multi-stakeholders**, **multi-method** *and* **multi-scale** *are necessary."*
(Reed & Buenemann, 2011)

Among all, two main M&E approaches have shown their potential in contexts where spatial and time scales are crucial factors: Adaptive Monitoring systems and Locally-based/Community-based Monitoring systems.

Adaptive Monitoring and Community-based Approaches

Adaptive monitoring systems are based on the belief that *'driving monitoring programs by questions is the most efficient and effective strategy to obtain meaningful ecological results in the long term. Although question setting is inherently difficult, driving monitoring programs by well-formulated and tractable questions is the best way to avoid inefficient and ineffective monitoring and squandering of limited resources* (Lindenmayer & Likens, 2009)'.

According Lindenmayer et al. (2009), Adaptive M&E approaches to natural resource management should be driven by: (i) tractable questions specified before the commencement of a monitoring program; (ii) a rigorous statistical design at the outset; (iii) a conceptual model of how the ecosystem might work or how the components of an ecosystems that are targeted for monitoring might function; (iv) and a human need to know about ecosystem changes such as the effect of a pollutant or of climate changes. In this way, accountable data would be created, and a flow of new information would emerges from the research questions and would stimulate change in the long-term (Lindenmayer & Likens, 2009).
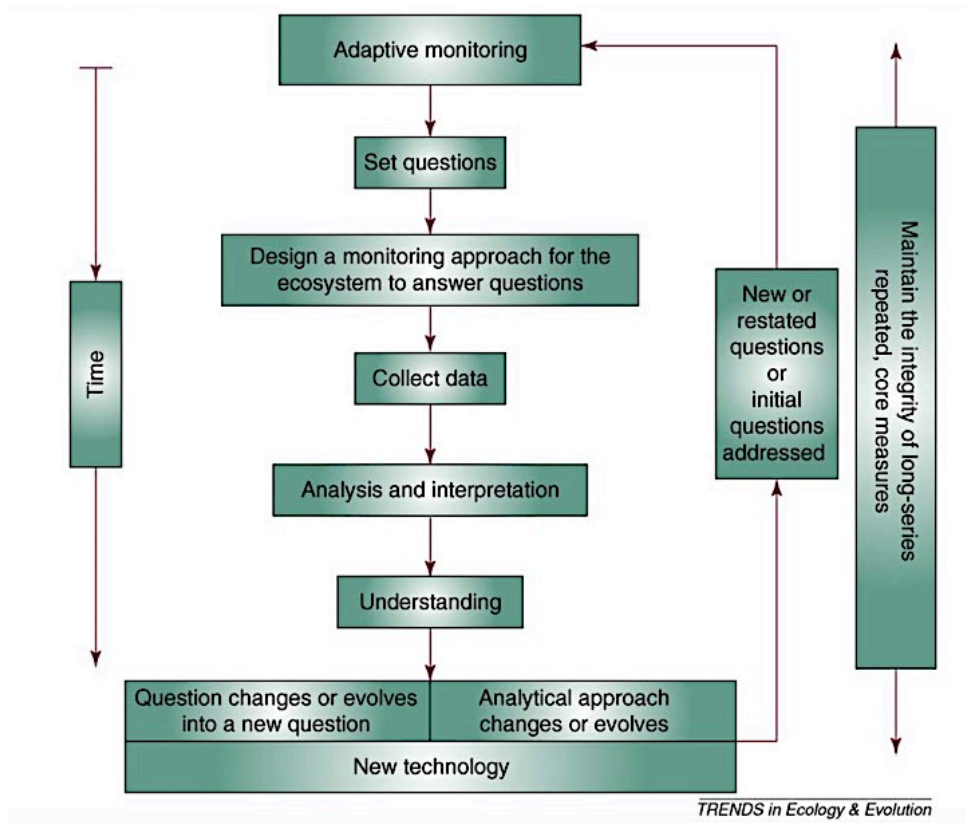
Fig. 4 Adaptive monitoring framework by (Lindenmayer & Likens, 2009).

Adaptive monitor systems also promote the cooperation of different actors at multiple-level. In fact, in order to be appropriate, questions must be agreed by a partnership among scientists, statisticians, policy-makers and natural resources managers. Lindenmayer et al. (2009) argue that on the one side policy-makers and resource managers have shown to be less familiar in the process of framing questions in ways that can be resolved by well-executed, long-term research and monitoring and might initially pose too many questions without prioritizing them. On the other side, scientists have not always been able to fully understand the socio-economic complexity of the problem faced by policymakers and resource managers, neither of fully acknowledge the policy options and range of management interventions available for testing and monitoring particular ecosystems (Lindenmayer & Likens, 2009).

Monitoring systems used by professional scientist in the context of biodiversity and resource use, have often been criticized as costly and hard to sustain, especially in development aid projects where financial resources are limited (Danielsen, Burgess, & Balmford, 2005). Moreover, such monitoring systems have often been perceived

by resource managers and local communities as logistically and technically difficult to implement; and irrelevant for their decision-making processes.

Contrarily, locally-based approaches have shown potential in responding to immediate threats to the environment, by making use of locally relevant data. At the seam time, by requiring the cooperation of different actors at the landscape level, they showed to be effective in protecting whole habitats while enhancing the participation of stakeholder at different levels (Danielsen et al., 2005). Examples of these methods comprehend participatory monitoring where the community defines aims and objectives, and ranger-based monitoring in protected areas. In both cases, local people together with local government staff have being directly involved in data collection and analysis resulting in diminished transaction and implementation costs.

Furthermore, (Danielsen et al., 2005), locally-derived data have shown to be extremely useful in understanding global patterns of change in the status of populations and habitats; the services provided by the ecosystem services; and the threats faced by specific ecosystems on a global scale. Moreover they have been also successful in reinforcing existing community-based resource management systems and in triggering the change in the attitude of locals towards more environmentally sustainable resource management.

4.4.3   Monitoring Public-Private Partnerships for Sustainable Development

Even though the literature around the topic of Public-Private Partnerships has been increasing in the past twenty years, little information is available on the specific approaches to be used to monitor their actual performances. At a theoretical level, researches have focused on defining the criteria that partnerships should have in order to be successful (Pattberg & Wilderberg, 2014). After having assessed more than 300 PPPs for sustainable development, Pattberg et al. (2014) found out that the lack of monitoring and reporting mechanisms has severely limited partnerships effectiveness at an aggregate level. This has resulted in negative consequences not only for the effectiveness and overall performance of multi-stakeholder partnerships but also for the legitimacy and trustworthiness of the UN initiatives in general. Pattberg et al. (2014) then stress the urgency of developing higher control mechanisms both for the meta-governance of partnerships for sustainable development, for the monitoring of minimum criteria and for the agreement around global norms to be shared by all these partnerships.

Similarly, great attention has been given to the concepts of legitimacy, accountability, and effectiveness (Bäckstrand, 2006). However, only few studies can be found on evaluation frameworks to be used to monitor partnership practice in progress (Brinkerhoff, 2002). Besides, as stated by Gerwen (2005):

> *"Public-Private partnerships and, more recently, multi-stakeholder partnerships (involving also the civil society) are seen as a promising approach to improve the enabling environment for social economic development and poverty reduction. Many experiences are built but systematisation of results and especially of the processes of partnership building is still weak. Current Monitoring and Evaluation (M&E) methods primarily focus on whether partnerships deliver end results, but the focus on processes of partnership building is often lacking. This is problematic, because the quality of the process determines in a large degree the end results of partnership building processes."*
> (Gerwen, 2005)

As a matter of fact, when assessing the context in which partnerships are currently being used, the most common approach used to maximise the success of their action is the 'Result-based' Approach (GIZ, 2013a; Zall Kusek & Rist, n.d.). This approach has shown to be effective in enhancing the capacity of Partnerships, and of projects in general, of delivering relevant results. Furthermore it has shown to be a good pathway towards adaptive management even in locally-based contexts.

Result-based Approaches

Result-based approach can be seen as the result of the evolution that the field of M&E in general has been going through in the past years. M&E systems have moved away from traditional implementation-based approaches and have embraced new methods in which the main focus is on the actual impact triggered by the interventions put in place (Zall Kusek & Rist, n.d.). Reason for this is that governments and organizations have often successfully implemented programs or policies, but rarely these have produced the actual, intended results. On the contrary, by applying Result-based approaches, not only the change in the broader context is triggered, but also new knowledge is created and shared among all the stakeholders involved.

In the specific case of PPPs, in order to satisfy also the need of accountability of private parties, the 'Result-based approach' has often been integrated with more formal approaches such as the Logframe (GIZ, 2013a). However, problems have arisen when the M&E has been conducted in isolation without considering the broader context in which the Partnership was operating. Moreover, too often little attention has been given to the self-assessment of the partnerships itself, causing it to be unsustainable in the long term (Gerwen, 2005).

In this connection, international institutions involved in sustainable development initiatives - such as the World Bank and the Global Fund - have shown the importance of integrating M&E systems throughout different levels. M&E at a project-level has shown to be crucial in providing the foundation for higher-level aggregated evaluations, including country-level, sector-level, and meta-synthesis evaluations (Cashin, 2012). Similarly, as it will be argued in this Thesis, M&E systems for PPPs should also be integrated in a multi-level M&E. In this way, the different requirements of the stakeholders involved at each level can be fully accomplished and a 'stream of knowledge' can be generated so that to enhance the effectiveness of the initiative in creating impact.

4.5 Indicator Frameworks for the monitoring of Sustainable Development Initiatives

Indicators are certainty the most crucial component of every M&E system (Veleva & Ellenbecker, 2001). However, in order to be relevant they need to be at the same time accurate and in line with the overall monitoring Framework. As a matter of fact, indicators need to be situation-specific so as to fit the context in which the M&E system needs to be carried out.

Research has shown that too often, while identifying the indicators, the focus has been mainly on their quantity rather than on the quality and relevance of the information they carry. As a result, long lists of indicators have been formulated without their actual impact being considered (Kusters & McGregor, 2010).

While analysing the literature around M&E systems applied in sustainable development initiatives, it has been almost impossible to identify one, shared and agreed list of indicators. This complexity has been enhanced by the fact that while considering the issue of 'sustainable development' both economic, social and environmental aspects have to be monitored. Hence, many different indicators frameworks have been identified.

This complexity has recently being acknowledged by some of most influential international institutions dealing with sustainable development which are now working towards the harmonisations of both monitoring frameworks and indicators. More information on these frameworks can be found in Appendix II.

4.6 Conclusions

This Chapter aimed at answering the research sub-question:

Which are the criteria underpinning effective M&E systems for sustainable development initiatives?

In order to answer this question an extensive literature review on the Monitoring and Evaluation (M&E) Systems for Sustainable Development has been conducted. More specifically, being Public-Private Partnerships for Landscape Restoration the main interest of this Thesis, M&E systems have been assessed in the specific contexts of: international development aid, natural resource management and Public-Private Partnerships.

Drawing on the findings of the literature review it has been possible to identify some general criteria that should underpin interventions in complex circumstances such as that of sustainable development initiatives. The criteria are listed in a table below. Finally, these criteria are assessed in relation to their application on Landscape Restoration activities.

Criteria for effectively Monitor and Evaluate (M&E) Sustainable Development Initiatives	
Criteria	**Rational**
(a) Be inserted in a broader Theory of Change	Create Impact Support Adaptive Management and Learning
(b) Multi-level	Create a 'stream of knowledge' from project level up to the organizational level Enhance accountability at different levels
(c) Multi-method	Align with international monitoring frameworks and indicator frameworks Allow flexibility in different context
(d) Multi-stakeholder	Incentivize the use of Partnerships Designed at a Landscape Level

Tab. 3 Criteria for effectively M&E Sustainable Development Initiatives

4.4.1 Criteria to Monitor and Evaluate Landscape Restoration

(a) Be inserted in a broader Theory of Change
Landscape Restoration consists in a set of activities implemented at an ecosystem-level in order to recover the ecological functions of degraded ecosystems. Most importantly, in order to stop degrading activities, Landscape Restoration should aim at providing local communities with the tools to sustainably manage their land and the ecosystems they live in. The final goal of Development Organisation in the context of Restoration should then be that of creating an impact in the long term by supporting a shift towards a sustainable use of ecosystem services.

In this way degraded ecosystems will be restored with long-term benefits for both the local economy and the environment.

The M&E system applied in Landscape Restoration activities should take into account the broader change that these activities aim to support. Moreover, because of the social, economic and ecological relevance of ecosystem services, actions should be monitored against criteria able to reflect changes in all these spheres. The implementation of a Theory of Change would help in clarifying the broader context in which restoration activities would fit and in defining the information needed to enhance change.

(b) Multi-level

The conventional approach to M&E in the aid industry has mainly been project-centric. However, research has demonstrated that by implementing an 'enterprise- wide' approach to M&E, the performance of each project can be coherent within a broader strategic framework of learning across the whole organization. For this reason, especially when dealing with complex issue such as sustainable development, organizations should divide their monitoring system in different levels. In this way, they would be able to make informed judgements about their performance at different levels - from project (operational) through programme (tactical) to organisation (strategic) (Crawford, 2004).

In the specific case of Landscape Restoration activities, actions should be monitored at three different levels: (i) Organization Level; (ii) Restoration Partnership Level; (iii) and Project Level.

(c) Multi-method

Because of the diversity enclosed by each level, multiple – but interrelated - M&E methods should to be applied. Especially at the project level, different projects might need to monitor indicators via different methods. Moreover, because of the need of aligning with international standards, methods might have to adjust to both the local conditions and the international requirements. By allowing M&E to be flexible and to adjust to different specific contexts, different requirements can be accomplished and the overall accountability enhanced.

There is no one solution for Landscape Restoration. The complex interaction between socio-economic and environmental factors will require Organisations, or Restoration Partnerships, to identify the restoration activities that best suit each specific ecosystem to be restored. As a result, M&E activities should account for different methods to be used in different ecosystems. However, even if different, all these methods should be inserted in a broader Monitoring Framework and should be able to support change in a similar way.

(d) Multi-stakeholder

In order for a M&E system to create relevant knowledge, different stakeholders need to be involved. Every level should require the cooperation of different actors and should target specific beneficiaries. Moreover, studies have shown that only those M&E systems that are built on a participatory approach manage to identify relevant research questions and then manage to be effective in practice. In an optimal case, every M&E should be based on a Partnership in which specific objectives and results are defined together in a participatory way.

Chapter 5

Methodology

5.1 Introduction

The following chapter clarifies the methodology that has been applied both in the theoretical and the empirical part of the thesis. The latter has been based on a five-month internship in the International Organization Commonland and on a fieldwork of two and a half months conducted in South Africa. Here it has been possible to participate to the creation of the first Restoration Partnership supported by Commonland and by other public and private parties for the landscape restoration of the Eastern Cape Province.

The next paragraph explains the two different phases throughout which the research has been conducted. Paragraph 5.3 further explains the rational behind the choice of the Case Study. Finally, in paragraph 5.4 the validity and limitations of the Case Study are discussed.

5.2 Approach

The approach has been divided in two phases: first the theoretical assumptions underpinning the thesis have been validated via literature review; and then the findings from the literature review have been tested on the grounds via empirical methods.

Theoretical Validation

First of all an extensive literature review has been conducted on the topics of Governance of Ecosystem Services, Ecological Restoration, Public Private Partnerships (PPPs) and Monitoring and Evaluation systems (M&E). This first step was needed in order to validate the contribution of this study to scientific research, and in particular, to the debate around the effectiveness of PPPs for sustainable development.

Throughout the literature review it has been possible to answer the three sub-questions and to pave the way for answering the main research question. More specifically, this preliminary study allowed to: (i) acknowledge the relevance of ecosystem degradation as an issue which threaten both ecosystems and human well being; (ii) identify the potential and the current limitations of Landscape Restoration for sustainable development; (iii) research the applicability of PPPs in the context of sustainable development; (iv) investigate the potential of PPPs for Landscape Restoration; (v) identify the best practices in the M&E of development initiatives, public private partnerships and natural resource management; and (vi) acknowledge the lack in the literature of an accepted M&E frameworks for PPPs for sustainable development and for Restoration Partnerships.

The theoretical research also allowed for the personal deduction of: (i) the criteria that a M&E would need in order to be effective in multi-disciplinary initiatives; (ii) a list of the most influential indicator frameworks used to monitor sustainable development; and (iii) a Self-Assessment Tool for PPPs based on the success criteria identified by Pattnerg and Widerberg (2014).

Empirical Study

The project in South African has been chosen as Case Study for several reasons. First of all, it showed to be the first project on the ground in which Commonland has been testing its 4 Return/3 Zones/20 Years model. Hence,

it permitted to observe if, and under which conditions, Landscape Restoration can be used for sustainable development. In fact, by visiting the area of interest and by interacting with the people living there, it has been possible to examine the degradation of the ecosystem and the negative repercussions that unsustainable practices have had, and are currently having, on land productivity and on regional water reserves.

Then, by taking part in the project, it as been possible to assess from close the potential of PPPs in the context of sustainable development. More specifically, it has been possible to analyse the role of Restoration Partnerships in supporting the shift towards a collaborative management of ecosystem services, with benefits for both the environment and human well being.

Finally, in line with the theoretical findings, it emerged that no M&E system was in place yet, not in the project, nor in the Partnership. Hence, this allowed for the possibility of testing the Multi-Level M&E Framework for PPPs and to investigate its applicability in the context of Landscape Restoration Partnerships.

5.3 Empirical methods applied in the case study

From the findings of the literature review, it has then been possible to design a Multi-Level M&E Framework for PPPs for Sustainable Development, which has been applied to the Case Study, and which will be further explained in the next Chapter (Paragraph 6.8).

Three more empirical methods have supported research in the fieldwork:

(1) *Participatory observations of meetings between partners*
Different meeting have been attended as external observer in the two and a half months spent in the field. These have included: a meeting with the farmers community in the research areas (Baviaanskloof, Oct. 7th, 2014), weekly meetings among core team of the Four Return Development Company[33] (Presence Learning Village at the Kouga Dam from Oct. 13th, 2014 till the Dec. 20th, 2014); excursions in the area of research (Baviaanskloof); a meeting among partners to agree on the outcomes of the Partnership (Cape Town, Oct. 28th,2014); a workshop organized by the Eastern Cape Department of Economic Development, Environmental Affairs and Tourism on Bio-Energy (East London, Nov. 5th, 2014); and a 'Learning Journey' organised from the Four Returns team to raise stakeholders awareness around wetland degradation (Kromme Catchment, Dec. 8th, 2014).

(2) *Interviews*
Partners have been interviewed in order to investigate their previous experience with Restoration Partnerships and M&E systems. The interviews have been conducted in two ways: with a face-to-face conversation, when possible, or via Skype meetings otherwise. On average, the interviews have been around 30-40 minutes. Listed among the interviewed are: the contact person representative of each organisation joining the partnership, experts in PPPs, experts in M&E and finally other participants to the project (see table below). Interviews have investigated: (i) previous experience with PPPs or Restoration partnerships; (ii) motivations for success/failure of previous experiences, if any; (iii) motivations which encouraged them to take part to the partnership; (iv) methods used to manage partners activities; (v) methods used to monitor progress of their activities; (vi) systems/frameworks/processes used in their organisation; (vii)

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[33] This is the local expression of Commonland in South Africa. In fact it is in charge of implementing Commonland Approach while aligning with the social and political context of South African administrative laws.

international framework with which the organisations have to align; (viii) M&E system used by partner's organisation; and (ix) division of responsibilities in the organisation with respect to M&E.

(3) *Support in the organisation of a two day workshop (Dec. 8-9th, 2014)*

During the permanence at the Presence Learning Village at Kouga Dam it has been possible to support the local team in the organisation of a two-day event in which partners were accompanied in a 'Learning Journey' through the research area in order to understand the reasons for its degradation and to identify potential solutions. In this occasion, partners were given the chance to sign the Letter of Intent for the Restoration Partnership. In this occasion the Multi-Level M&E Framework has been presented to the partners and their input has been required to prioritize the success criteria in the Self –Assessment Tool.

	Organization	Name Interviewee	Role
Restoration Partners	**Four Returns Development Company**	Mrs. Thekla Teunis	Business Developer Commonland
		Mr. Leon Talijaard	Business Developer
		Dr. Donovan Kirkwood	Business Developer
		Mr. Dieter van den Broeck	Co-Director Living Lands
		Mr. Marijn Zwinkels	Co-Director Living Lands
	Santam	Mrs. Ray-Ann Sedres	Head: Integrated sustainability
		Mr. John Lomberg	Head: SH relations & corporate social investment
		Mr. Simon Morilly	Head: Project Portfolio Office
	GIZ	Mrs. Sonja Berdau	Advisor Water Stewardship Competence Center Cooperation with the Private Sector
		Mrs. Nicole Kranz	Water Stewardship Advisor Center for Cooperation with the Private Sector & Transboundary Water Management in SADC (South African Development Community)
		Mr. Anne Leskens	Project manager flood management and PhD candidate at the University of Twente, the Netherlands
	Department Water Affairs and Sanitation (Eastern Cape, South Africa)	Mr. Andrew Lucas	Director Water Regulations
Experts	**The Social Collective**	Mr. Duncan Luke	Founder, CEO
	Business School - Port Elisabeth (South Africa)	Mrs. Heidi Janse van Rensburg	Senior Lecturer in Financial Management, Cost and Management Accounting
	Institute for Environmental Studies (IVM) - VU University Amsterdam	Mr. Oscar Widerberg	Researcher and PhD candidate on changing structures and agency in global environmental governance (GEG)
	Ellen MacArthur Foundation and	Mr. Ian Banks	Analyst in environmental sustainability, with a focus on carbon economics, climate

Commonland		change policy and environmental finance.

Tab. 4 Overview of the contact persons interviewed during the fieldwork, Presence Learning Village, Kouga Dam, South Africa

5.4 Validity and limitations

In order to increase the validity of the empirical research, the interviews have been recorded and transcribed. In this way it has been possible to identify possible similarities and trends among the answers and to optimize the evaluation of the answers ex-post. In fact, by leaving some time distance between the moment in which interviews have been taken and that in which they have been analysed, it has been possible to increase the objectivity of the analysis. Finally, results from the interviews have then been compared to the information coming from the literature review so as to confirm or question the trends identified by researchers and practitioners in the same field of knowledge.

It is important to be noticed that the Restoration Partnership was in its infancy. In fact the Letter of Intent was signed the 09/12/2014 and the MOU - Memorandum of Understanding is still to be signed. This has influenced both positively and negatively the scope of the research. In fact, on the one side this has made been possible to assist, almost from its very beginning, to the birth of the partnership. Thus it has been possible to observe the process which has brought partners to identify common goals and to define the partnership outcomes. On the other hand, it has not been possible to identify and evaluate the concrete actions of the partnership, nor its effectiveness. This has also limited the applicability of the Self-Assessment Tool, which was designed in the first phase of the research.

Instead, in order to cope with such constraint, partners have been asked to assess the success criteria and to rank them according to their priority in relation to that specific phase of the project. In this way it has been possible to identify the point of main interests of the partners and those in which a higher level of work was expected.

Chapter 6

Case Study: Monitoring a Landscape Restoration Partnership for the Eastern Cape, South Africa

6.1 Introduction

The findings reported in this Chapter are the results of a five-month internship in the international non-profit organization Commonland and of a two and a half-month fieldwork experience in the Eastern Cape, South Africa. In the latter, it has been possible to assess the Restoration Partnership put together by Commonland for the restoration of degraded ecosystems through the 4 Returns/3 Zones/20 Years Model. This model designed by Commonland relies on the cooperation between different agents for the achievement of returns on inspiration, natural capital, social capital and financial capital.

The next sub-paragraph summarizes the theoretical findings that underpin the empirical study, while sub-paragraph 6.1.2 describes the Self-Assessment Tool that has been designed based on the findings of Pattberg and Widerberg (2014).

Section 6.2 introduces the case study. Here, the research area and the approach applied by Commonland in that specific context are described in sub-paragraph 6.2.1, whereas the partners who joined the Restoration Partnership are introduced in 6.2.2.

Paragraph 6.3 reports the results drawn from the case study. First, section 6.3.1 reports the results from the Partners' interviews; and then, 6.3.2 describes the Multi-Level M&E Framework.

Finally, Paragraph 6.4 suggests the steps that should be followed by Commonland in order to identify the indicators for the 4 Return/3 Zones/20 Years models.

6.1.1 Conceptual background

Two main conclusions can be drawn from the previous Chapters: (i) public private partnership (PPPs) could have a potential role in supporting ecological restoration on a landscape level; and (ii) in order for PPPs to be successful in the long term, a monitoring and evaluation system (M&E) is necessary, and it is still lacking.

In fact, by reverting the trends of degradation, ecological restoration has shown to have a potential positive impact on all the sphere of sustainable development. However, few restoration projects have been successful in practice mainly because of their high costs and their high need for collaboration between different actors. In this connection, by reducing the costs and by being able to cope with complex multi-stakeholder issues, public private partnerships (PPPs) have been addressed as a potential solution for landscape restoration.

On the other hand, also few PPPs have been able to deliver the expected outcomes when applied in practice. Reason for this is that, in order to be effective on the long term, PPPs need to undergo a comprehensive M&E process, which until now, has not been clearly defined in the literature. Hence why in this thesis the topic of M&E has been further investigated in three main disciplines: international development aid, natural resource management and public private partnerships (Chapter 4). As a result, best M&E practices have been identified and four criteria for effective M&E have been deducted.

6.1.2   A Tool for the Periodic Evaluation of the Public-Private Partnership

Based on the success criteria identified by Pattberg and Widerberg (2014), a Self-Assessment Tool for PPPs has been developed. For each criteria a scale of scenarios have been defined, from one in which the PPP shows a 'very low level' of compliance to the criterion to one in which it shows a 'very high level'. In total the possible scenarios identified are five: 'very low', 'low', 'medium', 'high', and 'very high'. A score has been attached to each scenario: 1 for 'very low' till 5 for 'very high'. In this way it has made possible to score the performance of the partnership against each criterion. Scenarios and score have been inserted in an Excel Sheet so as to allow the representation of the performance of each criterion in a spider-chart.

By using this tool, partners are expected to be able to: (i) identify the actual performance of the partnership on each criterion; (ii) identify the areas in which the partnership is underperforming and on which partners need to invest more effort; (iii) evaluate the progress of the partnership every year; (iv) keep track of the progress throughout time; (v) learn from reflecting on why certain criteria have not been accomplished; (vi) adapting plans to increase performance of the criteria; and (vii) aim at achieve max scores on all criteria so as to be effective in the long term.

Nine Building-Blocks	Score (12-2014)
I. Leadership	3
II. Partners selection	3
III. Goal setting	2
IV. Funding	2
V. Managing	2
VI. Monitoring and Evaluating	1
VII. Meta-Governanace	2
VIII. Socio-political context	2
IX. Problem Structure	1

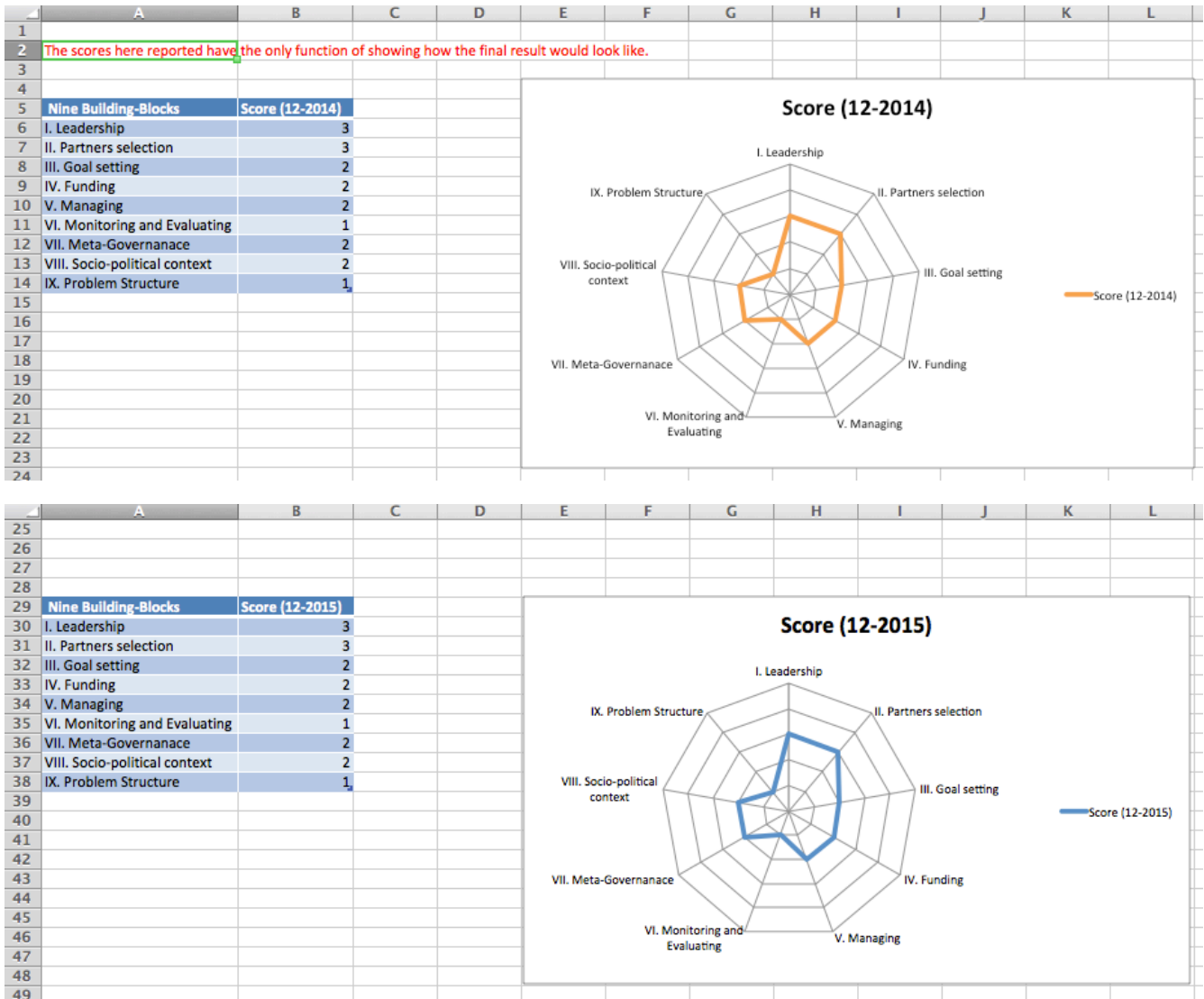| Nine Building-Blocks	Score (12-2015)
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III. Goal setting	2
IV. Funding	2
V. Managing	2
VI. Monitoring and Evaluating	1
VII. Meta-Governanace	2
VIII. Socio-political context	2
IX. Problem Structure	1

Fig. 5 Self-Assessment Tool's results for a potential yearly evaluation.

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However, being the Partnership is in a very young stage, it has not been possible to evaluate its actual effectiveness throughout the Self-Assessment Tool. In order to cope with such limitation, the Tool has been used in a preliminary way to help partners identifying the areas in which, at that stage, special attention was needed. Hence, partners have been asked to rank the criteria in order of priority. Interestingly enough, it emerged that goal-settings and partners selection were among the ones with higher priority, together with the alignment to international initiatives (meta-governance), whereas monitoring and evaluation was ranked among those with low priority.

6.2 A Restoration Partnership for the Eastern Cape, South Africa: the 4 Returns Model and the Business Cases

In order to identify the most suitable project for the 4 Returns/3 Zones/20 Years model, Commonland applies a Multi-Criteria Analysis (MCA) throughout which all project are evaluated and ranked according to their feasibility. Criteria are divided in five categories: (i) external factors; (ii) implementation capacity; (iii) support needs of landscape entrepreneurs; (iv) Commonland ability to deliver; (v) potential to deliver business cases at landscape level. In particular, external factors look at political, economic, social, technical and legal factors; the implementation capacity assesses the availability and the quality of entrepreneurs in the landscape; support needs evaluate the situation of local businesses; Commonland ability to deliver refers to the availability of local team and network; and finally the potential to deliver is investigated by estimating the capacity of the business cases to deliver the 4 Returns.

Compared to the other projects in Commonland's pipeline, the South African project scored high in most of the criteria of the MCA. Among the reasons that increased its feasibility are: (i) restoration efforts were already been initiated by the local NGO Living Lands; (ii) a good network on the landscape was already established by Living Lands; (iii) a solid scientific baseline could be drawn on seven years of research put through by Living Lands and associated partners (students joining the Presence Learning Village at the Kouga Dam and other scientific institutions); and (iv) local institutions such as the South African Government of the Eastern Cape province, were already supporting Living Lands and its initiatives especially at municipal level.

6.2.1 The 4 Returns Model for the Port Elisabeth Catchment area

South Africa is an extremely interesting country for many different reasons. However, what made it famous worldwide is mainly its tormented past. The events that characterized South African socio-politic history have not only left a scar on South African minds and souls, but they also indelibly marked South African landscapes.

In fact, because of the unsustainable development patterns which have been followed in past years, South Africa's ecosystems are now facing severe degradation. For this reason Commonland decided to work together with South Africans so as to give a new opportunity not only their lands but also their communities.

What played a crucial role in the choice of the Port Elisabeth Catchment area, despite its degradedness, is the presence of the local NGO Living Lands. In fact, after seven years of work on the landscape, Living Lands engaged the local community by making it aware of the degradation of its ecosystems. As a matter of fact, among all the criteria, the awareness of the people living on the landscape is one of the most important one. In fact, on the base of such awareness, local stakeholders have shown to be more prone to join a public private partnership in which their effort to restore the land can be supported by other actors, also affected by the same problem. This allowed

the design of different business cases in which all stakeholders can work together to restore the Eastern Cape catchments from a landscape perspective.

The area of study of this research has been limited to the Eastern Cape Province of South Africa and more specifically to the Port Elisabeth catchment area[34]. Four main rivers flow in this area: the Baviaanskloof River, the Kouga River, the Kromme River and the Gamtoos River.

In the past years, overgrazing, unsustainable land-use and invasion of alien trees have degraded the hillslopes surrounding these rivers compromising the ability of the whole landscape to provide citizens with crucial ecosystem services, such as provisioning services -

This catchment area (around 500,000 ha) supplies 70% of the current water supplies to the Nelson Mandela Bay Municipality (Port Elizabeth). As the largest city in the Eastern Cape Province, it is crucial for economic development and job creation in one of the poorest parts of South Africa. However, the potential for the city to grow economically is constrained by limited energy and water supplies. Port Elizabeth has recently (2009/10) come out of one of the most severe droughts in living memory during which it experienced a significant water crisis.

Fig.6 Research area: Port Elisabeth catchment area. The four rivers that replenish the catchment are indicated: Baviaans, Kouga, Krom and Gamtoos Rivers. The area circled in red indicates the Kouga Dam, where the Presence Learning Village is located. (Sources: The Four Returns Development Company)

Landscape Restoration in the Port Elisabeth Catchment

Over the last decade the South African Government has already invested in reversing the degradation in the catchment through several programs, like Working for Water/Wetlands and Subtropical Thicket Restoration program. Additionally to this, local landowners are increasingly showing commitment to incorporate restoration and sustainable land/water management in to their daily practices. These factors combined create the

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[34] Also known as **drainage basin.** This is an extent or an area of land where surface water from rain, melting snow, or ice converges to a single point at a lower elevation. The latter corresponds usually to the exit of the basin, where the waters join another water body, such as a river, lake, reservoir, estuary, wetland, sea, or ocean.

opportunity to up-scale the existing restoration efforts and have a large scale impact on a landscape level with long lasting effect on the resilience of the catchments, livelihoods and creating a green economy.
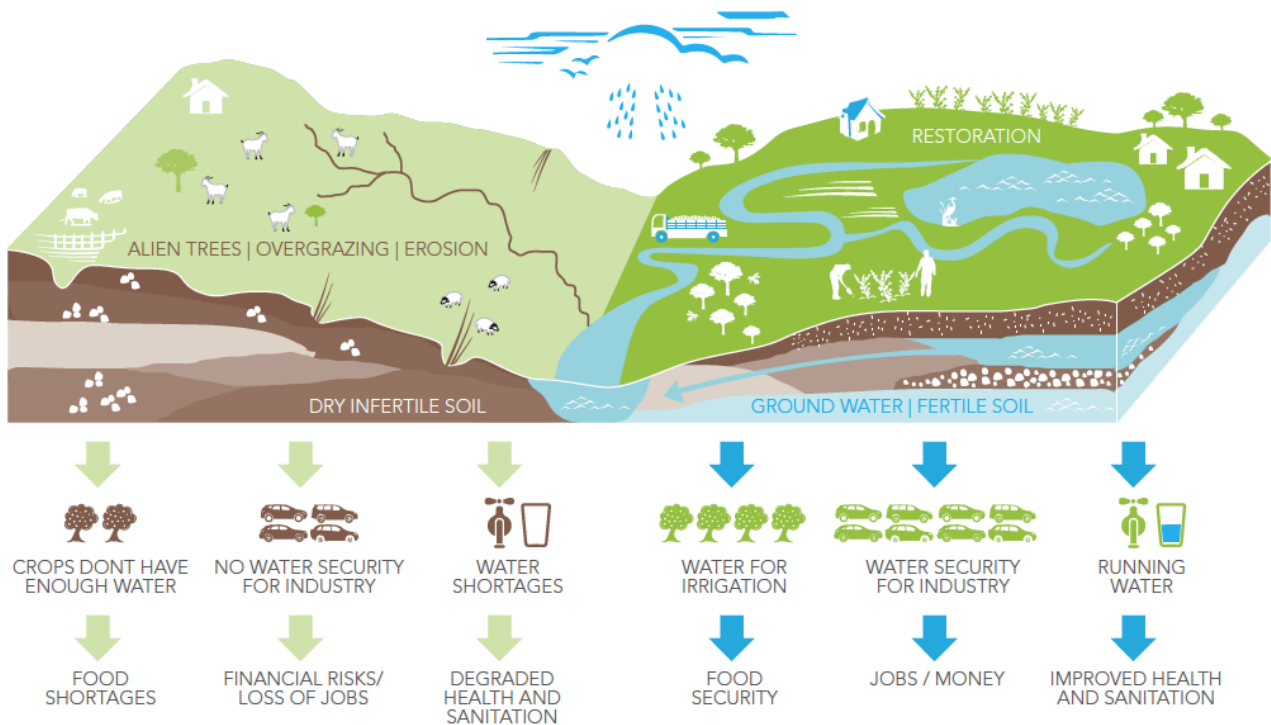

Fig. 7 Graphic representation of the impact of degradation VS the impact of restoration on the landscape. (Source: The Four Returns Development Company)

The approach used by the Four Returns Development Company to engage with the stakeholders is based on the *Theory U[35]* developed by C. Otto Scharmer, American economist and senior lecturer at the Massachusetts Institute of Technology (MIT). According to Dr. Scharmer, the quality of the results that people create in any kind of social system is a function of the quality of awareness, attention, or consciousness that the participants in the system operate from. Five phases compose the Theory U approach: (i) co-initiating, where a common intent is created; (ii) co-sensing, where stakeholders observe and learn from each other; (iii) co-strategizing, to reflect and plan; (iv) co-create, where social change and innovation is prototype according to the specific context; and (v) co-evolve, where the action plan is up-scaled and social change fostered.

By building on the Theory U, the Four Returns team is developing a landscape approach in which all the stakeholders can actively collaborate together to identify the best solutions. This landscape approach can be broken down into four work streams, each focusing on a specific theme and output.

(1) *Bottom-Based Stakeholders Engagement Process*
The role of this work stream is to engage local communities, landowners and municipalities to let them create and shape the solutions. The Four Returns Development Company believes any intervention, in particular on a

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[35] https://www.presencing.com/theoryu

landscape, should be driven by the people who live and work on the land. The outcome of the work stream will feed into the other work streams.

(2) *Top Guided Stakeholder Engagement Process*

This work stream focuses on creating a sense of a whole in the Port Elizabeth catchment area amongst stakeholders (individuals part of a collective purpose, awareness of own role and organization's role). In this stage, the goal is to create willingness amongst stakeholders to share resources, invest in new business models and they should be capable and prepared to walk this journey for another 5 years together. The workstream will use three major workshops and in between a set of learning journeys to engage the core participants in this process.

(3) *Investment Model Work Stream*

This work stream will focus on creating the fact-based storylines for ecosystem restoration in the area, and supporting the implementation of interventions, including access to finance. A narrative for the full area will be co-developed with the participants, and the biggest opportunities for impact will be identified from there. Furthermore, the Four Returns Development Company will identify some opportunities for 'low hanging fruit', which will be implemented quickly to serve as inspiration and generate action on the landscapes. For the biggest opportunities, a 'business as usual' scenario will be modelled using the four returns, as well as a 'change' scenario. Every decision maker will have the opportunity to shape and see the impact of their behaviour on the landscape, in terms of inspiration, nature, social impact as well as return on investment (costs, income, risks). The modelling will be based on Commonland 4 Returns/3 Zones/20 Years model.

(4) *Youth Entrepreneurship Work Stream*

In parallel with the senior stakeholder process, we will run a youth entrepreneurship program with youth from the local co mmunities, focused on social entrepreneurship. The program will work with unemployed youth and there will be mentorship opportunities for senior stakeholders to engage with the youth in this process as well.
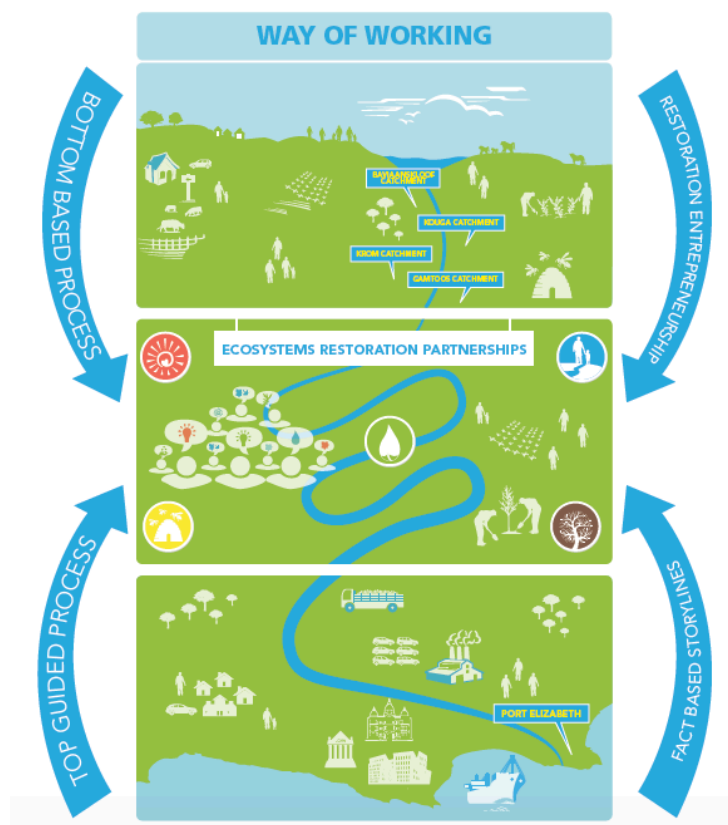

Fig. 8
Graphic representation of the approach applied by the Four Returns on the landscape.
(Source The Four Returns Development Company)

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The Business Cases

The model of the 4 Returns/3 Zones/20 Years relies on the capacity to identify *ad hoc* (site-specific) business cases which are able to restore degraded land via sustainable practices by at the same time delivering a return on investment for local communities and for external investors.

This task is implemented by the team of the local **'Four Return Development Company'** (or only 'Four Returns') supported by Commonland. The business cases are scouted by local entrepreneurs of the Four Return on the base of the characteristics of the ecosystem and of the on-going activities in the area. First the degraded ecosystem is assessed from a landscape point of view and the three zones are defined. Then by improving the activities which may deliver at least one of the four returns and by co-developing new sustainable activities, the four returns are maximized. Based on a time scale of 20+ years, these business models are thought to provide returns for local communities in the first years of implementation, and by the end of the project also for the investors. In the specific case of South Africa six business cases have been identified so far and are under preliminary discussion. Among these:

(1) *Setting up a sustainable Honey Bush Farm*
In this historical moment the Honey Bush market results to be quite attractive. In fact, it is growing so fast that it does not manage to cope with the demand. To organically cultivate Honey Bush in a sustainable way would be a potential business plan throughout which Fynbos would be regenerated on degraded hill slopes while creating an economic opportunity for emerging farmers, mentored by commercial farmers.

(2) *Kromme Restoration of Wetland*
Wetland in the Kromme is partially located on farmers' land. Thus, despite their high value for water retention and biodiversity, farmers do not always see their real value. In fact, for them these lands represent mainly an opportunity cost with little, if not negative instead, value. The aim of this business case is to find a mechanism, i.e. payment for ecosystem services, throughout which farmers can be supported in the protection of the wetlands.

(3) *Baviaanskloof Hartland (Wildlife and People)*
Explore the business case for farmers and communities to create a Collective in which eco-tourism and wildlife are used as key income drivers instead 'land-degrading' livestock. This plan would comprehends activities such as re-introduce wildlife into the area, restore natural ecosystems and develop tourist value propositions.

(4) *Building a compost facility using wood from alien trees*
In the research area (mainly Kouga and Kromme catchments), 28,000 ha are infested by alien trees which have negative repercussions on the ecology of the area and on its water reserve. For this reason, throughout the initiative Working for Water, the Government is trying to clear the land from these aliens trees. By using the waste from the clearing activities, a compost facility could be set up in the Langkloof area.

(5) *Business Adopt a Municipality*
The main purpose of this initiative developed by the South African Government is to encourage private companies to adopt a municipality/ies, enter into a Memorandum of Understanding (MoU) and together develop an implementation plan to assist such a municipality/ies to, among others, improve infrastructure development,

deal with governance challenges and address issues of local economic development (LED) while at the same time contributing to job creation and provision of critical skills.

The ultimate goal is for the private sector and State Owned Entities (SOEs) to contribute toward efficient and effective service delivery to communities. The initiative further allows participating private sector companies to enhance their social responsibility and thus contribute towards a better South Africa for all citizens. In particular it aims at: (i) enhancing the capacity of municipalities to deliver services to local communities through continued support from private sector companies and SOEs; (ii) learning best practices from the private sector; (iii) activating private sector companies and SOEs involvement in the support programmes aimed at improving local government infrastructure, economic development and governance; (iv) engaging and share local government turn-around priorities with business and SOEs with a view to communicate the support requirements and of municipalities; and (v) improving communication and partnering between municipalities and the private sector.

(6) *International Water Stewardships Initiative*
Launched by state secretary Gudrun Kopp (BMZ) during the Bonn 2011 Nexus Conference and promoted by GIZ, this initiative intends to scale up cooperation with the private sector. It will create innovative partnerships to mobilise bottom-up action between government, business and civil society for improved water (and land) management in developing countries. It recognizes that water is a shared resource and cannot be secured by one actor alone. Moreover, this initiative powerfully engages water and energy utilities and agricultural producers in understanding and addressing water risks. In order to do that it fully implements the nexus-approach.

(7) *Working for Water*
Launched in 1995 and administered through the Department of Water Affairs and Forestry, and the Department of Environmental Affairs, the Working for Water (WfW) program aims at fight against invasive alien plants in catchment areas. Moreover, by involving local communities this program also aims at enhance social security by providing jobs. Since its inception in 1995, the program has cleared more than one million hectares of invasive alien plants providing jobs and training to approximately 20 000 people from among the most marginalized sectors of society per annum. Of these, 52% are women. WfW currently runs over 300 projects in all nine of South Africa's provinces. Scientists and field workers use a range of methods to control invasive alien plants. These include: (i) mechanical methods - felling, removing or burning invading alien plants; (ii) chemical methods - using environmentally safe herbicides; (iii) biological control - using species-specific insects and diseases from the alien plant's country of origin. To date 76 bio-control agents have been released in South Africa against 40 weed species; and (iv) integrated control - combinations of the above three approaches. Often an integrated approach is required in order to prevent enormous impacts.

This initiative has been internationally address by many researchers as successful example of multidisciplinary governance of ecosystem services. For instance, while describing the five motivations to invest in ecological restoration[36], Aronson et al. (2006):

> *'...we argue that RNC (Restoration of Natural Capital) as a strategy embraces all the other motivations for restoration and will go the furthest in efforts to re- establish a healthy, sustainable, matrix for human endeavour. A pertinent example is the ten-year-old Working-for-Water*

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[36] See Chapter 2.

programme in South Africa (Milton, Dean, & Richardson 2003; Van Wilgen et al. 2004) – a public works initiative in which more than thirty thousand people are currently employed to eradicate invasive alien woody plants (especially deep-rooted Australian acacias) that absorb and transpire soil moisture and thereby deprive native plants, agricultural lands, and people, of much-needed water (Aronson, Clewell, Blignaut, & Milton, 2006, pg.137).'

In fact, initiatives as this one are seen as vehicle to: (i) mainstreaming, i.e. bringing the benefits and motivations into the common discourse of the general public, so that it becomes 'taken for granted'; (ii) create employment and livelihood, and striving to restore social capital; (iii) enhance services and goods within timescales that benefit individuals; (iv) make use of approaches that are locally affordable and ecologically and culturally appropriate, taking cognisance of mind-sets and specific settings; (v) restoring self-sustaining ecosystems that need litter or no on-going management; and (vi) planning with local users so that all tangible and intangible values of restoration can be appreciated and the action supported (Aronson et al., 2006).

Similarly, the TEEB (2011, pg. 598) also addresses the similar South African initiative '**Working for Wetlands'** as positive example of the successful combination between restoration and sustainable development. And more specifically:

'The 'Working for Wetlands public works programme intervened in 2006 to reduce the erosion and improve the wetland's ability to continue providing its beneficial services. An economic valuation study completed in 2008 revealed that: (i) the value of the livelihood benefits derived from the degraded wetland was just 34 per cent of what could be achieved after investment in ecosystem rehabilitation; (ii) the rehabilitated wetland now contributes provisioning services conservatively estimated at a net return - i.e. after making provision for costs - of Euro 297/household per year; (iii) the total economic value of the livelihood benefits (Euro 182,000) provided by the rehabilitated wetlands is more than twice what it cost to undertake the rehabilitation works (Euro 86,000), indicating a worthwhile return on investment by 'Working for Wetlands'; and (iv) the Manalana wetland acted as a safety net that buffered households from slipping further into poverty during times of shock or stress.'

6.2.2   Restoration Partners

With the support of the local NGO Living Land, Commonland had the possibility to establish a local Development Company called the Four Returns. This company is directly managed by one component of the Team of Commonland and by a ever growing network of local experts and entrepreneurs. Besides identifying *ad hoc* business cases, the Four Returns Development Company has the duty to form the Restoration Partnership/s and to identify potential new partners to up scale its activities up to a landscape level.

The first partners that have been engaged by the Four Return and with which a Letter of Intent has been signed are, up to now: the local NGO Living Lands, the German International Development Organization GIZ, the South African Insurance Company Santam and the Department of Water Affairs and Sanitation (DWS) of the Eastern Cape, South Africa.

Living Lands

Living Lands is a not-for-profit organization active in the Eastern Cape Province of South Africa created for the purpose of restoring living landscapes. According to Living Lands vision, a living landscape consists of a variety of healthy ecosystems and land uses, and is home to ecological, agricultural, and social systems which are managed so as to function sustainably. Their mission is to: (i) promote living landscapes; (ii) mobilize civil society for sustainability; (iii) enable and facilitate social learning processes; and (iv) foster mutually beneficial partnerships and participatory networks throughput a positive, creative, committed, honest and transparent approach. Their aim is to ensure that natural and cultural resources are available for future generations and that ecosystems are resilient for adaptation to climate change.

They have been working on the ground for the past seven years and more specifically from the Presence Learning Village at the Kouga Dam. They have been supporting restoration initiatives throughout the province and they have facilitate governmental initiative such as the 'Working for Water' one (more info on this will follow below). They are currently working in the Baviaanskloof, Compassberg, Kromme and Kouga catchments.

GIZ

The *Deutsche Gesellschaft für Internationale Zusammenarbeit* (GIZ), GmbH (*German Federal Enterprise for International Cooperation*) or GIZ is an international enterprise for international cooperation services for sustainable development. It is owned by the German Federal Government operating in many fields across more than 130 countries. It primarily works with states, state agencies, and the private sector. Its headquarters are located in Bonn and Eschborn, Germany. The organisation was established on 1 January 2011 through a merger of the three German organisations Deutscher Entwicklungsdienst (DED), Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ), and Internationale Weiterbildung und Entwicklung (InWEnt).

GIZ mission statements comprehend: (i) manage change; (ii) provide know-how; (iii) develop solutions; (iv) act as an intermediary; (v) being value-driven; (vi) advice policy makers; (vii) secure results: and (viii) being a global player. Its actions are guided by the principles of sustainability and by the belief that: '*… only by combining social responsibility, ecological balance, political participation and economic capability will current and future generations be able to lead secure and dignified lives.*'[37]

Santam South Africa

Founded in 1918, Santam is regarded as South Africa's largest short-term insurer company. Santam's head office is located in Cape Town but its business interest reaches also Zimbabwe, Malawi, Uganda, Tanzania and Zambia. The company vision is that of researching success by adapting to a dynamic systemic risk landscape. Over the years, Santam has been able to continually reposition and improve itself in the changing business environment, by offering: (i) access to the largest general insurance group in Africa with a market share in excess of 22% in South Africa; (ii) a group insuring 80 of the top 100 companies listed on the Johannesburg Stock Exchange; (iii) diversified insurance product offering and distribution channels; (iv) efficient capital management and a stable dividend policy; (v) a group well-positioned to deal with benefit from regulatory changes; (vi) good transformation credentials supported by three empowerment trusts and the recent establishment of the Santam Resilience Investment Fund; and (vii) international diversification through the new Sanlam Emerging Markets partnership, Santam Re and Santam Specialist.

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[37] Available from: http://www.giz.de/en/aboutgiz/identity.html

Santam is one of the companies which support the initiative '***Business Adopt a Municipality'*** sponsored by the South African Government. Being in line with the broader purpose of the Four Returns Restoration Partnership, this initiative strengthen the cooperation between Santam, the South African Government and the Four Returns. In fact, it offers the opportunity to design a comprehensive, landscape solution in which a 'win/win' solution is reached for the sake of all the stakeholders involved.

Department of Water Affairs and Sanitation (DWS)

South Africa's Constitution and Bill of Rights enshrine the basic human right to have access to sufficient water and a safe and healthy environment. The Government fulfils these rights through the Department of Water and Sanitation (formerly Water Affairs). The department is responsible for policy development, regulation and oversight of sanitation provision. Sanitation provision is governed by the Strategic Framework on Water Services (2003) and the Water Services Act of 1997.

According to South African legislation, all water users who do not receive their water from a service provider, local authority, water board, irrigation board, government water scheme or other bulk supplier, and who use water for irrigation, mining purposes, industrial use, feedlots or in terms of a general authorisation, have a statutory obligation to register. This includes the use of surface and groundwater. Other uses that must be registered include: (i) diversion of rivers and streams; (ii) discharge of waste or water containing waste; (iii) storage, which includes any person or body storing water for any purpose from surface run-off, groundwater or fountain flow in excess of 10 000 m^3 or where the water area at full supply level exceeds one hectare (ha) in total on land owned or occupied by that person or body, and who is not in possession of a permit or permission; (iv) local authorities and other bulk suppliers with; (v) their own water sources and purification works; and (vi) controlled activities such as irrigating with waste, power generation with water, atmospheric modification or recharging of aquifers.

To further promote sustainable and equitable water resources management, the department has developed and continues to update a range of strategies for water management. Among these, the above-mentioned initiatives '***Working for Water'*** and ***'Working for Wetlands'*** are particular famous worldwide.

6.3 Results from the Case Study

The two and a half months spent in the Presence Learning Village at the Dam Research Centre have made possible to observe from close the development of the Restoration Partnership and the challenges that it needed to face at that particular stage in time. It emerged that: (i) given the young age of the partnership, no M&E was in place; and (ii) no clear guidelines/references were given by Commonland on the steps to be implemented in order to identify the indicators the Four Returns.

For this reason it has been considered appropriate to: (i) investigate, throughout interviews, the experience of the partners in relation to M&E systems (Ph. 6.3.1); (ii) design a M&E Framework for Commonland and its Restoration Partnerships (Ph. 6.3.2); and (iii) to deduct the path to be followed to identify the indicators for the 4 Returns (Ph. 6.4).

6.3.1 Results from Partners' interviews

From interviewing the partners it emerged that:

- For all the partners this has been the first time they were engaging in a Restoration Partnership and more specifically in a partnership in which ecological, social and economic purposes are bound together.

- Santam recently engaged in a public private partnership, via the initiative 'Business adopt a municipality', from which the importance to synchronize the timeframe within which private and public work emerged clearly. In fact while private actors come from a world shaped by efficiency and timely return on investments the public sector instead is mostly hindered by bureaucracy and by governance deficits. And this can have repercussion on the overall success of the partnership.

- Both Santam and the Dep. of Water and Sanitation have no experience in monitoring interdisciplinary projects such as the one from Four Returns.

- The partners have not yet identified the international M&E frameworks/standards they should adopt.

- GIZ is the only partner who has an experience of public private partnerships for sustainable development. Moreover, they are the only ones who recognize the importance and the urgency of having a M&E in the project. Because of their experience, they stressed the need for the partners to design the M&E together and possibly through a M&E Workshop. They also identified four challenges that made previous M&E experience to fail: (i) lack of alignment between different levels: Headquarters level (GIZ), specific Partnership level and Country level; (ii) lack of common shared objectives between different levels - i.e. Not always the objectives set by the program manager at the institution level (so inside GIZ headquarters) were reflected at the lower levels; (iii) lack of alignment on objectives, outcomes and outputs at the project team level; and (iv) confusion on M&E terminology i.e. the difference between indirect/direct beneficiaries.

- All partners recognized the benefits of joining the partnership. Among the benefits cited there are: win/win solution, risk reduction, costs reduction, increased information advantage, increased stakeholder participation, solutions at a landscape level, and transformation of challenges in opportunities via long term social impact.

6.3.2 Multi-Level M&E Framework

The preliminary study conducted on M&E (Chapter 4) has made possible to identify the best practices used in development aid and natural resource management, and to deduct four main criteria that M&E system would need in order to be effective. These are: (i) being insert in a broader theory of change; (ii) be multi-level; (iii) be multi-method; and (iv) be multi-stakeholders. These have been the conceptual basis on which a Multi-Level M&E Framework has been drawn.

The Multi-Level M&E Framework is divided in three levels: Commonland Level, Restoration Partnership Level and Project Level. At each level, the M&E process is meant to achieve slightly different goals. In fact, despite being all oriented towards the achievement of the 4 Returns, each level will have different target stakeholder (See Tab. 10 in the Annex III). That means that the people or institutions that are going to evaluate the success of the company/initiatives at each level will be different. Hence, the indicators that will have to be monitored at each level, are also different.

For instance, at the Commonland level, the performance will be evaluated by the broader public, by international institutions, and most importantly, by the investors which decided to support Commonland activates. As a result, at that higher level, Commonland will have to show that its model is actually feasible and that Return on Investment throughout restoration are actually achievable. Moreover, by aiming at creating an Impact on the long term, the M&E at this level has to be aligned with a broader theory of change underpinning the activities of Commonland, which in its case can be seen as the 4 Returns/3 Zones/20 Years model itself.

In the Restoration Partnership level, the partnership performance will have to be evaluated firstly by the partners themselves and then by the headquarters of the parties joining the partnership. As a result the partnership will have to be evaluated both from a institutional perspective and from an actor perspective[38]. Hence, the M&E at this level will have to be multi-methods since it will have to combine a Self-Assessment of the Partnership itself, and a Result-based M&E to verify if the actions of the partnership meet the requirement of the headquarters at higher levels.

Finally, by engaging directly on the landscape, the M&E at the project level will have to evaluate the success in terms of both the actual satisfaction of the stakeholders engaged at that level and the compliance of the activities implemented with the 4 Returns goals. In order to do this, the M&E system at this level will have to be applied through a comprehensive method able to account for all the stakeholders and the activities implemented to achieve the Four Returns.

The table below describes: (i) the objective to be reached at each level; (ii) the criteria characterizing each level (each level is associated to a best practice identified in the literature – more info can be found in Appendix I); and (iii) the target stakeholder of each level.

	M&E Main Objectives	M&E Criteria	Target stakeholders
1° Level **Commonland**	**Track IMPACT** at the international level while achieving the specific objectives set by Commonland. Aligning with international targets and goals for **Sustainable Development**. Support **Restoration Market** by attracting key investors.	In line with international standards and requirements Accessible to a broad public Relevant for Impact Investors Able to show the feasibility of Commonland approach and of the 4 Returns/3 Zones Model Approach: **Theory of Change**	SDGs UN Agencies IRIS by GIIN[39] IFC - World Bank CBD
2° Level **Landscape Restoration Partnerships**	**Track SUCCESS** of the Partnerships where the **specific outputs and outcomes** of the different partners have to be reached.	Conducted at a project/landscape level Used to trigger responsive adaptive management Flexible Built together with partners Spatially and thematically targeted to measure the effect of the project	Restoration Partners

[38] See Paragraph 3.2.
[39] See Appendix II, Tab. 8.

		interventions
		Approach: **Results-based Management and** <u>**Self-Assessment (9 success criteria)**</u>	
3° Level **Project Level**	**Track PROGRESS** on the ground by focusing on the results achieved by **Landscape Restoration** in the 4 different Returns.	Clear and straightforward Practical Proactive (focused on underlying trends) S.M.A.R.T. Indicators (Specific, Measurable, Attainable, Realistic and Time-bound) Cost-effective Disaggregated Consistent with site-specific system based information Approach: **Ecoagriculture Partners**	Direct and Indirect Stakeholders involved in the projects ON the Landscape

Tab. 5 Multi-Level M&E Framework.

6.4 Pathway towards the indicators for the 4 Returns

By assisting the team of the Four Returns Development Company it has been possible to notice a gap of information between the approach designed by Commonland and the actual approach required to identify the indicators for the Four Returns in the South African project. In fact, Commonland did not provide any clear guideline or reference on the specific output/outcomes to be achieved.

What is more it has been noticed that the focus at that preliminary stage was mainly on the indicators to be monitored. Though, as stated by many researches and practitioners[40], while designing a M&E it can be misleading to focus on the indicators without first having a clear idea of the final output/outcomes that are expected, and on the activities throughout which these want to be achieved.

In order to fill this gap additional information on Commonland approach have been gathered and translated into some instructional material (see Appendix III). Among the results of this analysis there are: (i) a representative map of the stakeholders engaged by Commonland; (ii) a list of outcomes and outputs that Commonland could aim to (A similar list has been made for the case study. Here, information have been gathered in a Workshop held the Oct. 28th, 2014 in Cape Town among the partners); and (iii) a representation of the path that should be followed in order to define the indicators for the four Returns.

Finally, in order, to simplify the future selection of indicators, three different *Indicators Dimensions* have been identified for each Return. In this way, even if at each level of the M&E Framework different indicators will have to be identified, at least they will all have to fit the same dimensions. These dimensions will also allow Commonland to make its M&E more transversal among different projects which will require different indicators.

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[40] Chapter 4 and best practice 'Managing for Impact' in Annex I.

	INDICATORS DIMENSIONS
Return of Inspiration	**Engagement** **Purpose** **Scalability**
Natural Return	**Biodiversity** **Water** **Soil**
Social Return	**Social Cohesion/Resilience** **Social security** (e.g. food security, job security, social security etc.) **Entrepreneurial ship**
Financial Return	**Internal Rate of return** **Net Present Value** **Payback**

Tab. 6 Indicator dimensions.

N.B. These dimensions have an indicative purpose and might be

subject to changes when and if applied by Commonland.

6.5 Conclusions

This chapter reports the results of a seven-month internship at the international non-profit organization Commonland. In the last two and a half months of this internships it has been possible to stay at the Presence Learning Village at the Kouga Dam - Eastern Cape, South Africa - and observe from close the restoration partnership that Commonland is forming in in the Port Elisabeth catchment area via its local branch, the Four Returns Development Organisation. On the field it has been possible to interview the partners joining the restoration partnerships and some experts on M&E. Moreover it has been possible to participate to some meetings among the partners and to support the organisation of the workshop in which partners have signed the Letter of Intent.

From such experience it has been possible to:

- *Assess the potential of ecological restoration for sustainable development.*
  By studying from close the approach of Commonland, it has been possible to assess the potential that ecological restoration would have in terms of social and economic amelioration. In fact, by designing *ad hoc* business cases, Commonland aims to restore degraded ecosystems by at the same time creating the opportunity for sustainable businesses to grow, both inside the community and across the whole landscape.

- *Assess the potential of PPPs in supporting landscape restoration.*
  An essential step in Commonland's approach is that of creating Restoration Partnerships at landscape levels. These are public private partnerships created with international, national and local stakeholders

in order to facilitate the implementation of the restoration activities, on one side, and to create a 'Restoration Market' on the other side. In fact, by engaging all the stakeholders in the co-creation of sustainable solutions for restoration, Commonland aims at enhancing communities' socio-economic resilience together with that of the surrounding ecosystems.

- *Design a Self-Assessment Tool for PPPs.*
  Based on the success criteria identified by Pattberg and Widerberg (2014), it has been possible to design a tool with which partners can track the progress of their partnership and evaluate its effectiveness throughout time.

- *Design a Multi-Level M&E Framework for sustainable development initiatives.*
  Since monitoring initiatives for sustainable development has shown to be quite a complex issue, a multi-level M&E framework has been designed. This framework is divided in three levels. In general terms, these levels could be referred to as: the headquarter level, the PPPs level and the project level. In the specific case of Commonland, these levels become: the Commonland level, the Restoration Partnerships level and the project level. By making this distinction, it is possible to account for the fact that at each level the success of the initiative is monitored and evaluated by different stakeholders. Hence, the M&E approaches will have to adjust to each level's requirements, by still guaranteeing coherence among levels.

- *Identify three indicators dimensions to be used while monitoring the Four Returns in landscape restoration project.*
  Being the partnerships still in a very young phase, it has not been possible to identify the specific indicators to be monitored at the project level. However, in order to lay the foundation for an indicator framework for the Four Returns, three dimensions have been identified for each Return. In this way, even if the indicators will change according to the different projects and partnerships, it will still be possible to assess them from a 'Four Returns' perspective'.

These findings support the theoretical study that has been conducted in the first part of the thesis, hence giving the possibility to answer the main research question:

How should the impact of public private partnerships for landscape restoration be monitored?

In fact, the impact of PPPs should be monitored in two different but complementary ways. First its *internal* performance should be evaluated via a Self-Assessment Tool based on the success criteria defined by Pattberg and Widerberg (2014). Secondly, its *external* performance should be evaluated according to its capacity to deliver results both to partners at the headquarter level and to stakeholders at the project level. That is why the M&E of the Restoration Partnership should fit into a Multi-Level M&E Framework.

In this way, the Self-Assessment evaluation will support partners in reaching the specific output and outcomes defined in their projects, hence enhancing its likelihood of success. Simultaneously, by being inserted in a broader framework, the results from the M&E of the partnership can support a stream of information from the project level up to the headquarters one, triggering the formation of knowledge at different levels.

Chapter 7

Discussion

7.1 Introduction

This chapter discusses the insights that have been deducted from the thesis and the implications that these could have on the on-going debate around the effectiveness of public private partnerships for sustainable development. Section 7.2 discusses the rationale behind the research, whereas section 7.3 examines the limitations that have been encountered on the fieldwork.

7.2 Results

Three main interests have triggered this research. These are: (i) the complex interconnection of socio-economic and environmental dynamics which hides behind the major current global issues; (ii) the innovative use of PPPs in the context of ecological restoration; and (iii) the urgency of the topic of M&E in the on-going scientific debate around PPPs for sustainable development.

First of all, this thesis has been triggered by the realization that the major challenges that the world is facing today are the result of a complex cause-effect loop between socio-economic activities and environmental changes. Because of this interconnectedness, international institutions are now addressing most of these issues under the bigger frame of sustainable development. In this context, ecological restoration and public private partnerships (PPPs) are currently gaining more and more relevance. In fact, they both showed a potential in supporting multi-interest issues where different stakeholders can contribute together to the design of shared, 'win/win' solutions.

In the specific context of the governance of ecosystem services, PPPs are now being used to tackle natural resource issues that need to be managed at a landscape level. A good example for this is the use of landscape restoration as way to revert ecosystem degradation while at the same time achieving social amelioration. In fact, by positively impacting also human well being ecosystem restoration has shown to be able to support sustainable development an a landscaper level.

However, even if on the one side this interrelation allows for the possibility to tackle multiple issues at once, it also increases notably the complexity of the issues to be tackled. As a result, despite their potential in theory, both ecological restoration initiatives and PPPs have rarely been successful in practice.

A common obstacle that has limited both the success of restoration initiatives and PPPs is the lack of a monitoring and evaluation system able to address their complexity. In fact, throughout an extensive literature review (Chapter 2 and 3), it has been possible to confirm the lack of a clear framework to be applied while monitoring ecological restoration initiatives and PPPs.

This finding is in line with that resulting from the study of Pattberg and Widerberg (2014). By assessing more than 300 PPPs for sustainable development they identified the success criteria for effective PPPs. Despite their equal relevance, M&E appeared to be the one least considered by practitioners, hence the most urgent.

This gap between theory and practice has been confirmed empirically by assisting Commonland in the formation of a public private partnership for landscape restoration in South Africa. By interviewing the partners and by

assisting to the meeting it has been possible to confirm that no monitoring and evaluation was in place. Interestingly enough, even if partners were all aware of the necessity of having a monitoring and evaluation system in place, when asked to rank the success criteria defined by Pattberg and Widerberg (2014), no one identified M&E among the most urgent criteria. On the contrary, they all scored on the lower ranks. This finding should not be underestimated.

In fact, this short-sightedness on M&E has been one of the main reasons for which long term initiatives have failed to delver the outcomes expected. Hence why M&E should be designed in the primary phases of the project. Which has been rarely the case in practice, as confirmed also by the empirical case.

It is worth noticing though, that in the specific case of the Four Return Partnership, partners are still in time to develop a M&E able to enhance the likelihood of success of their initiatives. That is why this thesis provided a tool throughout which partners can monitor their internal performance. Simultaneously, because of the over mentioned complexity which characterize landscape initiatives, it has not been possible to study the M&E for the partnership without taking into account its relation with the overall goals of the organizations joining the partnership, and with the goals to be reached in the specific projects. Thus why the M&E has been divided in a Multi-Level M&E Framework.

This framework should result in a stream of knowledge where the information gained at the different levels could be used both to increase organizational effectiveness and to enhance adaptive management. Moreover, thanks to its flexibility, this Framework could be extrapolated from the specific case of landscape restoration and used in different initiatives for sustainable development.

Finally, from an overall perspective, these results appear to be in line with those identified via literature review. In fact, in retrospect it has been possible to: (i) endorse the potential of ecological restoration in the realm of sustainable development; (ii) endorse the potential of PPPs in supporting ecological restoration; (iii) acknowledge the urgency of M&E for PPPs when applied in practice; and (iv) confirm the fact that this urgency tend to be underestimated by practitioners.

7.3 Case Study Limitations

Two main limitations have affected the empirical part of the research: (i) the early stage in which the partnership has been assessed; and (ii) the sample size of the partners that have been interviewed.

Firstly, because of the freshness of the partnership, too little information was available if the scenarios of the Self-Assessment Tool were to be identified. As a result partners could not score the criteria and evaluate the partnership at that stage in time. Hence, the applicability of the evaluation tool for PPPs could not be tested. In order to cope with such limitation, partners have been asked to rank the priority of each criteria so as to understand which one were the ones considered the most relevant in that phase.

Secondly, no statistical method have been use to assess the interviews, because of their limited number. Two reasons can justify this limitation. First of all, at that stage the negotiation phase was too delicate to allow to reach also those partners that would have potentially joined the partnership. Moreover, it is worth considering that in the past seven years the Presence Learning Village has been receiving a lot of students mainly from Dutch Universities. Many of these researches have been conducted via questionnaires and, given the field of expertise

of the NGO, all have tackled similar topics. As a result, in order to respect the peacefulness of the local stakeholders - who have been repeatedly interviewed - students were not allowed to conduct more interviews in that area, and especially the area of the Baviaanskloof.

Finally, it should be considered that, since the interviews have been conducted in the period immediately before the Workshop for the signature of the Letter of Intent, (Dec. 9th, 2014) the answers might result biased by that special '*momentum*'. In order to check the commitment of the partners, a similar set of question should be asked again as to make the results comparable and reliable.

Chapter 8

Conclusions

8.1 Introduction

The main goal of this thesis was to identify the way throughout which the impact of restoration partnerships should be monitored on the ground. In order to do that, three different topics have been identified and studied into more detail via an extensive literature review: Ecological Restoration, Public Private Partnerships for Sustainable Development and Monitoring and Evaluation systems.

Chapter 2 has shown that ecosystem restoration can be used to govern ecosystem services while at the same time supporting sustainable development. Similarly, Chapter 3 has assessed the potential of Public Private Partnerships in addressing complex issues such as the one of sustainable development. As core topic of the thesis, Chapter 4 investigated the knowledge around monitoring and evaluation systems in three domains identified as relevant for this thesis: international development aid, ecological restoration and PPPs. Then Chapter 5 explained the methodology that has been used to answer the research questions, whereas Chapter 6 dived into the case study by assessing both its empirical methods and its results. Finally Chapter 7 discussed the rationale behind this study and its relevance in the context of international governance.

To conclude, the next section summarizes the findings of this research whereas 8.2 outlines the theoretical and practical implication for further studies.

8.2 Results

In order to revert the degradation that is currently affecting many ecosystems around the world, ecological restoration initiatives require: (i) a landscape approach in which ecosystems are evaluated as a mosaic of different ecosystems interrelated to each other; (ii) a multi-stakeholder approach in which partnerships are created between local communities, governments, private sectors and other non-state actors; and (iii) a set of different policy and market tools to guarantee the sustenance of the restoration activities in the long term.

In this connection, public private partnerships have shown a great potential in supporting activities which require a landscape, participative, multi-disciplinary approach. More specifically, landscape restoration partnerships have show to be able to cope with those trade offs between conservation and development which have limited the effectiveness of traditional conservation approaches. In fact, on the one side decision makers have to consider the opportunity costs of not exploiting ecosystems and the costs of lowering provisioning services for local users/communities by restrictions on the use of resources, with potential impacts on local livelihood. On the other hand, they have to consider the global benefit which ecosystem protection would deliver both in the short term, throughout enhanced ecosystem productivity; and in the long term thanks to healthy ecosystems.

However, the lack of monitoring and reporting mechanisms has severely limited partnership effectiveness at an aggregate level. This has show to be harmful not only for the effectiveness and overall performance of multi-stakeholders partnerships, but also for the legitimacy and trust-worthiness of the UN brand in general (Pattberg

& Widerberg, 2014). Therefore improved monitoring and evaluation mechanisms are urgently needed if sustainable development is to be achieved and degraded ecosystem restored.

Based on the success criteria identified by Pattberg and Widerberg (2014), a Self-Assessment Tool for PPPs has been developed. By using this tool, partners are expected to be able to: (i) identify the actual performance of the partnership on each criterion; (ii) identify the areas in which the partnership is underperforming and on which partners need to invest more effort; (iii) evaluate the progress of the partnership every year; (iv) keep track of the progress throughout time; (v) learn from reflecting on why certain criteria have not been accomplished; (vi) adapting plans to increase performance of the criteria; and (vii) aim at achieve max scores on all criteria so as to be effective in the long term.

The extended literature study conducted on M&E (Chapter 4) made possible to identify the current trends and the best practices used in development aid and natural resource management. Moreover, drawing from these results, it has been possible to come up with four main criteria that M&E system would need in order to be effective. These are: (i) being insert in a broader theory of change; (ii) be multi-level; (iii) be multi-method; and (iv) be multi-stakeholders. These have been the conceptual basis on which a Multi-Level M&E Framework has been drawn.

By combining the results from the theoretical and empirical study, a Multi-Level M&E Framework has been designed. This is divided in three levels: Commonland Level, Restoration Partnership Level and Project Level. At each level, the M&E process is meant to achieve slightly different goals. In fact, despite being all oriented towards the achievement of the 4 Returns, each level will have different target stakeholder (See Tab.10 in the Annex III). That means that the people or institutions that are going to evaluate the success of the company/initiatives at each level will be different. Hence, the indicators that will have to be monitored at each level are also different.

8.3 Theoretical and practical implications for future studies

This research provided the foundation on which a M&E system for PPPs for sustainable development can be further developed. In fact, further researches could investigate the applicability of both the Self-Assessment Tool and of the Multi-Level M&E Framework in other contexts than that of landscape restoration. Moreover, by applying the Self-Assessment tool in practice, it would be possible to test the validity of the five different scenarios identified for each criteria and to define into more detail the way in which scores given by the partners can be aggregated in an overall score.

Further researches can build on the knowledge acquired by the extensive and up-to-date literature review that has been conduced on: (i) M&E best practices in the domain of international development aid, natural resource management and PPPs; and (ii) indicators frameworks applied by international institutions in the environmental, social and financial sectors. In fact, by having selected the most relevant, this study support researchers by simplifying the identification of the M&E methods and indicators that could better suit their research.

Appendix I

1) Best M&E Practices

M&E for International Development: 'Managing for Impact' by Centre for Development Innovation, Wageningen

Managing for Impact is a holistic approach which has been developed to manage development aid initiatives. It integrates a diverse range of existing processes and methodologies used by practitioners and researchers worldwide. It is one of the first ones which tries to engage with the complexity of new social realities by applying a project management based on a 'system thinking' insert in a overall theory of change. It aims at creating impact on a broader scale than just the project one. It defines impact as '*changes in the livelihood of people, as perceived by them and their partners'*. Differently from previous approaches – which focus on the question: *what and how should we change to achieve better results?* – it aims at answering questions such as: *who is going to be the beneficiary of change? Whose interests are being met? What is needed to make this change be sustainable in the future?.* Finally, it involves a comprehensive and people oriented approach – 'People pathway' – to result based management – 'Impact Pathway'.

It is based on six key concepts: **people-oriented, situation-specific, context-sensitive, empowerment, learning, adaptive and responsive**. These are put in practice through a seven-step iterative approach:

1. Strategic guidance. This first step is based on: an in-depth understanding of the specifics of the situation; well defined and articulated theories of change; a capacity for adapting the strategy in response to learning and changes, both internal and external.

2. Effective operations. This step focuses on managing financial, physical and human resources to achieve impact. The core qualities that managers need here are the abilities to communicate and to manage the different interests of each stakeholder or partner.

3. Establishing a participatory & learning oriented M&E system. Putting in place systems and processes with which to regularly gather and process the information needed to guide the strategy, ensure effective operations and encourage learning. This monitoring and evaluation system therefore underpins and links the other three components of M4I.

Creating a learning environment (4. People orientation + 5. Learning orientation + 6. Context orientation) . Establishing a culture of learning amongst stakeholders and a set of relationships that build trust, stimulate critical questioning and innovation, and generate commitment and ownership.

7. Supporting capacities and condition. Creating the enabling environment to support the shift towards an impact with a sustainable resilience.

All components are inextricably linked. According its view, an effective monitoring and evaluation system is based on a sound strategic design for the programme as a whole. Similarly, the steps of guidance and implementation that the strategy requires cannot be applied without effective managing operations, including human resources, assets and budgets.

The M&E system is then define by following a 9-step framework:

1- Assess and establish **ability and readiness** for M&E

2- Establish **purpose and scope** of the M&E

3- Agree on key **performance questions**, **indicators** and **information needs**

4- Agree on key methods and process for **data collection**, **processing** and **analysis**

5- Agree on key methods and process for **critical reflection** and **sense-making**

6- Agree on key methods and process for **communication** and **reporting** M&E findings according to their use and influence

7- Agree on **core capacities** and **conditions** for M&E

8- Plan for **implementation**

9- **Evaluation** and **adapt** the M&E

In order to collect information to be used in these steps, a M&E matrix is filled in relation to these specific topics: (More info on both the Framework and the Matrix can be found in the Tables nXX, Annex XX)

- **Purpose and Evaluation**: *Why do you want to carry out the M&E?*
- **Stakeholders, Primary users and Ownership**: *Who will use the info and how will they use it?*
- **Key evaluation areas and questions**: *What do you want to know?*
- **Key information needs**: *What info can be gathered by the key evaluation questions?*
- **Baseline data**: *What baseline are available and where?*
- **Data gathering**: *How should data be collected? What are possible source of info and who will collect them?*
- **Planning and Resources** (tools, trainings, data, management, expertise and responsibilities): *What do we still need to plan or organize in terms of people's skills, materials, managing the data? Who will do this?*

Source: (Kusters & McGregor, 2010)

(II) M&E Public-Private Partnerships: 'Result-based approach' by GIZ

GIZ is a Development Organisation with a long experience with Public-Private Partnerships worldwide. In the specific case of M&E, GIZ has long made efforts to strengthen and use the M&E systems of partners, not just since the 2008 Accra Agenda for Action and the BMZ Action Plan. The international community again confirmed the importance of such integration at the 4th High Level Forum on Aid Effectiveness in Bussan, 2011.

GIZ believes that using a joint monitoring systems helps partners to improve their methods and instruments. It also reduces the duplication of surveys and analyses and therefore cuts transaction costs. In this context, consideration must be given to the existing objectives, indicators and baseline surveys of the partners when planning the project, or they must be developed together. Joint meetings for the purposes of monitoring and reflection are just as important as providing support to the partner for data collection and analysis. If partners M&E systems are weak, M&E capacity development measures should then be devised or supported.

In order to achieve such goals, GIZ make use of a '**Result-based Management'** approach. This is a method meant to support an intended change process. It helps to align the strategy of the project with partner strategies, agree on objectives, identify suitable GIZ instruments and agree on the inputs to be delivered by GIZ and the partner in

the envisaged change process. Hence, it can be seen as a Theory of change applied in the context of cooperation between different partners.

For measures commissioned by BMZ, the results model is drawn up together with the partners during the appraisal phase and attached to the offer as a results matrix. For all other projects (e.g. commissions from German public sector clients or IS con- tracts), the results model can be devised together with partners during the preparation phase or at the start of operational planning.

One feature of a successful RBM system is the timely and continuing involvement of partners at all programme levels. Before monitoring activities commence, it is important to inform partners about the purpose of RBM and explain its added value, and to raise their general awareness so that they can later assume an active role. In particular, it must be explained that monitoring is not a form of external control, but an integral part of managing the entire project.

Partners' involvement in RBM therefore starts at the time of designing the programme or at the start of a project. This is also the time to discuss objectives, result and indicators with the partners and agree on how indicators are to be measured. In this context, it should also be examined whether the partners already have monitoring systems that can be used and/or strengthened for the project's RBM system. So the first thing to examine in whether an existing sector approach makes it to take over indicators for monitoring the project, or whether the existing indicator system can be adjusted for the project.

The *objectives indicators* at programme and module objective level are transferred from the offer, where they are usually laid down. At least three, but no more than five indicators must be formulated at objectives level.
Results indicators must be developed together with partners for results that are located below the objectives level within the sphere of responsibility. No more than two indicators should be attributed to each of the results included in the monitoring system. Establishing indicators is part of a discussion process with the stakeholders involved in the project about what is feasible, and creates a greater awareness of realistic results.
As far as possible, indicators are based on partner programmes. Before defining new indicators, it must be examined whether the partner institutions already have such indicators (and monitoring systems) that can be used to capture the intended changes, and whether there are standard, quality-assured key indicators for the sector that can possibly be aggregated. Alignment with the partner's country objective system can be easily achieved by taking over suitable indicators from national programmes or strategies. Intermediaries and target groups should also be involved in developing indicators to the greatest possible extent. As the indicators uses of inputs, they are in a position to say more accurately what 'results' should look like and how changes can be recognised.
Whereas the objective and the objective indicators can only be changed by means of modification offer, the results and results indicators, which are located within the sphere of responsibility below the objectives level, can be adjusted during monitoring. Any changes are documented in the monitoring system in an appropriate manner.
Source: (GIZ, 2013b)

(III) M&E for Eco-agriculture Landscape: 'A framework for Measuring Landscape Performance' by Ecoagriculture Partners

One of the innovative aspect of the monitoring framework developed by ecoagriculture Partners is that it is one of the first ones which provides an approach to measure performances at a landscape level. Each project is monitored according to a hierarchical structure composed by four different levels: *goals, criteria, indicators* and *means of measures*.

In the context of ecoagricultural systems, some of these goals are dictated by the very definition of ecoagriculture, whereas others are defined as place-specific. That is, some ecoagricultural goals are so universally applicable that they should be embedded in the framework itself whereas others must be formulated according to the particular needs and context of each ecoagricultural landscape. Once the goals have been agreed upon, context-appropriate indicators and means of measure can be identified to measure progress toward these goals.

Level 1: Broadest-level goals of ecoagriculture – *universal*

Four goals define the ecoagriculture concept, and are therefore the foundation of the measurement framework:
(a) Conserve, maintain, and restore wild biodiversity and ecosystem services.

(b) Provide for sustainable, productive, and ecologically compatible agricultural production systems.

(c) Sustain or enhance the livelihoods and well-being of all social groups in the landscape.

(d) Establish and maintain institutions for integrated, ongoing planning, negotiation, implementation, resource mobilization, and capacity-building in support of the goals of ecoagriculture.

Level 2: Sub-goals, or criteria – *also universal*

Under the four goals are a total of 20 criteria—or sub-goals—that are presumed to be desirable in any landscape. While some criteria may be more important than others in any given landscape, the criteria provide a useful set of "20 questions" for stakeholders to consider when planning, implementing, and measuring ecoagriculture activities. Criteria are stated as descriptors or characteristics of a highly successful ecoagriculture landscape. As such, they are desirable endpoints that can help guide an ecoagriculture project or intervention, even though these endpoints may be unattainable in any given landscape.

Level 3: Indicators of each criterion – *usually place-specific*

Indicators are the actual factors that are measured to reveal how well each criterion is being fulfilled. Some indicators—especially "integrative" indicators that provide information about all ecoagriculture goals (grouped into three groups: Ecological Conservation, Agricultural Production and Livelihood) may be so important or useful as to be universally applicable. However, most indicators will be place-specific as well as scale-specific.

Level 4: Means of measure – *place-specific*

Means of measure are used to evaluate each indicator on a quantitative or qualitative scale. Examples of means of measure include wildlife censusing techniques, land cover analysis, and farmer interviews.

A second key aspect of the framework is its integration of project-level evaluations with more comprehensive landscape status evaluations. Here *status measures* are intended to provide a relatively comprehensive assessment of the landscape performance approach by integrating data over multiple projects as well as outside influences. The scope of the status measures is to exceed the scope of any particular project by revealing synergies and tradeoffs among the different goals of ecoagriculture as well as the effects of outside forces. This assessment framework integrates data and monitoring results from a variety of projects and initiatives across the landscape from the sub-local, local, and landscape scales. These measures are then supplemented by measures of project-effectiveness where the effectiveness of the interventions and of the team working in the project are assessed so as to provide the basis for adaptive management.

Source: (Buck, Milder, Gavin, & Mukherjee, 2006)

Appendix II

2) Ecological Indicators

As discussed in the previous paragraphs, it is possible to identify many methods and frameworks concerning specific aspects of land degradation at local and national levels. For instance, an inventory carried out by the United Nations Convention to Combat Desertification (UNCCD) revealed more than 900 different land degradation indicators used in a sample of UNCCD countries (Nachtergaele et al., 2011).

Furthermore, because of its transversal relevance, degradation has recently been recognized as one of the threats to be addressed to achieve the post-2015 Sustainable Development Goals. It follows that, even in the case of restoration projects, their success will have to be evaluated against their capacity to address the Targets for Sustainable Development identified by the United Nations. The table below reports a summary of different Monitoring and Indicator Frameworks that has been identified as relevant for this thesis.

Source	Monitoring /Indicator Framework
Biodiversity Indicators Partnership http://www.bipindicators.net/	**Global Indicators** The CBD-mandated Biodiversity Indicators Partnership is the global initiative to promote and coordinate development and delivery of biodiversity indicators in support of the CBD, Multilateral Environmental Agreements (MEA), IPBES, national and regional governments and a range of other sectors. The Partnership brings together over forty organizations working internationally on indicator development to provide the most comprehensive information on biodiversity trends. Indicators are identified in support of the Aichi Biodiversity Targets. http://www.bipindicators.net/globalindicators
Ecoagriculture Partners http://ecoagriculture.org/	**Landscapes Measures Resource Centre** It is a collection of ideas and tools to aid in managing areas where interests in protecting biodiversity, producing food and securing rural livelihoods converge. The LMRC is rooted in the premise that measurement enhances management. Learning to measure how landscapes perform in delivering food, biodiversity and livelihood outcomes is anticipated to endow management systems with the capacity to sustain these multiple functions while reducing or reversing the degradation of natural resources. It makes use of **landscape performance indicators** divided in: conservation, production, livelihood and institutions.

	http://landscapemeasures.info/
Global Environmental Fund http://www.globalenvironmentfund.com/	**Land Degradation Focal Area - Portfolio Monitoring and Tracking Tool (PMAT)** Focal area tracking tools are an important component of projects submitted to the GEF for incremental financing. These tools are invaluable for monitoring results of GEF operations in the various focal areas, including progress towards achieving the GEF mandate on global environmental benefits (GEBs). Portfolio level monitoring of GEF investments is conducted annually based on outcome indicators and targets set out in each focal area results-based framework. This requires information on key indicators at the project level that are amenable to aggregation. GEF expects that all the information required will essentially represent the project baseline for monitoring and eventually for impact assessment at project closure. The Land Degradation Focal Area Portfolio Monitoring and Assessment Tool (PMAT) is a means to capture the necessary data and information during project design and implementation. The data will be used to: 1. Demonstrate GEFs catalytic role as a strategic partner for implementing/up-scaling SLM interventions to combat land degradation, specifically desertification and deforestation 2. Monitor GEBs from GEF investments in production systems (agricultural, rangelands, and forest landscapes), including multi-focal area synergies involving biodiversity, international waters, and climate change 3. Report effectively and reliably on GEF financing for implementation of the UNCCD by Parties, including the 10-year Strategy 4. Enhance portfolio level management and accountability for the LDFA
American Prairie Reserve http://www.americanprairie.org/	**Freese Scale for Grassland Biodiveristy** To implement sustainable land management plans, the American Prairie Reserve pay attention to two major tasks.

	First, they aim at clarify the criteria by which they will measure and monitor management changes and their effects on the ten ecological conditions.
	In this connection, their 7-point scale for scoring management changes combines objectivity with user friendliness so that different users give similar scores. Some measures, such as keeping count of the number of dams removed from a stream, will be relatively simple. Others, such as changes in grazing patterns, will be more complicated to evaluate.
	Secondly, they aim at assess how plants, animals and ecological processes respond to these changes. In order to do this they ask them self:
	- Are our assumptions about the importance of the ten ecological conditions correct? - What adjustments in our thinking are needed? For example, how will downstream habitats and fish populations change after dam removal? - Will we see a marked increase in habitat heterogeneity and populations of rare prairie birds when we change from rest- rotation cattle grazing without fire to large-scale bison grazing with fire?
	In this way the effectiveness of the intervention is monitored and adaptive management fostered.
FAO – Food and Agriculture Organization of the United Nations http://www.fao.org/	**The Livestock and Environmental Toolbox – Pressure-State-Response Framework and Environmental Indicators** In order to support Pressure-State-Response Models, The UN Food Agriculture Organization identifies a list of indicators which can relate either to pressure od state. These are then divided according to the type of individual production system to be monitored: Grazing System, Mixed System and Industrial System. http://www.fao.org/ag/againfo/programmes/en/lead/toolbox/Refer/Indicat.htm

Tab. 7 Selection of indicator frameworks applied by the environmental sector.

3) Financial Indicators

The need of seeking for a sustainable development is an issue which is deeply rooted in our current societies, and which will probably remain crucial for a long time. Besides, the wide consensus on the economic implications of sustainability has finally managed to raise the attention of the financial sector. In fact, social

enterprises and impact investors, together with non-profits and foundation, are now all the more interested in participating in initiatives aimed at enhancing sustainable development. Simultaneously, in order to prove such effort, they are currently investing in designing metrics to monitor and evaluate their sustainable impact ref.

However, the indicators that have been identified so far did not succeed in creating the expected value. Too often these impact metrics, and the people who manage them, have shown to be *siloed* in their own departments, debated and discourses, far from the actual strategic and financial decision-making in their own organization (Aspen Network of Development Entrepreneurs, 2014). As a result organizations failed to realize the full return on their investment in impact monitoring and evaluation. Most importantly, they made sub-optimal decisions about investments, products and service design, and customer selection than they would if they had integrated impact, operational and financial data to support those decisions.

Reason for this short-sightedness is that the financial sector as a whole lack of data, analytical methods and a 'common language' to fully integrate impact monitoring and evaluation with strategic and financial decision-making (Aspen Network of Development Entrepreneurs, 2014).

On the light of these considerations, financial institutions are now coming together in order to define common goals and frameworks in order to better improve their impact and their financial performances. Proves of such effort are collected in "*Metrics 3.0: A New Vision for Shared Metrics*" by the Aspen Network of Development Entrepreneurs, which identifies integration of impact and financial metrics as one of the next goals toward which the all sector should strive together.

In the following table, the most relevant frameworks and indicators used by the financial sector while monitoring sustainable development impact are listed.

Source	Monitoring Framework/Metrics
Global Impact Investing Network http://www.thegiin.org/	**IRIS – Catalogue of generally accepted performance metrics** There is no single combination of metrics that is right for everybody; that's why IRIS is designed as a catalogue that investors can browse to find the most appropriate metrics for their work. IRIS includes metrics tailored to specific sectors, as well as metrics that can be used by companies irrespective of their social or environmental goals and the sector and regions in which they work. This means that IRIS is a useful resource for impact investors working around the world, in different sectors, and with a variety of social and environmental impact objectives. IRIS metrics can also be selected to complement and sit alongside any proprietary impact metrics organizations track. Because IRIS is a catalogue, investors can choose as few or as many metrics as they deem necessary to describe the performance of their investees. The catalogue comprehends:

	Financial performance, including standard financial reporting metrics such as current assets1 and financial liabilities. **Operational performance,** including metrics to assess your investees' governance policies, employment practices, and the social and environmental impact of their day-to-day business activities. **Product performance**, including metrics that describe and quantify the social and environmental benefits of the products, services, and unique processes offered by your investees. **Sector performance**, including metrics that describe and quantify impact. In particular social and environmental sectors, including agriculture, financial services, and healthcare. **Social and environmental objective performance**, including metrics that describe and quantify progress towards specific impact objectives such as employment generation or sustainable land use.
International Finance Corporation – IFC http://www.ifc.org/	**Development Outcome Tracking System** In 2005, IFC launched the Development Outcome Tracking System (DOTS).IFC uses (DOTS) to measure the development effectiveness of its investment and advisory services. DOTS allows for real-time tracking of development results throughout the project cycle. At the outset of a project, IFC's staff members identify standardized indicators with baselines and targets. They track progress throughout supervision, which allows for real-time feedback into operations, until project closure. For Investments Services, the overall DOTS score is a synthesis of four performance categories that are informed by standardized industry-specific indicators. To obtain a positive rating, a project must make a contribution to the host country's development. For Advisory Services, the overall DOTS score or development-effectiveness rating is a synthesis of the overall strategic relevance, effectiveness (as measured by project outputs, outcomes, and impacts), and efficiency of the services. At project completion, intended results are compared with achieved results. Some results—medium-term outcomes and longer-term impacts—may be unknown at project completion but can be examined post-completion. http://www.ifc.org/wps/wcm/connect/Topics_Ext_Content

Harmonized Indicators

In October 2013, twelve members of the European Development Finance Institutions (EDFI) together with other thirteen International Financial Institutions (IFIs) signed a memorandum to foster collaboration and enhance private sector development impact. The initiative harmonizes indicators definitions, units of measurement and reporting standards for 28 core indicators from 12 different sectors.

http://www.edfi.be/news/news/31-ifis-harmonization-initiative.html |
| **World Business Council for Sustainable Development**

http://www.wbcsd.org/ | **Measuring Impact Framework**

In the spring of 2006, the WBCSD embarked on a two-year journey to develop a framework to assess the contribution of business to the economic and broader development goals in the societies where business operates.

This grew out of a request by WBCSD member companies to develop a measurement framework that could underpin the license to operate, improve the quality of stakeholder engagement, help manage risks more effectively and identify ways to enhance the business contribution to society.

The resulting Measuring Impact Framework, launched in late 2008, was developed in collaboration with over 20 WBCSD member companies, reviewed by 15 external experts and co-branded by the International Finance Corporation (IFC).

It is designed to help companies understand their contribution to society and use this understanding to inform their operational and long-term investment decisions, and have better-informed conversations with stakeholders.

The key features are:

- **Grounded** in what business does
  Built by business for business and thus, begins with the business perspective;

- **Moves beyond compliance**
  Attempts to answer questions about what business can contribute beyond traditional reporting;

- **Encourages stakeholder engagement**
  Supports open dialogue with stakeholders to create a shared understanding of business impacts and |

	societal needs, and to explore what business can and cannot do to address these needs;
	• **Flexible** Designed for any business and/or industry at any stage in its business cycle, operating anywhere in the world;
	• **Complements existing tools** Makes use of what is already out there (for example, the Global Reporting Initiative and IFC Performance Standards);
	• **Externally reviewed** Reviewed by over 15 stakeholders from NGOs, academia and government including Oxfam, World Resources Institute, IFC and Harvard University.
Global Reporting Initiative https://www.globalreporting.org/	**Reporting Frameworks** **The Global Reporting Initiative** (GRI) drives sustainability reporting by all organizations. GRI produces a comprehensive Sustainability Reporting Framework (the Framework) that is widely used around the world, to enable greater organizational transparency. The Framework, including the Sustainability Reporting Guidelines (the Guidelines), sets out the Principles and Standard Disclosures organizations can use to report their economic, environmental, and social performance and impacts. GRI is committed to continuously improving and increasing the use of the Framework, which is freely available to the public. The Framework consists of **the Guidelines** and **sector guidance**. The GRI **Sustainability Reporting Guidelines** (the Guidelines) assist in the preparation of sustainability reports by organizations, regardless of their size, sector or location. The Guidelines offer an international reference for all those interested in the disclosure of governance approach and of the environmental, social and economic performance and impacts of organizations. The Guidelines are useful in the preparation of any type of document which requires such disclosure. The Guidelines are developed through a global multi-stakeholder process involving representatives from business, labor, civil society, and financial markets, as well as auditors and experts in various fields; and in close dialogue with regulators and governmental agencies in several countries.

	GRI's **Sector Guidance** makes reporting more relevant and user-friendly for organizations in diverse sectors.
	If available, organizations should use sector guidance when preparing a sustainability report.
	For the G3 and G3.1 Guidelines, sector guidance is provided by GRI's Sector Supplements. Sector Supplements have been developed for 10 different sectors.
	The contents of the 10 GRI Sector Supplements available by May 2013 have been re-organized to fit the G4 Guidelines' content, structure and requirements. It is presented in the GRI Sector Disclosures – May 2013 documents, in a new format, to facilitate its use in combination with the G4 Guidelines.

Tab. 8 Selection of indicator frameworks applied by the financial sector.

4) Social Indicators

Over the past years, triggered by the Millennium Development Goals set by the UN, there has been an increased demand for organizations across both charitable and commercial sectors to provide more information about their social and environmental impact (Investing for Good, 2012).

As reported in the 'Guideline for how to measure and report impact' by Investing for Good[41] (2012):

> '*For social-purpose organisations, these developments have brought considerable opportunities as well as some new pressures. While effective impact reporting should allow organisations to tell their story more fully, a lack of standardised procedures has often made the task seem complicated, and even daunting. At its core, impact measurement seeks to gather crucial information about an organisation's activities, and use it to relate the overall change brought about to people's lives and the environment over a particular period of time. As such it offers value on four key fronts, represented by its four primary readers.*'

The table below lists and briefly describes the indicators and the frameworks to be taken into account while monitoring social impact.

Source	Monitoring Framework/Metrics
World Bank http://data.worldbank.org/indicator	The World Bank Group has set two goals or the world to achieve by 2030: • End extreme poverty by decreasing the percentage of people living on less than $1.25 a day to no more than 3%

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[41] **Investing For Good** is a social enterprise which channels mainstream capital into charities and other social enterprises in order to tackle social issues and create social good. Then they evaluate the impact that has been created, so that both investors and charities can report on their impact, monitor their contribution and expand their reach. http://www.investingforgood.co.uk/

	• Promote shared prosperity by fostering the income growth of the bottom 40% for every country
	The World Bank is a vital source of financial and technical assistance to developing countries around the world. We are not a bank in the ordinary sense but a unique partnership to reduce poverty and support development. The World Bank Group comprises five institutions managed by their member countries.
	Established in 1944, the World Bank Group is headquartered in Washington, D.C. We have more than 10,000 employees in more than 120 offices worldwide.
	In order to do this, they offer support to developing countries through policy advice, research and analysis, and technical assistance. Their analytical work often underpins World Bank financing and helps inform developing countries' own investments. In addition, they support capacity development in the countries they serve. They also sponsor, host, or participate in many conferences and forums on issues of development, often in collaboration with partners.
	To achieve **Open Development**, they offer a growing range of free, easy-to-access tools, research and knowledge to help people address the world's development challenges. For example, the Open Data website offers free access to *comprehensive, downloadable indicators* about development in countries around the globe.
Social Impact Analysis Situation http://www.siaassociation.org/	SIAA was launched in December 2011 following four years of extensive consultation within the voluntary sectors in the UK, Europe, and North America. They are supported by a consortium of funders including the *Adessium Foundation* in the Netherlands and *Bertelsmann Stiftung* in Germany, with close support from *New Philanthropy Capital* in the UK and the *SROI Network.*
	SIAA and The SROI Network are coming together to create an 'international force for change'.
	The Social Impact Analysts Association or SIAA is an international professional body for social impact analysts. SIAA supports and represents its members and the wider social impact analysis field on a global scale. SIAA believes that by building an active international community of social impact analysts social purpose organizations will have access to the support they need to create positive social impact.
	SIAA's members are passionately committed to developing

	more effective social purpose organizations and increasing positive social impact through their work.
	The Good Analyst's Dictionary of Indicators
	In the SiIAA's Resource Center it is possible to find the document: *The Good Analyst's Dictionary of Indicators.* This is a list of indicators to be used to measure social impact.

Tab. 9 Selection of indicator frameworks applied by the social sector.

5)   Map of Stakeholders

	USERS	Categories	Sub-categories	Interests

K E Y S T A K E H O L D E R S	**DIRECT STAKEHOLDERS**	**Land owners**	Individual Farmer	Increase Income/Productivity
				  - Annual revenue per ha
				  - Yield in kg/ha
				Decrease costs
				  - Annual cost avoided
				   (pesticides, irrigation)
				Decrease losses/risks
				Increase Natural Resilience of land for future generations
				  - Long-term sustainability
				Learn from the process and/or direct interest in the area
				Build learning capacity
				Decrease Poverty in the area
				Increase Employment
				Increase business attractiveness of the area

		Land users	Communal Farmers Local Communities	

		Government	National Government
			Local Government:
			    Municipality
			    District
				Create job opportunities
				Increase Security
				  - Food security
				  - Water security
				  - Social security
				Self-sufficiency
				Face market demands
				  - Be competitive
				  - Increase entrepreneurialship
				Gain consensus

	INDIRECT STAKEHOLDERS	**Investors**	Development Banks Impact investors Commercial Investors Corporates Development organizations NGOs Grant-making trusts Retail investors	Generate Return on Investment (ROI) Gain credibility/acceptance by society Gain credits for CSR Increase market share
		Donors	High Net Worth Individuals (HNWI) Venture Philanthropists Donor organizations	Good karma points Business development strategy
	OTHER SH	**Facilitators**	Research Institutes Universities	Create knowledge Be facilitator of innovative thinking Publications

Tab. 10 Commonald target stakeholders.
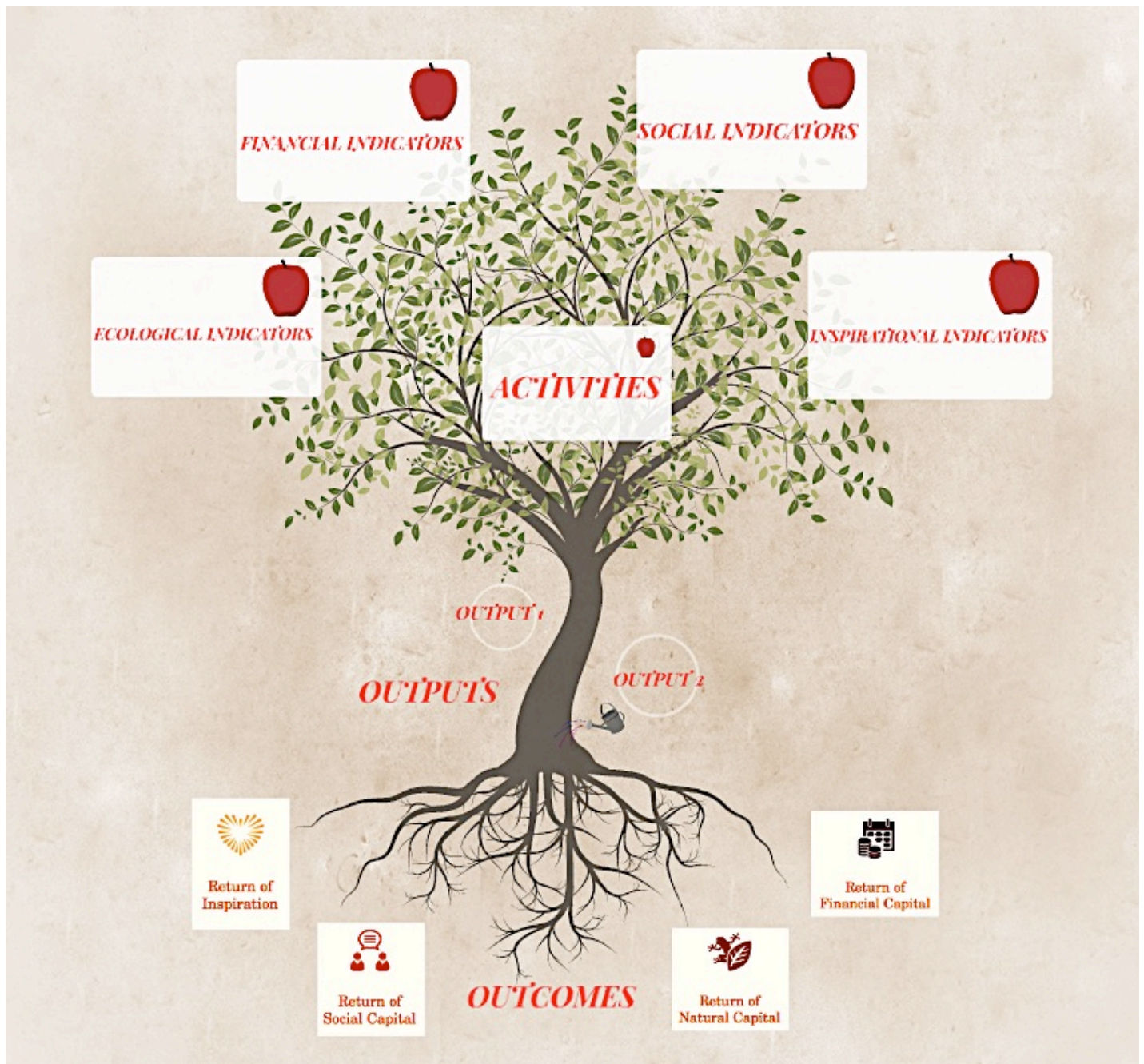
6) Path towards the Indicators

Fig. 9 Graphic representation of the path to be followed to identify the indicators for the 4 Returns model.

7) Outcomes and Outputs

Thanks to the knowledge accumulated throughout the months of internship at Commonland, it has been possible to draft a potential list of outcomes and outputs that Commonland might be working towards. These can be found in the table below. Similarly, in Workshop held the 28/10/2014 in Cape Town, partners of the Restoration Partnership identified the outputs and outcomes that they would like to achieve in the next years. The tables can be found in the document attached: 'APPENDIX III - Outcomes and Outputs'.

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