THE ECONOMICS OF
LAND DEGRADATION

Economics of Land Degradation Initiative: **Report for the Private Sector**

**Sustainable land management –
A business opportunity**

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Sustainable land management – A business opportunity

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Foreword

The sustainable development goals that were agreed by the world's nations in September 2015 hold the promise of a fresh start for our planet. This is because the SDGs so clearly recognize that the health of the planet's finite environmental resources – from land and forests to oceans and the climate – is essential for a prosperous and thriving world.

We see increasingly clearly that the degradation of the global environment – not least land degradation – is beginning to put serious brakes on our ability to realize our development ambitions. We need urgent action to rapidly reverse these trends.

In many ways, land and healthy soils hold the key to the success of the SDGs.

Healthy soils are the very foundation for all land-based natural and agricultural ecosystems, which in turn provide a major part of the world's food supply, natural resources and biodiversity. More than 1.2 billion people world-wide depend directly on healthy soils for their livelihoods.

Healthy soils and productive landscapes are also critical for resilience. The capacity of ecosystems and societies to bounce back after disruptive change is greater if soils are productive.

Finally, healthy soils hold more carbon and can therefore contribute significantly to mitigate climate change.

Given that about 24 per cent of globally usable land is degraded at an estimated economic loss of USD 40 billion per year there is a compelling business case to support investments that combat land degradation.

The adoption of the land degradation neutrality concept at the UNCCD COP12 in Ankara in 2015 has helped strengthen the global political momentum in the battle against land degradation.

This battle will to a large extent be won or lost by the private sector. It is, after all, the private sector– whether local small holders or multinational conglomerates – that globally makes most of the land management decisions.

This report from the *Economics of Land Degradation Initiative* makes the business case for sustainable land management. It explores in great detail the economic incentives – or lack thereof – for action, and investigates how multi-stakeholder partnerships between the private sector, civil society, and government can help catalyse action. It presents the opportunities of investing in sustainable land management for different categories of businesses in different geographies.

It is my hope that this report can further spur action by the private sector, in collaboration with other stakeholders, to scale up sustainable land management investments to safeguard our natural capital. The Global Environment Facility stands ready to support these efforts.

Naoko Ishii
CEO and Chairperson,
The GEF

About the ELD Initiative

The Economics of Land Degradation (ELD) Initiative is an international collaboration that provides a global assessment of the economics of land degradation, and highlights the benefits of sustainable land management. Working with a team of scientists, practitioners, policy-/decision-makers, and all interested stakeholders, the Initiative endeavours to provide a scientifically robust, politically relevant, and socio-economically considerate approach that is economically viable and rewarding. Ensuring the implementation of more sustainable land management is of critical importance considering the vast environmental and socio-economic challenges we are collectively facing – from food, water, and energy security, malnutrition, climate change, a burgeoning global population, and reductions in biodiversity, ecosystems, and their services.

Understanding the cost of inaction and benefits of action are important in order for all stakeholders to be able to make sound, informed decisions about the amount and type of investments in land for sustainable use. Even though techniques for sustainable land management are known, many barriers remain and the financial and economic aspects are often put forward as primary obstacles. If the full value of land is not understood by all stakeholders, it may not be sustainably managed, leaving future generations with diminished choices and options to secure human and environmental well-being. A better understanding of the economic value of land will also help correct the imbalance that can occur between the financial value of land and its economic value. For instance, land speculation and land grabbing are often separated from the actual economic value that can be obtained from land and its provisioning services. This divergence is likely to widen as land scarcity increases and land becomes increasingly seen as a 'commodity'.

Economic values can provide a common language to help entities decide between alternative land uses, set up new markets related to environmental quality, and devise different land management options to reverse and halt land degradation. It should also be noted that the resulting economic incentives must take place within an enabling environment that includes the removal of cultural, environmental, legal, social, and technical barriers, and also consider the need for equitable distribution of the benefits of land amongst all stakeholders.

Though there is a wide variety of possible methods, valuations, and approaches that may be available or appropriate, the ELD Initiative promotes the use of the total economic value achieved through cost-benefit analyses, as this can provide broad and cohesive understanding of the economics of land degradation. It is a method that is generally accepted by governments and others as a decision-making tool, and avoids the application of tools that may require a fundamental change of existing systems. To this end, the ELD Initiative operates under the following vision and mission statement:

Vision

The partners' vision of Economics of Land Degradation (ELD) Initiative is to transform global understanding of the value of land and create awareness of the economic case for sustainable land management that prevents loss of natural capital, secures livelihoods, preserves ecosystem services, combats climate change, and addresses food, energy, and water security, and to create capacity for the utilisation of economic information for sustainable land management.

Mission Statement

The central purpose and role of the Economics of Land Degradation (ELD) Initiative is that through an open inter-disciplinary partnership

- We work on the basis of a holistic framework built upon a recognized methodology to include the economic benefits of sustainable land management in political decision-making;
- We build a compelling economic case for the benefits derived from sustainable land

management from the local to the global level while applying/using a multi-level approach;

- We estimate the economic benefits derived from adopting sustainable land management practices and compare them to the costs of these practices;
- We stimulate the development of land uses that provide fulfilling and secure livelihoods to all while growing natural capital, enhancing ecosystem services, boosting resilience and combating climate change;
- We increase the awareness of the total value of land with its related ecosystem services;
- We develop the capacities of decision-makers and land users through innovative formats, and;
- We mainstream the full benefits of land in international and national land use strategies by proposing effective solutions, tailored to country- or region-specific needs, including policies, and activities to reduce land degradation, mitigate climate change and the loss of biodiversity, and deliver food, energy, and water security worldwide.

Acronyms and abbreviations

CBO	Community based organisation
CSO	Civil society organisation
ELD	Economics of Land Degradation Initiative
EUR	Euro (currency)
FGI	Fertile Grounds Initiative
IFAD	International Food and Agricultural Development
IMBM	Incentive and market-based mechanisms
GEF SGP	Global Environment Facility Small Grants Programme
GM	Global Mechanism
GRI	Global Reporting Initiative
NEPAD	New Partnership for African Development
NGO	Non-governmental organisation
RIPL	Responsible Investments in Property and Land
ROI	Return on investment
SLM	Sustainable land management
TNC	Trans-national corporation
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change
UNDP	United Nations Development Programme
USA	United States of America
USD	US Dollar
VGGT	Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forest
WBCSD	World Business Council on Sustainable Development

Executive summary

With around one third of the world's arable land degraded, estimated annual losses of 6.3 to 10.6 USD trillion, and a projected need to increase food production from land by 70 per cent by 2050, we simply cannot afford to neglect the loss of potential production from careless land management. Whenever land is not producing at its potential, it is an under-performing asset that requires investments to ensure the future supply chains that many industries depend upon.

Sustainable land management and landscapes are now beginning to be recognised as central to the achievement of the global agendas such as the Sustainable Development Goals, and the UN climate, biodiversity, and desertification conventions. This shift in the political landscape creates substantial rewards for businesses that invest in sustainable land management in their value chains. Expected returns on investment are high for more at-risk sectors, including food and beverages, construction, utilities, mining, renewable biomass energy, clean and reliable water supplies, etc. At the same time, investments create 'shared value' that equitably benefit all involved in land management. With up to 2 billion hectares suitable for restoration/rehabilitation, a reversal of land degrading trends will contribute to multiple benefits while helping to address the great challenges of climate change, biodiversity loss, alleviation of poverty, and hunger.

In this report, the Economics of Land Degradation (ELD) Initiative outlines opportunities and benefits for the private sector in directly and indirectly investing in sustainable land management. These come through improved yields of goods like food, fibre, and timber, new business opportunities and novel markets, and creating and ensuring social "licences to operate". It builds on the previous report on the assessment of business exposure to land degradation risk from 2013.

Pathways are outlined where large, medium, and small companies can position themselves to take advantage of potential benefits, including; 1) new products and markets that are resource-use efficient and are suited to restoration and rehabilitation sites; and, 2) improvements in existing markets by increasing production and adding value. Many companies are already recognising the need for greater environmental accountability and gain competitive advantages by doing do. The report further discusses barriers and incentives and ways to manage them. Emphasis is given to striking up new partnerships with civil society and governments that are profitable, distribute benefits to all stakeholders, assure maintenance of valued ecosystem services, and ensure enabling environments for investment and implementation that pose no threats to any participant.

The challenges of sustainable land management are great, but we believe that the required market transformation strategies will be better informed by the work of the ELD initiative through this publication, and the continued support of the private sector by the ELD in transitioning to sustainable land management practices and the resulting benefits and rewards.

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01 Making the business case for sustainable land management

Introduction

Land degradation is a global problem and particularly exacerbated in semi-arid and dryland landscapes. Poor land use and management result in global losses of ecosystem service values from USD 6.2 to 10.3 trillion annually[1]. In many places like sub-Saharan Africa and Southeast Asia, more than half of the land is constrained by poor soil quality[2], and 12 million hectares of land are degraded annually where 20 million tons of grain could have been grown instead[3]. Land degradation is increasingly a significant issue for the private sector, as it impacts the supply chain at various entry points and detracts from profits and long-term stability. A core issue is that the multiple benefits generated by productive landscapes are not appropriately valued. However, these values can be incorporated through natural capital (i.e., the stock of natural resources producing a flow of ecosystem service benefits to humans), including the economic value that land represents beyond the financial price of goods and many other ecosystem services which impact businesses indirectly as well, such as recreational values or flood and erosion control. Much of the problem with undervaluing land and land-based ecosystems arises as a result of focusing on:

- short-term gains based on maximising land's financial value, often considered as the main driver of related policies and usage;
- a lack of understanding about how activities can or do cause negative impacts, defined in economic terms as *negative externalities*, and;
- market prices which do not incorporate the benefits from land and land based ecosystems, and fail to reflect the environmental impact of related activities.

The latter issue is of particular relevance, as it means there are not incentive structures in place to encourage sustainable land management (SLM) decisions by individuals, companies, and governments.

When land is not producing at full potential, it is an under-performing asset that incurs expenses and losses for all stakeholders. For the private sector, land degradation can create losses in future growth and current business through: decreased natural capital stocks and flows, increased resource costs due to lower availability, reduced productivity (resulting in decreases of financial price over time and loss of resale value), increased political instability, and social costs associated with health problems, field abandonment, migration, etc. This occurs directly through production losses, and also from subsequent costs in supplying additional inputs (i.e., fertiliser or water) or rehabilitation. Ultimately, the destruction of natural capital short-circuits growth, limits prosperity, and will have adverse intergenerational implications[4].

The ELD Business Brief (2013, pg. 21[5]) assessed sectors in terms of exposure to risks from land degradation. It identified that the highest risks are borne by those with direct land dependence, where supply chain resilience is threatened by climate change, water scarcity, and ecosystem degradation[6], including:

- Basic resources (e.g., forestry, papers and metals);
- Construction and materials;
- Food and beverage;
- Industrial goods and services (e.g., transportation, packaging);
- Leisure and travel, (e.g., airlines, hotels);
- Eco-tourism;
- Personal and household goods (e.g., consumer electronics, tobacco), and;
- Utilities (e.g., water, electricity)

However, any company that owns, manages, and depends on land and land-based ecosystems in their supply chain can be faced with risks and losses when the productive capacity of land is degraded. Additionally, any company's brand and business can suffer reputational damage from

even indirect exposure or association with land degradation at any point in their value chain.

Implementing SLM can benefit businesses by enabling them to secure access to raw materials, sustain and expand commodity production, and secure positive social, economic, and environmental benefits.

BOX 1.1

Key terms and definitions

Land degradation refers to 'any reduction or loss in the biological or economic productive capacity of the land caused by human activities, exacerbated by natural processes, and often magnified by the impacts of climate change and biodiversity loss[7].'

Sustainable land management is a means to ensure that productive land capacity and delivery of ecosystem services are maintained or increased over time. According to the UNCCD, SLM constitutes land-use practices that ensure land, water, and vegetation adequately support land-based production systems for current and future generations. It aims to enhance economic and social well-being of affected communities, sustain ecosystem services, and strengthen adaptive capacity to manage climate change[8].'

Restoration is a process that initiates or accelerates the recovery of a degraded terrestrial ecosystem with respect to its health, integrity and sustainability. Land restoration aims to return an area of land to a close approximation of its condition prior to disturbance.

Rehabilitation is a process aiming to regenerate land capacity to provide a certain range of ecosystem goods and services. Land rehabilitation does not necessarily return land to pre-disturbance conditions.

Ecosystem services are the benefits that the environment provides to people in the form of provisioning services (e.g., food, water), regulating services (e.g., flood control), supporting services (e.g., species habitat, genetic diversity) and cultural services (e.g., recreation and conservation/non-use values)[9].

A transition from degrading land practices to SLM is needed to avoid risks and reduce the gap between the maximisation of short-term financial returns and the longer term economic value. Holistic perspectives offer a better understanding of the full economic potential of productive land and reveals the many investment opportunities and future benefits for the private sector. To achieve net benefits for society as a whole, the full value of the environment must be considered in all decision-making processes by the private sector. Not only direct, but also indirect and non-use values should be factored into option appraisals and trade-off analysis, and decisions should also take into account likely future scenarios.

Within the private sector, there is a wide diversity of stakeholders with links or dependencies on natural resources that operate across different scales and intensities of operations. This report addresses businesses, investors, and financial sectors which have impacts or dependencies on land, either as primary producers, through their value chains, or as investors. This includes smallholders working on their own plots, but also multinational corporations which source products from a global network of production sites and other businesses. The aim is to highlight the added-value of SLM to businesses on all scales and provide the information and tools needed to establish SLM practices in the private sector. Given the growing consensus on added values and enhanced returns on investments, it is increasingly important to highlight these opportunities and options for the private sector to engage in cooperation with other stakeholder groups, and to transform production and sourcing more sustainably.

Opportunities and benefits of investing in sustainable land management

Despite the negative impacts of land degradation, many business opportunities present themselves through SLM. Improving land management and environmental practices can create up to USD 75 trillion annually in ecosystem services[1]. There are two main pathways companies can position themselves to reap benefits:

1) **Innovative markets:** companies can provide new products, e.g., technologies and products that reduce erosion or use less water, cropping

systems that avoid land degradation, innovative ways for invasive plants to become revenue generating crops, etc., and new services that reduce land degradation and increase restoration and rehabilitation, e.g., land management or restoration services and education, training, or consulting services.

2) **Improvements in existing markets:** techniques and approaches can improve or increase access to revenue in existing markets. This can be through recapturing potential production losses through rehabilitation, accessing subsidies and incentives available through policy benefits for managing degraded land (e.g., tree planting), or participating (more fully) in them.

There is considerable scope for companies to **create shared value**[10] through SLM. Social issues can be incorporated into core business strategies to benefit society and a company's own long-term competitiveness.

Companies can gain **competitive advantages** when the need and opportunities of transitioning to SLM is recognised early. Being proactive can secure future supplies, maintain supply costs at reasonable prices, and develop increased resilience to market fluctuations and unforeseen occurrences (e.g., environmental disasters or climate change risks[11]).

Benefits can be reaped through **corporate social responsibility** and maintaining or gaining social license to operate or secure resource supplies (see *Chapter 2*). Undertaking activities that restore and rehabilitate land can enhance reputations, as well as maintain or increase company's market shares. Companies can charge price premiums or operate in locations where they may have otherwise closed down or been replaced by more favourably-perceived companies.

Risks and challenges associated with opportunities

Despite the numerous opportunities and economic benefits of SLM, several risks and challenges must be considered in developing a successful business strategy around it. When benefits from land improvements accrue slowly or at a distance from the site (e.g., flood and water filtration benefits),

willingness to increase capital investments may be reduced if an enabling environment is lacking – that is, if there are no market mechanisms that enables benefits to be appropriated financially. This is where public-private partnerships and dialogue play a stronger role, as policies around land need to be inclusive of private sector needs.

Establishing new markets can also be challenging and time consuming. For example, payments for watershed services necessitate complex contracts and agreements amongst stakeholders. In turn, these require an understanding of complicated underlying cause-effect relationships and trade-offs (e.g., between vegetation, soil cover and types, associated water flow rates, etc.). Another difficulty is ensuring a fair distribution of benefits, for example, where a lack of ownership rights may exclude some stakeholder's participation in a payment scheme and exacerbate social conflict. So while a payment scheme can generate positive financial benefits to some stakeholders, it might generate hidden 'costs' when the broader societal impacts are not analysed from a total economic value perspective. This is why the ELD Initiative endorses the approach of valuing land through a total economic value approach through cost-benefit analyses, as operating from an understanding of the full value of land provides the most informed platform from which decisions are made.

Finally, businesses are increasingly under pressure to provide reporting and disclosure on operations and practices. Standards such as the Global Reporting Initiative (see *Chapter 3*) provide increasing transparency and accountability for businesses operations, which is an incentive for investing in SLM practices.

02 Barriers and economic incentives to action

Sustainable land management represents a positive way forward; recent assessments by the ELD Initiative[1] have demonstrated its added value. However, there are barriers to action which prevent individuals or businesses from adopting SLM measures and re-structuring their resource management. This chapter reviews them as points of consideration, but also explores alternative opportunities and incentives for SLM. It includes information on various implementation scenarios demonstrating the range of options and opportunities available to various private sector needs.

Barriers

Economic

From a business perspective, three key economic barriers exist to sustainable land uses or investments in land restoration: capital costs, periods without revenue, and increased project risk from longer time horizons associated with SLM.

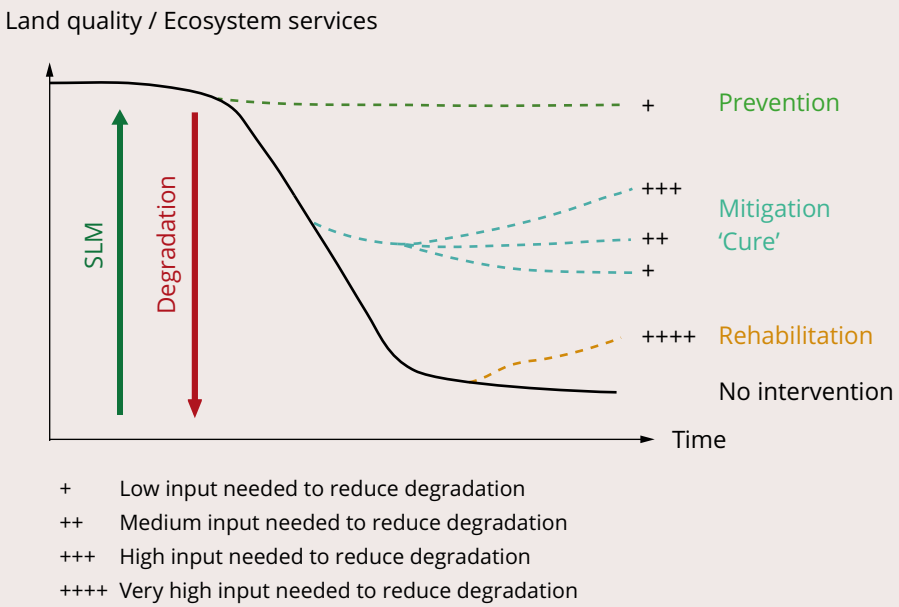
- **Capital costs** – Sustainable land management approaches and techniques can present significant upfront costs. Investing in technology and practices that prevent degradation can be costly without broader legal, political, social, and technological support. However, investing in sustainable technologies at the beginning of a project or the start-up of a business can be more cost effective than paying for remediation and technical procedures later, and can also be calculated for from the outset. There are many projects that assist the private sector in this context; for example, TerrAfrica is an initiative coordinating sustainable land use commitments among sub-Saharan African governments and international organisations such as the New Partnership for Africa's Development (NEPAD), United Nations Convention to Combat Desertification (UNCCD) Secretariat, Food and Agriculture Organization (FAO), International Food and Agricultural Development (IFAD), and the United Nations Development Programme (UNDP)[12]. It coordinates the use of capital funds from international organisations to promote and support projects that emphasise land degradation prevention, mitigation, and rehabilitation, with prevention as the preferred option. *Figure 2.1* shows the difference in level of efforts and potential costs when implementing SLM practices early on.

- **Periods without revenue** – Returns on investment (ROI) are benefits to investors resulting from capital investments. If capital costs preclude predicted profitability, businesses are less likely to start up or receive funding unless there are mitigating factors (e.g., improved corporate reputation or public relations). To improve views on expected ROI, sustainability analyses add the monetised value of non-cash benefits and externalities to traditional financial analyses. There are also sources of funding that can alleviate the costs of land preservation. For example, the Amazon Fund was created by the Brasilian government to raise donations for investments in efforts to prevent and combat deforestation and land degradation. It is managed by a public bank and uses a payment-for-performance model to raise funds from domestic and international donors to preserve the Amazon rainforest. Fund allocation is decided by a steering committee, which includes representatives from local government, national ministries, and civil society, including indigenous peoples, traditional communities, non-governmental organisations (NGOs), and scientists[14].

- **Project risk** – Project risk is any event or activity that threatens a company's ability to

FIGURE 2.1

Differences between approaches to land management over time
(TerrAfrica, 2011[13])



concentrate on revenue generation. Risks vary depending on the type of company, technology, location, local cooperation, and range of ROI[15]. In SLM, an example is ineffectiveness due to development or land use impacts on adjacent areas located upstream of the watershed (e.g., invasive species encroachment as a result of decreased ecosystem stability, or increased flooding as a result of soil compaction and erosion). Another risk is the relatively long time horizon needed to see economic benefits from SLM practices[16]. Business plans that have a longer time horizon may draw costs out over too long a period to provide an acceptable ROI for investors and the company.

However, even though these economic barriers can exist, there are a large number of incentives which can help businesses close gaps when transitioning into SLM. These mechanisms, discussed next, can be driven by government investment, financial relief, or private funding mechanisms.

Technical

Land owners and managers can face technical challenges if they are ill-equipped to manage land sustainably. This can be from a lack of access to technologies, techniques, or financial resources and information which are essential for SLM practices, such as estimating the appropriate amount of irrigation water, preparing for severe drought periods or natural disasters, etc. Gaining access should be a key priority for land-invested private sector players as they stabilise supplies, secure livelihoods, and preserve land sustainably for on-going benefits. Incentives for technology transfers amongst players need further facilitation, particularly from those who have already developed and ground-truthed economic valuations of potential scenarios. Important support and facilitation can also be provided by NGOs and civil society organisations (CSOs), described in *Chapter 4*. This includes opportunities for cost-sharing with public entities to combat shared risks[17].

One example of a technical barrier is the maintenance of quality standards for land use parcels. In order to prevent the pollution of water bodies through soil erosion and terrestrial operation discharges, some governments and local communities have established water quality standards and discharge regulations. Land owners and companies with operations adjacent to water bodies or who discharge into them are required to adhere to them. However, not all businesses are equipped to perform sampling and testing. Agencies like the Scottish Water Company can provide information and services to help land managers meet their commitments (*Case study 2.1*), and thus help them accomplish and benefit from SLM

Different types of small-scale land users and owners can sometimes lack the resources or technical knowledge to identify management alternatives. Businesses or NGOs that already possess these can offer technical assistance by providing management experts or service foresters to 'walk the land' and assess the property and protection needs. For land owners, having access to these resources builds a bridge between an in-depth understanding of the land's characteristics and existing SLM possibilities[19]. This improves relations between local stakeholders and the private sector, increasing knowledge exchange towards shared value for all, and facilitates operations and social license. The ELD Initiative provides tools and techniques to transfer land knowledge and adapt it for local contexts (ELD Business Brief (2013), ELD Practitioner Guide's (2014, 2015) and ELD User Guide (2015), all available at *www.eld-initiative.org*).

Cultural

Business can face challenges in obtaining a social license when they underestimate the complexity of stakeholders' interests, confuse technical credibility with social credibility, or fail to establish and nurture local relationships. Businesses interested in investing or setting-up land operations must take into account the needs of the local population and should consider the development of a social license as part of their SLM practices.

A social license is commissioned by a company to gain acceptance by a community or local stakeholders to allow for operations on or near their land, and is an important aspect to consider when analysing social and cultural risks. At a project level, businesses must coordinate directly with the community and make every effort to respect the culture, beliefs, opinions, rules, and interests held by them about the operations of the company (see *Chapter 4*). These provide community benefits beyond regulatory requirements, which benefits businesses' brands and ability to operate on a long-

CASE STUDY 2.1

Private sector support from the public sector: Scottish Water Company

The Scottish Water Company[18] has a SLM team that works in collaboration with land owners and developers to protect drinking water sources in Scotland. The program reinforces the knowledge that land use such as farming practices, construction, and forest activities can affect source water quality. If risks are not properly assessed and addressed, then the quality of source water can be impacted, increasing energy and chemical demands for water treatment, and creating costs to society as a whole.

Thus, they offer an incentive scheme to help land managers to cover costs for protecting drinking water sources (e.g., general binding or nitrate vulnerable zone rules). Land managers can apply for assistance in financing measures aimed at contributing to the improvement and protection of water sources in the catchment, over and above the expected regulatory compliance. Investing in these practices from the beginning lowers costs for businesses and society overall, while providing financial support for the private sector to carry out SLM and other conservation practices.

More information on the Scottish Water Company and the related incentive scheme are accessible on their website: *www.scottishwater.co.uk/business/about-us/corporate-responsibility/sustainable-land-management/slm-incentive-scheme*

term basis. Additionally, technical credibility must be matched with 'social credibility', which reflects the cultural adeptness of proposed measures.

As an example, parts of Inner Mongolia are large coal production regions for China. Mining and refining companies mostly operate without effective regulation, and wide swathes of the landscapes have been degraded as a result. Local pastoralists have had their land appropriated for mining expansions, which has polluted their grazing lands and destroyed livestock, resulting in strong resistance[20]. This conflict and resulting costs and hold-ups could have been avoided if companies had implemented SLM practices and technologies, which may have included air filters and scrubbers on refining smoke stacks to reduce impacts on local air quality and pollution. Outreach programmes could have explored alternative pathways to maintain and adapt local livelihoods in the face of the operations.

As the situation in Mongolia demonstrates, businesses need to be willing to invest in building relationships with local stakeholders and their customs, as it ultimately benefits operations. Social license provide legitimacy and credibility for a companies while reducing friction, which is often costly and likely avoidable. Businesses that fail to obtain a social license can encounter lack of project approval, project delays, protests, negative publicity, or even government sanctions, and it is thus a core part of SLM strategy success.

Regulatory

Regulatory mechanisms enforced by governments do not always incentivise the private sector to invest in SLM practices. For example, heavy fertiliser subsidies may actually induce land degradation, though it spurs short term productivity and gain. Additionally, where land tenure systems provide insufficient security, owners and managers are usually not incentivised to seek long-term SLM solutions (see *Case study 5.1*). Compounding these issues, insufficient staff capacity remains a challenge for governments in realising and improving SLM within respective administrative units, hindering legal and regulatory enforcement and the adoption of new legislations. However, this is actually an excellent business opportunity; stronger cooperation with governments can help achieve SLM for the public sector while realising a secured resource base for the private sector. Further, it facilitates the integration of business perspectives and needs into legislation and processes. In situations where policies are being developed by governments unaware of local conditions or businesses' needs, the private sector can play a vital role in securing SLM through their inclusion.

CASE STUDY 2.2

Policy challenges for palm oil production in Cameroon
(from Schneider, 2015[21])

African governments see palm oil production as a means of enticing foreign investment and stimulating local economies. Originally a state-owned initiative in west Cameroon, Socapalm provided smallholders fertilisers and technical assistance, and farmers sold crops to Socapalm at a fixed price. After operating at a loss, Socapalm was sold to private companies in 2000.

Currently, land used by Socapalm is on government concession areas, but there are plans to expand operations. These plans have been met with protests and blockades preventing construction, as the expansion is perceived as encroaching on people's land. The confrontation reflects a lack of well-defined policies regarding landuse and coordination between local communities, government, and businesses. However, the situation provides an opportunity to analyse probable future scenarios through total economic valuation of the land and its productive and sustainable value, with consideration of possible ways to redistribute benefits amongst all stakeholders. It can then be used to set precedence for transparent public-private partnerships for land use going forward.

Governments and local communities have increasingly integrated issues relevant to SLM in their agenda and approved corresponding ordinances, laws, and rules of use. Control mechanisms and sanctions on land users include forest protection, grazing and water use regulation, management of bush and savannah fires, and passage of herds through settled areas. Together, these kind of measures establish important conditions for facilitating SLM and need to be formulated in cooperation with the private sector for wide-reaching success. *Case study 2.2* showcases a policy challenge for palm oil production in Cameroon.

Economic incentives

In order to realise stronger SLM integration, a range of possible economic incentives are available; technical, cultural, and regulatory incentives are discussed more thoroughly in the ELD report 'The Value of Land'[1]. These can be implemented through governmental decrees and help to align private and public perspectives. Since different incentive modules only apply for specific businesses and different incentives can generate excessive market distortions, 'compete' with other incentives, etc., a harmonisation of methods, incentives, and business is necessary.

- **Tax incentives and subsidies** – Tax breaks or credits can reduce barriers to investing in improved management practices. Incentives include reduced property, estate, and inheritance taxes, more favourable tax credits, deductions, capital gains, and more cost-sharing of management expenses. For example, all 50 states in the USA have a type of preferential property tax to protect forest land from being fragmented or converted to other uses.

- **Intermediary support loans** – Small businesses can benefit greatly from business loans that target sustainable practices and reduce potentially higher capital and operating costs.

- **Public or private grants** – Non-repayable funds received through an application or 'grant writing' procedure can benefit small and medium sized businesses. Examples include:

  - The UNDP Global Environmental Facility (GEF) Small Grants Programme (SGP), which has been providing financial and technical support to projects that conserve and restore the environment while enhancing livelihoods since 1992. SGP funds local communities to participate in their development through community ownership of land and small businesses. Country programmes were originally established in 33 countries, with a maximum grant amount set at USD 50,000[22].

  - The Bill & Melinda Gates Foundation is a private foundation launched in 2000, with sustainable agricultural development as a significant focus. USD 2 billion was targeted for efforts in this area, primarily in sub-Saharan Africa and South Asia. The Foundation invests in local partnerships with small farmers and land owners to sustainably increase farm productivity though access to adapted seeds, more effective tools and management practices, locally relevant knowledge, emerging digital technologies, and reliable markets. It also encourages farmers to embrace and adopt sustainable practices that help them grow more with less land, water, and fertilisers, in order to preserve natural resources. The Foundation further assists local farmers by advocating for better agricultural policies[23].

- **Public-private partnerships** – Collaborations between a local government or agency and a private business for the purposes of developing public infrastructure or other land uses can provide benefits to both (see *Case study 2.3*, or Water Future Partnerships (*www.water-futures.org*) as examples). Businesses have the capacity to provide capital and technological resources that can be combined with the public sector's legislative and social legitimacy and efficacy.

- **Forest industry programmes** – These programmes involve securing public or private funds for the preservation of forests or natural habitats. These type of programmes account for a large portion of financial incentives offered by private entities, although programmes by land trusts or conservation organisations are also common. For example, the Canadian

CASE STUDY 2.3

Public-private partnerships: United States Forest Service and Coca-Cola

In 2011, the United States Forest Service (USFS) began working with Coca-Cola to restore watersheds and forested lands across the USA[24]. The organisations share mutual interest in watershed health: Coca-Cola is pursuing its sustainability and water replenishment goals, while the USFS and its foundations are ensuring an ample, clean drinking water supply, as well as healthy fish and wildlife habitat. Coca-Cola has funded projects and relies on locally based partners, employees, and community volunteers to improve habitat and functions through the construction of sediment detention basins, rehabilitation of alluvial fans, and filling of deep gullies.

Investments in Forest Industry Transformation programme was created and funded in 2010 by the government to support Canada's forest sector in becoming more economically competitive and environmentally sustainable. The four-year, CDN 100 million initiative supported forest industry transformation by accelerating the deployment of highly innovative technologies. It addressed the challenges associated with obtaining capital investments for new technologies by providing non-repayable contributions of up to 50 per cent of a project's costs for the demonstration of innovative technologies[25].

- **Incentives and market-based mechanisms (IMBMs)** – IMBMs are financing mechanisms that promote financial investments by a range of different stakeholders for project-based SLM practices. IMBMs can provide important financial support for farmers, land owners, communities, and companies to invest in SLM. They reduce financial barriers by providing compensation for SLM, including climate change mitigation or eco-tourism. Financial incentives and market based mechanisms can be used to facilitate and promote investments in SLM by reducing capital costs and securing ongoing funding. An example of IMBMs in practice is when land owners or users receive compensation (i.e., direct monetary payments, technical assistance, or preferential market access) for implementing SLM practices. Incentives include public payments, eco-labelling or certification of sustainably produced products, and compensation, as well as the earlier discussed taxes and subsidies. *Table 2.1* shows the range of incentives suggested by the Global Mechanism (GM) of the UNCCD.

While incentives provided by the public sector are a powerful option to integrate SLM and overcome barriers, there are cases where such mechanisms have created lock-in situations, where transitioning to SLM was actually prevented and unfavourable management approaches supported instead. Such 'perverse incentives' can be damaging, and it remains important to carefully review the implication and outcomes of suggested incentivising mechanisms before implementing them.

TABLE 2.1

Incentive and market-based mechanisms to promote SLM
(from CATIE & GM, 2012[26])

Incentives / Market-Based Mechanism	Examples
Public payment schemes	Permanent conservation easements Contract farmland set-asides Co-finance investments
Open trading between buyers and sellers under a regulatory cap or floor	Tradable development rights Trading of emission reductions
Self-organised private deals	Direct payments for environmental services
Eco-labelling and certification of products and services	Marketing labels Certification schemes

03 Business categories and investment options

This chapter outlines the relevance of entry points for investing in SLM, as identifying where to begin is a critical step in developing a business strategy incorporating SLM practices. The relative size of the business as well as scope and cost of operations can dictate the amount and types of funding available, and define available opportunities for investment or financing. Small farmers or land owners will typically seek out small grants, loans, or tax credits to finance their SLM projects, whereas large multinational corporations engage in partnerships or finance their own projects by investing in smaller businesses or farmers. These size delineations are not firm, but serve to provide a relative framework for understanding the obstacles and opportunities at different scales. It remains vital to explore potential sources for funding and opportunities based on the characteristics of the business under scope.

Farmers and individual small holders

Farmers and smallholders often require external funding or investments to finance SLM projects, as their capital base is smaller. Smallholders are characterised by a wider distribution and low level of organisation; umbrella organisations like cooperatives are often needed to connect small holders to funding. Potential funding sources that can be acquired by and distributed through these organisations or otherwise, include grants, loans, tax subsidies, and payments for land stewardships (see IMBMs in *Table 2.1*). Investments can come from private businesses or government agencies, including international agencies, and out-grower schemes can also be used to fund SLM. Among the international agencies that focus on funding SLM projects, some specifically specialise in small farmers and landowners, including IFAD and the GEF SGP[22].

IFAD is a specialised UN agency established in 1977 to respond to global food crises. It is a financial institution that provides loans and grants from

CASE STUDY 3.1

Improving soil fertility in Burkina Faso: International Food and Agriculture Development (IFAD)

CPP Burkina Faso – Sub-programme of the Northern Region – under Partnership Programme for Sustainable Land Management
IFAD loan: USD 16,028,000
GEF grant: USD 2,016,000
Location: Bam, Loroum, Passoré, Yatenga, and Zondoma provinces
Duration: 2009–2014

Over exploitation of land by the ever-growing number of agricultural and livestock producers in northern Burkina Faso has resulted in severe land degradation and created fragile soils.

Cereals occupy 84 per cent of the total cultivated area and are grown extensively, depleting soil nutrients. Coupled with increases in areas under cotton production, this is a threat to sustaining soil fertility.

The goal of this programme is to improve soil fertility and enhance agricultural productivity. Long-term sectoral targets include annually increasing land under irrigation by 1,000 hectares and restoring soil fertility on 30,000 hectares[27,28].

its own resources and manages resources for other development organisations. Project and programme loans target developing country member states, with a focus on helping small farmers and landowners sustainably manage their natural resources and adapt to climate change. This includes combatting soil degradation and erosion. *Case study 3.1* outlines one of IFAD's projects in Burkina Faso.

The GEF SGP also provides grants to national and local NGOs, community-based organisations (CBOs), and indigenous people's organisations. Grantees include non-profit organisations such as professional associations, unions, and other civil society groups. An example from Zimbabwe (*Case study 3.2*) highlights how smallholders can benefit from global programs which provide grants to smaller projects as gatekeepers to the beneficiaries themselves.

Private foundations are also important funding sources for small scale land users. The Bill & Melinda Gates Foundation provided USD 10.4 million to NEPAD and Michigan State University for a five-year program to introduce African biosafety regulators to new technologies. The ultimate goal is to reduce poverty through improved agricultural practices[30], and is part of a larger group of agricultural development projects being funded by the foundation, with the intention to address long-term food security in Africa and totalling USD 120 million.

Small businesses

Goods

Small businesses face a number of challenges when considering implementing SLM. The goal is often to win accounts or integrate their products in the supply chains of larger companies and by becoming more sustainable, smaller businesses can gain an edge over others that do not have the prescience, resilience, or benefits associated with SLM. Large companies looking to develop a more sustainable supply chain now often require smaller vendors and suppliers to implement sustainable resource management to various degrees. This results in small businesses with developed and implemented SLM plans being more attractive to an increasing number of larger companies focused on a greener footprint.

CASE STUDY 3.2

Supporting local communities and livelihoods in Zimbabwe through small grants (GEF)

Reversing land degradation through holistic land management for livelihood enhancement
GEF grant: USD 50,000
Location: Zimbabwe
Duration: 2009 – ongoing

This land improvement project in Zimbabwe works to reverse land degradation through SLM and also enhance farmers' livelihoods. The project intends to influence the development of SLM policies through holistic land and livestock management activities, such as the practices of organic farming and rotational grazing. The project received USD 50,000 in 2009 to prevent land degradation through environmental management and enhance community livelihoods through climate resilience and mitigation strategies in 32 villages.

The project promoted practices such as fencing, rotational livestock grazing areas, planting indigenous trees and drought resistant plants in reclaimed areas, and organic farming. The introduction of organic farming to improve soil fertility in particular makes it easier for households to improve yields without depending on unsustainable or unavailable technologies. Additional objectives are to provide innovative financial mechanisms to promote the creation of sustainable livelihoods for communities working to earn a living from the land and land-based ecosystems. Livelihoods activities include organic farming, basket and craft making, and the marketing of organic products and tree seedlings.

For example, in Uganda, organic cotton is a main cash crop that provides livelihoods for farmers and small businesses. Localised production and processing improves the ability of workers to receive a fair price for their goods and services. There is a cotton mill and cotton gin factory in the community of Kiyunga, which processes them locally[31]. This small business is an important revenue generator for the area, employing nearly 250 people at peak processing season and buying cotton from thousands of smallholder farmers. Through investing in new technology to upgrade the mill, the company has benefited from improved productivity and organisation of suppliers. These benefits are also transferred to society through improved ecosystem services.

As with most crops, organic fields produce smaller yields, which is a financial risk for farmers unless they can sell at a fair price on the market. Fair prices for goods created with SLM are crucial to ensure that agricultural areas under production are not being expanded, soil quality is being maintained by not overworking the soil, and land is preserved sustainably. Receiving fair prices also enables small cotton farmers to continue investing in SLM practices like crop rotation. Further, a more stable local economy means farmers continue receiving reasonable prices for raw cotton and other produced goods at local markets, ensuring long-term livelihood resilience. They are also able to sustainably produce reasonable yields and rotate plot use based on these increased returns. Finally, maintaining land productivity helps reduce inputs such as chemical fertilisers and the associated external financial burdens. Through these types of benefits, investments in new technologies to process cotton locally in Kiyunga has thus not only improved sustainable farming practices, but also the local economy and livelihoods[31].

Services

In addition to being an important sustainability link in supply chains, small businesses provide SLM services that protect the environment and stimulate local economies. With smaller staff numbers and closer links to production and sourcing, small businesses can be more flexible and efficient in implementing new production and sourcing technologies. In many cases, these SLM benefits increase provided land services and enable other economic activities. For example, ecotourism

has a great potential for synergies between land use for production and other livelihood-diversifying activities. Ecotourism businesses operate on land that provides ecosystem service values through natural attractions or nature-related activities – such as driving tours, hiking, rafting, horseback riding, swimming, etc. Such business models are thus reliant on preserving ecosystem services and values in order to maintain business appeal and reap SLM benefits, particularly if they are interested in longer term, sustainable rewards. To achieve full profitability, these ecotourism businesses are often co-funded by small business loans or grants. GEF offers funding for small businesses to support ecotourism and environmental conservation as this type of investment contributes to GEF project objectives (e.g., biodiversity protection, poverty alleviation).

Medium businesses

Due to their smaller scale (operating at sub-national levels), medium sized businesses face a number of challenges at start-up and throughout their lifespan. These include barriers to entry, high operating costs, and comparatively smaller customer bases. Since these challenges constrain budgets, it can be difficult and costly to implement sustainability practices, thus hindering the realisation of benefits. However, there are still many programs and pathways that medium sized businesses can access to secure a transition towards SLM.

Amongst companies that have successfully implemented SLM measures is a USA brewery in Fort Collins, Colorado. It is the third-largest

CASE STUDY 3.3

Collective private sector investments in SLM practices: BioBoden

Competition for usable agricultural land is increasing worldwide: while the world's population is growing, more and more fertile land is being lost. In Germany, demand for land is growing rapidly, as reflected in the massive price increase for agricultural property. There are many reasons for this: 73 hectares are lost in Germany daily to new housing, industrial zones, and roads, a large portion of which is arable and pasture land. Recent energy transition policies favouring biogas plants has also contributed – their expansion provides many farmers with high incomes, but simultaneously intensifies competition.

Additionally, an increasing numbers of sites with comparatively low yields are just being taken out of production, instead of investing in them to increase fertility; thus, areas under cultivation are growing scarcer and being placed under increasing pressure, while prices increase. This attracts external investments: investors have increasingly been buying up agricultural land or enterprises as capital investments. It is estimated that between 20 and 35 per cent of all property is taken out of production and converted into capital assets this way[32].

Between 2007 and 2013, the average purchase price for farmland in the previous West German federal states rose by 53.7 per cent/ha. In the eastern German federal states, it was almost three times as much – a rise of 156 per cent/ha. Rental prices also accelerated during this period – 25 per cent in the west and 38 per cent in the east[33]. Formerly federal land is increasingly being privatised and sold to the highest bidder, especially in east Germany, where land is managed by a government-founded company. Organic farmers in particular find it difficult to retain or expand their land because of this rise and comparatively higher premiums of their goods. In early 2007, 13 organic farmers from north-eastern Germany were under threat of losing 2,500 hectares because their leases were running out, and they turned to banks for help

As a result, the BioBodenGesellschaft was established. This group secured the land with money from 600 investors. The organisation re-manifested as BioBoden in 2015, working to secure more land for environmentally friendly agriculture. It now acquires land and enterprises up for sale and leases them to organic farmers on a long-term basis at affordable prices.

As BioBoden has shown, SLM agricultural investments can open up new opportunities to enhance productivity and provide market access for farmers, always provided that the land rights of small farmers are respected and the land is used in a way that conserves resources[34].

This is an extract taken from "Pressedossier, Boden. Grund zum Leben, 05 Boden & Schätze".

domestic craft beer maker, and amongst its environmentally-friendly practices, it monitors and records all of its energy use, waste production, and emissions. It also recycles, reuses, or composts more than 75 per cent of the waste produced in manufacturing[35].

Brewing beer requires a significant quantity of natural resources from grain to water. The company placed an important emphasis on maintaining a sustainable supply chain, and expects its vendors to be accountable for the impact of sourcing, producing, and sales. They specifically partner with suppliers that measure and reduce the environmental footprint of their operations and products by looking at transportation, packaging, waste, energy, toxic substances, water, and CO_2 emissions. Furthermore, most of the resources, such as barley, hops, and various spices, are sourced locally, primarily from the USA and Canada. The brewery works with all suppliers to encourage sustainable and even regenerative agriculture.

Additionally, the company invests in an Environmental Stewardship Grants Program providing benefits to communities in which they operate, and announced a donation of almost USD 1 million to environmental stewardship programs in 38 USA states[35]. This supports SLM strategies for small farmers throughout the USA and provides a business case for other medium sized businesses to invest in these practices.

The numerous approaches and endeavours of this single company demonstrates how it is possible for medium sized businesses to not only successfully implement SLM strategies, but capitalise on the productive benefits, and create shared value with other sustainability initiatives.

Large businesses

Large businesses tend to operate at national or greater scales, and invest in or finance smaller entities. They are increasingly recognising the value of maintaining sustainable supply chains and SLM practices, and corporate executives have identified these practices are important to business strategies.

In 2011, the UN Principles for Responsible Investment developed the Principles for Responsible Investment in Farmland (known as the 'Farmland Principles'), which were designed to guide institutional investors interested in investing in responsible farmland management. TIAA-CREF Asset Management has a farmland investment approach that is directly aligned to

TABLE 3.1

Types of investments and opportunities in sustainable farmland
((from TIAA-CREF, 2014[36])

Type of investment / operation	Opportunities
Soil health maintenance	Drives improved yield and can reduce input costs
Water efficiency and conservation	Protects groundwater quality, lowers input costs, and addresses issues of water scarcity in water-constrained or drought-prone regions
Resource efficiency	Minimises agricultural waste and nutrient loss, supporting cost savings
Biodiversity protection	Maintains integrity of valuable ecosystem services (e.g., erosion control, water cycling, nutrient cycling, and pollination)
Reduction of toxic emissions	Reduces localised pollution, supports worker health, and promotes food safety
Respecting labour standards, human rights and safety	Reduces risk of labour interruptions and strengthens and stabilises workforce
Transparency in land acquisition	Mitigates risk from legal liability and security issues
Respect for local communities, smallholder farmers, and other stakeholders	Supports local communities' economic and cultural needs

its overall investment philosophy of long-term investors working to provide for the financial well-being of its customers and clients decades into the future[36], and is amongst the signatories to the Farmland Principles. They see investing in sustainable farmland as a rewarding long-term asset with a 20 to 30 year time horizon. TIAA-CREF provides opportunities for clients to invest in a range of operations (*Table 3.1*).

Their core investment strategy is based on a partnership model focused on acquiring existing, high-quality farmland and identifying best-in-class farmers who operate via leasing arrangements. In doing so, they facilitate the growth of local operators and agribusinesses while also contributing capital to the local market and developing local capacity.

An example of a large business benefiting from SLM is a Canadian-based coffee maker and restaurant chain with almost 4,000 restaurants. Sourcing from regions in Central and South America, the majority of the coffee purchased comes from smallholder farms that tend to be family-run on less than five hectares of land. Since 2011, in conjunction with a third party certification company, the company has been working on a Business Partner and Supplier Code of Conduct (BPSCC) verification program specific to sourcing[37].

The company also recognises the environmental issues related to the production of palm oil, which they purchase for use in some of their baked goods. As land and forests must be cleared for development of the plantations, palm oil has been connected with deforestation, habitat degradation, climate change, soil erosion, air and water pollution, as well as indigenous rights abuses. In 2014, the company committed to deforestation-free, peat-free palm oil sourcing, and to protect both high conservation value and high carbon stock forests. This commitment was included in their 2015 BPSCC. By enforcing these standards throughout their value chain, it ensures that their suppliers and partners have to respect and support SLM[37].

Multinational corporations

Multinational corporations have global operations with large supply chains and rely heavily on primary resources from mining, forestry, agriculture, etc. They will always have a dependence and impact on land and land-based ecosystems. Unsustainable land use and sourcing, and resulting scarcity can disrupt multinational corporate operations and productions. Investing in SLM and partnering with local farmers, businesses, and NGOs enables multinational corporations to support local economies and secure the long-term sustainability of their supply chains. One of the most important reasons for multinational corporations to invest in SLM practices is to maintain a consistent supply chain of resources and stabilise operations. Investments in SLM at this level are made directly at a project or operating site, e.g., mechanised farming, manufacturing plants, or mining sites, or indirectly through partnerships with smaller businesses or local communities.

An increasing number of multinational corporations are also choosing to provide reporting and disclosure on their operations and practices, increasing transparency and trust, and thus improving benefits gained from having invested in SLM. Supply chains have become an important part of sustainable reporting and disclosure. The Global Reporting Initiative (GRI) is an international organisation that developed a set of sustainability reporting and disclosure rules and guidelines that help businesses, governments, and other organisations understand and communicate the impact of business on sustainability issues. The most recent draft of reporting guidelines (GRI 4.0) featured content for disclosure on management approach, governance, and supply chains[38]. The draft included new and amended disclosures, such as a new definitions of supply chains and suppliers, and supply chain disclosures, including procurement practices, screening, assessment, and remediation. While reporting is voluntary, some multinational corporations have chosen to use GRI guidelines as the foundation for their sustainability reporting. They have also started auditing their vendors and suppliers to evaluate their own sustainable practices for a variety of goods from coffee to coal, inclusive of SLM.

GRI also includes several criteria for companies' land use practices, particularly in the sourcing or extraction of materials and interactions with local communities. The criteria notes that mining sites, infrastructure, or other refining activities which can impact habitats and biodiversity

requires companies to report on the amount of land disturbed and the amount returned to beneficial use. Additionally, businesses are asked to report on any disputes relating to land use and customary rights of local communities, because of the importance their economic livelihood and cultural needs. Land rights and uses can become a point of conflict between businesses and local communities, and businesses are encouraged to adopt and report on relevant SLM practices implemented to ensure positive local relationships and secure benefits for all.

For example, in 2013 the multinational corporation Coca-Cola committed to sustainably sourcing key agricultural ingredients: cane sugar, beet sugar, high-fructose starch-based syrup (primarily corn), tea, coffee, palm oil, soy, pulp, paper fibre, oranges, lemons, grapes, apples, and mangoes[39]. Working with NGO partners like the World Wildlife Foundation, they established and applied 'Sustainable Agriculture Guiding Principles' throughout their supply chain. Investments include a USD 150,000 grant to help small-scale sugarcane farmers in the KwaZulu-Natal region of South Africa improve yields and livelihoods while reducing environmental impacts. The project started with a mentorship program paired with a local grower's association that trained small holder farmers to better manage land. The project has supported more than 3,000 small-scale growers on over 8,400 hectares, and helps sugar mills, governments, and other local stakeholders organise smaller farms into cooperatives. Coca-Cola also requires suppliers to provide sourcing and operational information so that they can evaluate them using scorecards based on a sustainability index.

TABLE 3.2

A summary of private sector SLM project investment examples

Company size	Reasons for investing in SLM	Project and description	SLM investment options	Existing methods and tools	Risks	Policy context
Farmers and individual small land holders	Improving local livelihoods and adaptation to climate change	CPP Burkina Faso – Sub-programme of the Northern Region – under Partnership Programme for Sustainable Land Management IFAD loan: USD 16,028,000 GEF grant: USD 2,016,000 Duration: 2009–2014	IFAD mix of low-interest loans and grants to support agricultural and rural development program and projects	The program helps farmers to increase their food production, raise their incomes and improve their livelihoods, while also sustainably managing their natural resources and adapting to climate change	– Unequal distribution of funds – Monitoring challenges – Potential for corruption	– UN Millennium Development Goals – Support UNFCCC policies for improved agriculture and forestry in developing countries
Farmers and individual small land holders	Improving local livelihoods and maintain natural resources	GEF grant for a land improvement project in Zimbabwe. Amount: SD 50,000 Duration: 2015–2017	Influence the development of policies on SLM through holistic land and livestock management of 32 villages and 5,278 people	Additional project objectives are to provide innovative financial mechanisms to provide sustainable livelihoods to small farmers and their communities		The project seeks to influence policy on SLM through holistic land and livestock management activities such as practice of organic farming and rotational grazing
Farmers and individual small land holders	Improving local livelihoods and support sustainable agriculture	Bill & Melinda Gates Foundation grant of USD 10.4 million to the New Partnership for Africa's Development (NEPAD) and Michigan State University	Five-year program to reduce poverty through improved agricultural practices	Larger group of agricultural development projects being funded by The Bill & Melinda Gates Foundation's Agricultural Development initiative, which partners with small farmers throughout developing world. Grant funds provide resources and technologies to small farmers to implement SLM practices that benefit the land and support agricultural growth	– Technologies and resources are inadequate to support crop yields – Poor weather conditions – drought or flooding – that adversely impacts crop growth despite sustainable techniques and technologies	

Company size	Reasons for investing in SLM	Project and description	SLM investment options	Existing methods and tools	Risks	Policy context
Small Businesses	Improving local livelihoods	Cotton mill in Kiyunga area, Uganda	Investing in technology to improve the cotton mill	Collaborating with local farmers	– Low crop yields can damage local economy	
Small Businesses	Improving local livelihoods and environmental conservation	The World Bank's Ecotourism and Conservation of Desert Biodiversity	World Bank contributed USD 4.2 million since 2010 to contribute to the conservation of desert biodiversity in three recipient targeted national parks in Tunisia	The purpose of the project is to enable conditions for protected areas management, SLM scale-up and ecotourism	– Low-interest as a tourist attraction, yields low revenue for ecotourism	
Medium Businesses	Improving local livelihoods and support sustainable agriculture	US-based brewery – Environmental Stewardship Grants Program	Environmental Stewardship Grants Program to benefit the communities in which they operate. In 2015 the brewery reported that it will donate USD 945,365 to environmental stewardship programs in 38 US states	Among the projects the Environmental Stewardship Grants Program fund is sustainable agriculture and SLM strategies		
Large companies	Improving local livelihoods and long-term investment in sustainable farming	Farmland Principles	TIAA-CREF Asset Management is among the signatories to the Farmland Principles and has a farmland investment approach that is directly aligned its overall investment philosophy: long-term investors working to provide for the financial well-being of its customers and clients decades into the future	Investment portfolio	– Poor return on investment	One of a group of UN Principles for Responsible Investment signatories who developed the Principles for Responsible Investment in Farmland

Company size	Reasons for investing in SLM	Project and description	SLM investment options	Existing methods and tools	Risks	Policy context
Large companies	Improving local livelihoods and maintain natural resources for a sustainable supply chain	Canadian-based coffee maker and restaurant chain – sustainable supply chain	Sources its coffee from small holder farms that tend to be family-run with less than five hectares of land. Committed to deforestation-free, peat-free palm oil sourcing, working with members of the Roundtable on Sustainable Palm Oil		– Risk of shortages in sustainability sourced coffee or palm oil	
Multi-national Corporations	Improving local livelihoods and support sustainable agriculture for a stable supply chain	Beverage company investment small-scale sugarcane farmers in the KwaZulu-Natal region of South Africa	Investments of USD 150,000 to improve their yields and livelihoods while reducing environmental impacts	Implementation of Sustainable Agriculture Guiding Principles and sustainable supply chain management	– Monitoring challenges – Potential for corruption – Maintaining reliable and sustainable supply of resources	Implementation of new Sustainable Agriculture Guiding Principles, GRI 4.0 emphasis on sustainable supply chains
Multi-national Corporations	Land and natural resource preservation	US-based retail company's land use offset program	In partnership with the US National Fish and Wildlife Foundation[40], the company created a land offset program. Over 10 years, USD 35 million is committed to purchase and preserve 1 acre of wildlife habitat in the US for every acre of land they develop[41]			Land use offsets is often required for new land use developments in the US. Regulations under the US National Environ-mental Policy Act and California Environmental Quality Act

04 Partnerships with civil society and non-governmental organisations

Awareness of the value and importance of land within the public debate has been recently increasing, often driven by international policy institutions, e.g., the UNCCD or the UN Convention on Biodiversity. However, it has also gained momentum through celebrity endorsements, such as Edward Norton or Harrison Ford, who often partner with NGOs or CSOs. This increases the organisation's influence as representatives of societal interests and opinions, since they draw their 'legitimacy for their causes by virtue of popular representation'[42]. Showing a strong and focused set of concerns which frequently include environmental and humanitarian issues, NGOs and CSOs have been perceived as a challenge for business strategies that are oriented towards shareholder value maximisation.

However, the 'polarised' relationship between NGOs and private sector actors is transforming rapidly, starting with the acknowledgement of potential gains from strategic partnerships geared at shared goals, especially around land and land-based ecosystems. Driven by the diminishing influence of national governments on market forces and empowerment of trans-national businesses, NGO-corporate partnerships are being increasingly promoted and sought for the implementation of SLM practices and other environmental conservation approaches.

On one hand, an increasing amount of companies have started to shift away from shareholder centred approaches and focus on increased returns, and instead aim towards the shared value creation discussed earlier in this report. Framed under Corporate Social Responsibility oriented mechanisms and sustainable sourcing[43], private sector actors increasingly seek cooperation with NGOs pledged to such concerns.

On the other hand, NGOs are starting to acknowledge the positive impacts businesses can achieve when they engage in shared value behaviour, and are abandoning the perspective of exploitative private sector interest. With reduced influence of policy-/decision-makers in certain spheres, the private sector has been recognised as a powerful partner in achieving environmental goals. The NGO Oxfam International acknowledged that 'with the right opportunities cultivated, businesses can play a role in achieving socially responsible and sustainable economic progress'. Chief Executive Barbara Stocking states that '[They] began to realise that [they] also had to work with the private sector. But also over the last few years the private sector has changed quite a lot too, with a better understanding of poverty and their engagement with it[44]'. NGO umbrella organisations, such as the UK-based Bond have developed strategic frameworks and well-established partnerships, for example, with Unilever, a company which launched their sustainable living strategy in cooperation with Oxfam and Food Foundation.

Benefits of partnership

Generally, businesses with land and land-based ecosystem dependency and impact can obtain different benefits from well-established NGO cooperation, where a sufficient overlap of interest is prominent. There are four major areas where these partnerships are beneficial, as follows.

Image and credibility

Retailers need credible information in order to reassure consumers that products are being sourced according to socially acceptable standards[45]. NGOs obtain their mandate and scope for activities from civil society and articulated priorities, as well as public interests. They are associated with achieving a target of moral value, which is shared with consumers and thus a legitimating context. The aspect of non-commerciality gives this stronger support. As an approving third party, NGOs can provide credibility of compliance of activities

with their specific objective(s), and as third party certifying, an established and well-known NGO can provide higher reliability than the producer itself. According to consumer preference research, 82 per cent of consumers reveal a higher trust in externally verified production and sourcing practices[46]; increased certification organisations and standards in recent years reflects growing demand for this. This is highlighted in an example from the USA Southern Company, a large electricity producer that has engaged with the National Fish & Wildlife Foundation, an environmental NGO. Southern Company actively sought cooperation to re-design their management of over 700,000 acres. They restored endangered species habitats and invested nearly USD 11.6 million in land restoration[47]. This led to shared image enhancement, but also qualified the company for exemptions to regulatory restrictions from the government[48].

Access to markets

Certified products are sold for comparably higher prices and increased returns from the value chain, and also open new markets and target groups. In particular, companies who produce goods with negative ecosystem impacts, such as palm oil (*Case study 2.2*), might face difficulties in penetrating new markets where the target audience is environmentally aware. Cooperation with NGOs can dispel concerns and improve the perception of consumers and policy-/decision-makers towards companies and their impact. Such a setup can also benefit NGOs, who gain credibility and impact from their efforts.

Accordance with environmental standards can also gain support from such groups where seen as a unique selling point. Steve Hounsell, a representative of an Ontario-based power-generating company, reflected on increased support from environmental lobbyists towards licensing their operation after launching externally audited biodiversity-conservation programmes. Loss of support would have meant a potential and costly cease of operations, but low-cost investments into such programs secured access for his company to an important market[49].

Expertise and innovation

While companies are well-informed on conventional production, NGOs are well rooted within their sphere of action due to their narrower focus. They represent a vast source of knowledge for companies on alternative and sustainable procedures. Information about options are crucial, especially for companies who are transforming their value chains towards more sustainable production. Organisations that certify the sustainable management of land resources have been working on standards and measurements for quite some time, and can provide guidance and expertise for redesigning sourcing, production, and subsequent value chains. For example, the Forest Stewardship Council has developed a certificate for forest products in accordance with guiding principles. This aims to ensure product sustainability for consumers, but also supports sourcing companies in developing management plans or monitoring schemes. Other NGOs, such as the International Network for Environmental Management provides guidance in meeting environmental standards, e.g., the Eco-Management and Audit Schemes, or through toolkits, such as their Sustainability Reporting Guide. Umbrella networks also provide expertise and innovation, for example, the multi-scale, multi-stakeholder approach of the Fertile Ground Initiative, which provides a holistic pathway to SLM in regards to soil erosion and productivity (*Case study 4.1*).

Transformation and adaptation of production schemes is often inevitable to enable suitable local sustainable sourcing arrangements. Corporate managers often find capacity in NGOs to come up with innovative solutions to local social issues, which are also useful to their business[53]. For example, Perdue Inc., a Delaware-based company engaged in research cooperation with the Center for the Inland Bays (CIB) to redesign local poultry production within their value chain, as it was imposing high nutrient loads into surrounding ecosystems. Working though model farms and testing different best practices, CIB developed novel growing schemes with reduced nutrient outflow and secured supplies. The implemented project is estimated to “have reduced over 60,000 tons of total nitrogen and 4,000 tons of total phosphorus through the adoption of poultry best management practices in the watershed” (GEMI,

CASE STUDY 4.1

Valuing ecosystem services to optimise available resources: Fertile Grounds Initiative (FGI)

Every year millions of hectares of land are prone to soil degradation and fertile topsoil loss, costing USD 40 billion annually. This loss of resources and consequently ecosystem services, is a threat to social stability and food security. To halt and reverse this trend, many projects and initiatives, ranging from national fertiliser subsidy programmes to local demonstration trials have been implemented over the past decades. However, the accumulation of nutrients and organic matter in developed countries and depletion of such in developing countries is increasing, and soil fertility loss and its consequences for food security have resulting become a global concern. New approaches that value ecosystem services and improve lands productive capacity are required.

It is in this context that the Fertile Grounds Initiative (FGI) was developed. It is a multi-scale, multi stakeholder approach linking the supply and demand of nutrients and organic matter within a specific area, with the intention to optimise resource use, supplemented with external imports. FGI is based on eight activities that can be executed concurrently:

1. **Inventory:** Farmers and nutrient suppliers express their nutrient and organic matter requirements and productive capacity
2. **Processing and product formulation:** Conversion of organic resources, often from 'waste' streams, into valuable fertiliser products, including mineral enrichment
3. **Brokering:** Nutrients are valued and a (financial) agreement is arranged between supply and demand
4. **Recommendation:** Site-specific fertiliser recommendations are developed based on soil and crop response data
5. **Trade and logistics:** Business case design and the required nutrients are transported to the fields
6. **Capacity building:** Farmers and extension workers are trained on best (nutrient) practices.
7. **Institution building:** Cooperatives, micro-credits, and insurance companies are involved
8. **Enabling environment:** Policy alignment – evaluation and adaptation of policies regarding nutrient availability and specific demands from market parties

The FGI adopts a resource brokerage approach, based on matching supply side with demand of the farming system and the ambitions (targets) of the farmer. Using a participatory bottom-up approach[50], FGI advocates for the integration of soil and water management practices that allows development of sustainable agricultural enterprises. One opportunity for providing / maintaining ecosystem services is in improved allocation of funds, i.e., changing from linear resource management models to circular ones., FGI seeks to accomplish this in the following way:

Traditionally, funds from government sources allocated for waste disposal and sanitation systems are invested in linear models; waste is either dumped or burned at a cost to society with virtually no economic or ecosystem service benefits. Following the eight step approach, funds can be allocated to circular waste and sanitation systems. Resulting nutrient and organic matter products can be sold to farmers at a price lower than production costs, since part of it is covered by government budgets. The threshold for farmers to invest in soil fertility maintenance, and thus in the prevention of land degradation and maintenance of ecosystem services, is lowered. Due to lower transportation costs, this approach is most promising in peri-urban environments.

With more nutrients and organic matter available, soil fertility can be better maintained when coupled with SLM. This will lead to higher water, nutrient and labour use efficiencies, and subsequently lower inputs from external sources, resulting in reduced costs per unit of produce. Thus, valuing nutrients and organic matter fully and including them in coherent business model shows how ecosystem services can be maintained, while incomes are increased and land degradation is halted. In this context, the FGI model can serve as a crucial network, playing an important role as a facilitator for join stakeholder actions.

2008, p.13[48]). This also enhanced the company's efforts in achieving sustainability goals and brand value.

Networks

With increased expansion of business activities and globally organised value chains, creating networks of stakeholders in production locations and strong connections with land managers become indispensable for companies. Trans-national companies (TNCs) which source products from different locations are particularly dependent on gatekeepers to local institutions or stakeholders where they are operating.

Given NGO's expertise in language, local issues, and contacts, this is a key opportunity for increased private sector engagement, especially with TNCs moving into new markets or seeking advice on the impact of local production sites in their supply chain[51]. Land-related production schemes are often part-governed by informal rules, such as traditions or norms influencing how land can be managed. These nuances can be incorporated by using social capital that NGOs have built through ties to local populations[52].

The Conservation Coffee program, in which Starbucks has joined with Conservation International (CI) to ensure sustainable coffee production and promote their CSR activities, highlights the importance of NGOs outreach to farmers. Within the Mexican based project, the implementation was managed mostly by CI, whose staff had previous contact with farmers, and facilitated the relationship with Starbucks[53]. On-site training and monitoring was carried out through CI, with Starbucks providing funding and a market for retailers with compliance to official certifications. Spatial planning was also used to target investments in areas of high conservation value, combining livelihood, conservation, and agricultural development through a landscape approach[54].

Generally, 'it appears that socially networked firms will in the long run outperform those which are not networked in such partnerships, in terms of market-based performance or risk measures. Partnerships increase trust and help companies improve risk management by ensuring stakeholder involvement in relevant decision-making, and accordingly are at the heart of corporate strategy'[55]. *Table 4.1* outlines further benefits of corporate-NGO partnerships.

TABLE 4.1

Benefits of corporate-NGO partnerships
(adapted from TEEB, 2011[56])

For the company	For the NGO
Enhances corporate reputation	Contributes to organisation mission in new ways
Increases access to land and license to operate	Increases access to new locations and networks
Helps to mitigate risks	Leads to involvement in integrated approach across a wider range of activities
Provides access to specialist expertise	Secures financial support for projects
Improves capacity to work with communities and access local information	Improves capacity for research, training, and education
Builds corporate values and capacity of staff	Builds capacity of individual staff and institutions
Increases credibility with key stakeholders and leverage with other NGOs	Increases credibility and leverage with other corporations
Presents new opportunities to engage with external stakeholders	Builds innovative approaches to priority issues

FIGURE 4.1

Key steps in establishing a cooperation with NGOs
(adapted from BSR, 2001[57])

Steps to establish partnerships

To establish fruitful cooperation between NGOs and businesses, the Business for Corporate Responsibility developed a guide outlining relevant aspects and challenges (*Figure 4.1*). Four key steps were identified.

Set your goal:

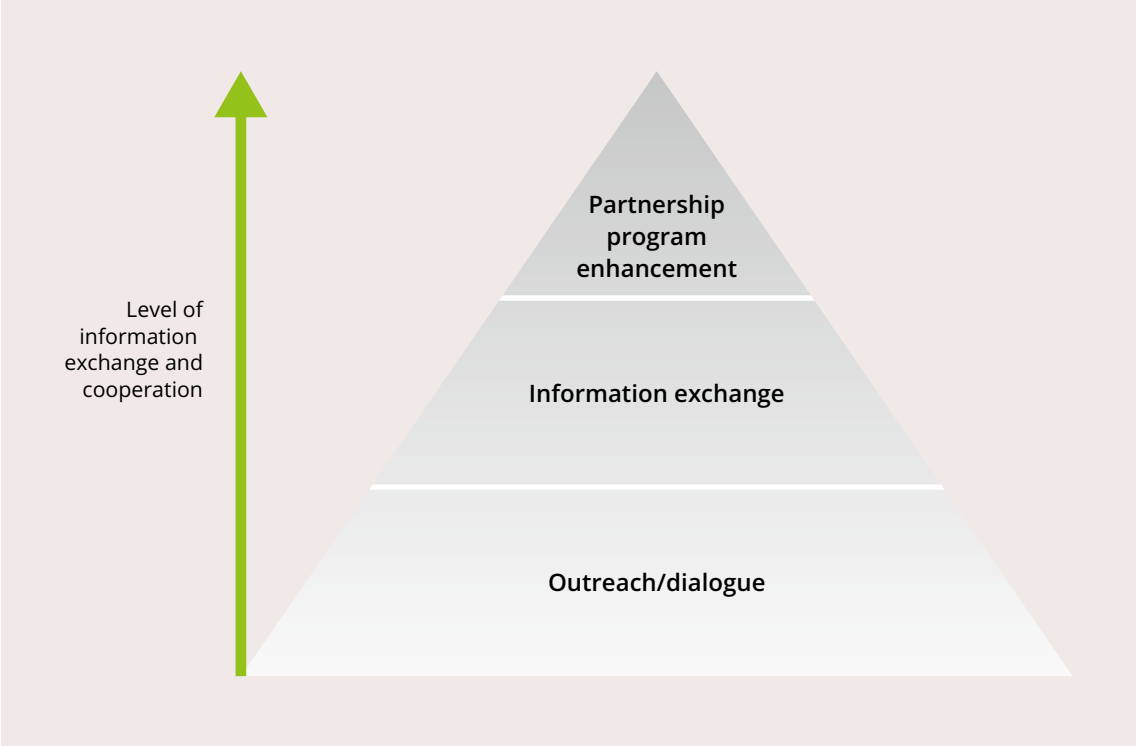
The first step is to outline and clearly demarcate the need to establish cooperation. This involves reflecting on the impact of sourcing processes, and considering a more sustainable production system that provides novel or added benefits. This generates better understanding of the potential transformation inherent in a company, but also possibilities to include new partners and approach them with identified needs. Previously outlined tools, including from ELD Initiative (see *Chapter 5*) and other related entities can inform this step. Guiding questions for this process could be:

- Where are the risks and opportunities in the value chain that highlight a need to address land degradation?
- Where are current information gaps restraining progress and transformation to sustainability?
- Where could cooperation with an NGO contribute to SLM?

Different levels of cooperation and necessary information exchange can be set up (see *Figure 4.2*) depending on identified needs and goals. They must be suitable to both the NGO and company, and have consideration of other stakeholders.

FIGURE 4.2

Three levels of interaction
(BSR, 2001, pg. 30[57])



Identify and select a suitable and relevant NGO

Once a corporation has identified the areas where a partnership with an NGO can help shift to SLM and reshape environmental impacts, the search for a suitable partner organisation with necessary skills starts. Although a range of information sources is available, suitable gatekeepers can help structure this research; some options are highlighted in *Table 4.2*.

Once suitable NGOs are identified, companies should carefully assess the suitability and quality of each. As outlined in *Figure 4.3*, these differ depending on the type of engagement and interaction, and should be considered to avoid unsuitable partnerships. Some guiding questions are listed in *Table 4.3*.

TABLE 4.2

Sources for information on potential partner NGOs
(adapted from BSR, 2001[57])

Other companies	International NGOs	Governmental institutions
International/ multilateral organisations	Trade unions and labour groups	Academic and research organisations
Major foundations	Media and publications	Business associations

FIGURE 4.3

Relevant qualities of potential NGO partners
(sourced from BSR, 2001[57])

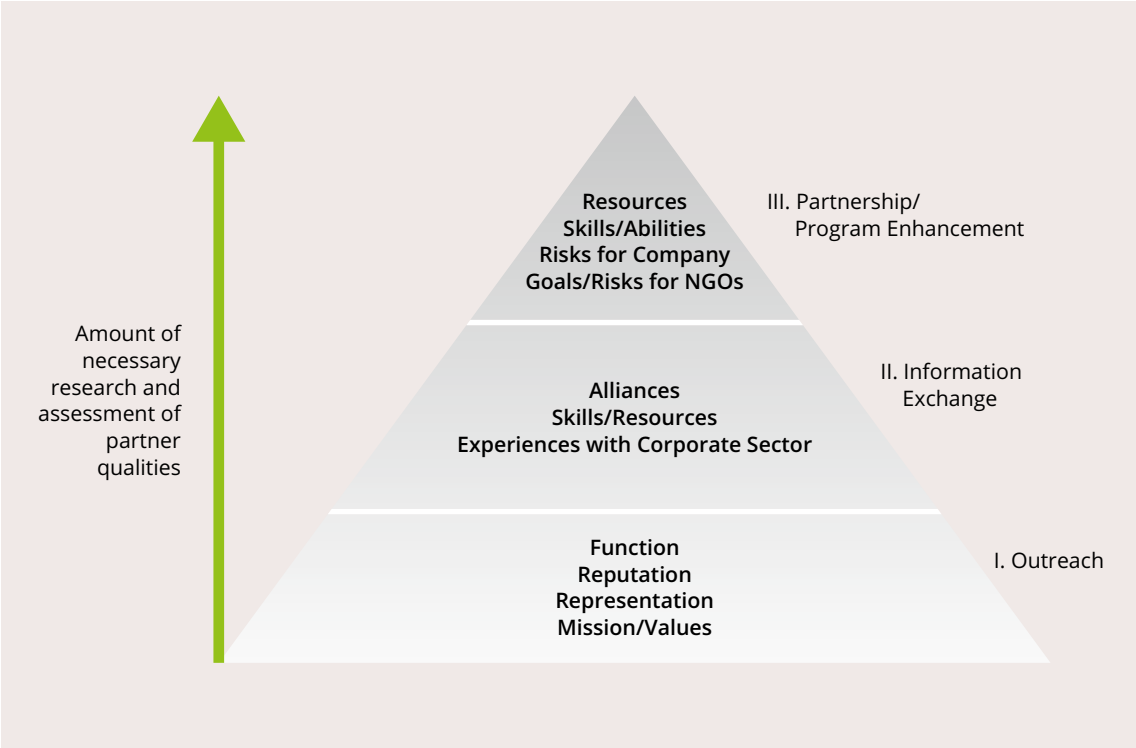


TABLE 4.3

Guiding questions for assessing NGO's suitability for partnerships
(adapted from BSR, 2001[57])

Outreach	Information exchange	Partnership / Programme enhancement
What kind of service does the NGO provide?	Does the NGO possess the necessary information and credibility?	Which risks would the cooperation impose?
Does the NGOs mission and vision comply with the company's objective?	How is the network of the NGO?	What resources can be contributed by the NGO?
Which stakeholders are represented by the NGO? Do they comply with the company's shareholders?	What where the NGOs previous engagements with the private sector?	Which goals does the NGO pursue and what risks are they willing to accept for this?
Does the NGO have a credible reputation, especially for land management?		

Engaging the chosen NGO

Engaging the NGO(s) sets the foundation for future joint activities. Careful and strategic partnership development is a key factor for success and future SLM benefits. It is crucial to secure support for the partnership within the company at this point as well; key decision-makers should be informed and involved. A good understanding of the NGO itself should be obtained from meetings and discussion on the vision and concerns of partners on a regular basis. The involvement of key individuals can secure ownerships and facilitate mutual communication. As all parties are involved in different processes, it is necessary to identify the level of engagement, inclusive of a clear memorandum of understanding, and an understanding of administrative set-ups, project outcomes, duration, and responsibilities. Common ground rules, e.g., confidentiality, must be included in partnership documentation. Partnerships that focus on outreach should particularly have a shared communication strategy, for internal communication but also formal statements for third parties, as well as on frequency and content[57].

Evaluation and assessment

Project evaluation and assessment is important to have a clear understanding of progress and impact. It is recommended to develop indicators and feedback mechanisms which inform periodic evaluations. Once a project is finished, a final evaluation should be conducted, revealing overall successes, but also gaps and aspects which were not sufficiently covered and why[57]. This will guide subsequent partnerships by revealing remaining future opportunities.

As these four steps and four major areas of collaboration demonstrate, NGOs and CSOs can play a mutually beneficial role in private sector operations, and both legitimise and support each other's efficacy in SLM. Securing positive relations that see joint goals being set and met through efforts on both sides will increase the success of business operations and help all stakeholders reap the rewards of investing into SLM approaches and techniques.

05 Pathways to action

It is obvious that businesses both impact and depend upon natural resources. Understanding the reality of ecosystem complexity and developing business plans in line with total economic value provides companies with a competitive edge, and simultaneously contributes to global efforts around sustainability, resilience, and environmental conservation. Measuring and assessing the ecosystem services that flow from nature is essential in development strategies for the private sector, especially in a world that sees losses of ecosystem values ranging from USD 6.2 to 10.3 trillion annually[1]. This prescience can improve decision-making, stabilise supply chains, cut losses, capture new revenue streams, and inform strategy[58].

As the previous chapters demonstrated, there are numerous factors to consider in establishing a way forward for private sector players to invest in SLM. Understanding the total economic value of business operations through different economic aspects of supply and demand with relation to land and land-based ecosystems[22] allows companies to avoid facing unexpected risks and capitalise on novel opportunities. Opportunities for SLM investment are available at many junctures of supply and value chains as well as in new investments, especially considering there are 2 billion hectares of degraded land available globally[59], 1 billion of which are suitable for restoration[60,i]. And indeed, the type of investments needed to implement SLM are already proven to be more cost-effective than the resources required to combat the consequences of inaction on land degradation. Additionally, they can be low-risk, in consideration of the many functions of land and land-based ecosystems, and its long-term productive capacity for investment portfolios, economic growth, and improved livelihoods[61].

In order to garner private sector interest, there must be an enabling environment for SLM investments, as well as methods to identify entry points. This requires cooperation, joint dialogue, and planning between and across public and private sectors, as well as civil society[62]. It includes appropriate resource rights, tenure systems, technology and knowledge transfer mechanisms, market-based incentive mechanisms, etc.[59] Once the environment is secured and entry points for investment are identified, businesses can proactively develop strategy and address risks and opportunities. It is worthwhile to note, that shared risk is often the entry point for action.

Investment opportunities can be novel (i.e., creating new markets and technologies, etc.), derived by the improvements of existing markets/chains, or through shared value creation, as discussed in *Chapter 1*. Examples include increased crop productivity, participation in carbon markets, disaster avoidance/resilience (which also involve decreased insurance costs), and lower capital losses. It enables sustainable labour forces, particularly with 'green' agriculture which requires increased labour and helps reduce migration and urban overpopulation by maintaining livelihoods in rural areas[59]. This latter type of social benefit is a demonstration of positive spillover effects into civil society from SLM investments, and accrues favourable impressions of private sector endeavours while increasing social license. As an added benefit, this creates traction and bolsters relations amongst stakeholders in collectively addressing SLM, particularly NGOs and CSOs (*Chapter 4*). This fosters positive networks amongst all stakeholders, creates more rewarding environments, and facilitates conditions for business operations in a sustainable manner.

Networks

Once an enabling environment is established through joint dialogue and action from the public and private sectors, and investment entry points have been identified, guided pathways towards actual implementation are needed. Lighting these paths for private sector actors requires internal and external guidance that supports businesses through the process. This is especially important

i *Investment can involve rehabilitation – regenerating the capacity of land to provide a range of ecosystem goods and services, and/or restoration – the initiation and or acceleration of the recovery of a degraded landscape in terms of its health, integrity, and sustainability. It is important to note that restoration returns landscapes to approximate conditions prior to disturbance, whereas rehabilitation does not necessarily do so.*

for farmers, smallholders, and small businesses that do not have access to the capital base (knowledge and financial) that larger companies do.

In addition to the efforts of the ELD Initiative here and in previous outputs (e.g., ELD Business Brief, 2013), and examples of in-house sustainability targets, there are other existing platforms for business leaders to find support, including the UNCCD's SLM Business Forum. These exchange forums take place during the UNCCD's Conferences of Parties, with the goal of raising awareness of the impact of land degradation, desertification, and drought on the private sector. It encourages the active involvement and recognises the valuable role of the private sector in land protection.

Within the UNCCD, the GM also acts to support nations in mobilising and increasing the effectiveness and efficiency of financial resources mechanisms, and increase investments in SLM, as well as the transfer of technology. The GM contributes to the establishment of private sector-positive policies that all stakeholders benefit from. In line with the mandate of UNFCCC, the GM has created a series of documents and support mechanisms that guide financing activities in the context of the UN Sustainable Development Goals (SDGs), which provide the framework for national land management and introduces the emerging concept of "land degradation neutrality". The GM has previously identified initiatives that aim to attract the attention of country parties, financing institutions, and other prospective donors in channelling resources towards SLM, as well as partners in this effort (GM, 2007, p. 15–22[64]). This accessible information is beneficial for private sector players looking to link to national frameworks that support land and land-based investment frameworks.

The Landscapes for People, Food and Nature (LPFN) Initiative supports integrated landscape approaches to sustainable land and water management (*www.peoplefoodandnature.org*). The programming is regional and global with nine co-organising international institutions and more than 60 strategic partners across five continents. The Initiative is designed to link and add value to landscape initiatives and networks

CASE STUDY 5.1

Land investments, rights, and gender

Responsible Investments in Property and Land (RIPL) is a project aiming to 'develop practical, specific tools that guide the implementation of gender-equitable, socially responsible, and financially viable land-related investments'. They have identified a positive global focus by the international community on inequitable land investments, and a shift towards multi-stakeholder efforts to address government and investment practices. However, despite commitments to the challenges of land investments (e.g., the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forest (VGTT)), it is still unclear how standards and policies can be implemented and maintained by investors, governments, and communities within investment contexts.

RIPL is seeking to ensure that all communities, land users, and smallholders are equitably informed, consulted, and benefited by land investments, regardless of gender. They support governments in embracing and supporting socially responsible land investments, and provide investors with relevant tools to develop and implement them. This is being accomplished through a series of gender-equitable 'Playbooks' that provide step-by-step guidance for investment in best practices, creating inclusive and gender equitable processes that reflect local governance and cultural environments, and also guide compliance with international agreements like the VGGT. This is crucial in light of the severity of land degradation impacts in rural areas and on businesses and other stakeholders operating there. RIPL is an example of how businesses can use public information and tools to inform their decision-making processes towards best practices when it comes to land and related investments.

RIPL is hosted by Landesa, an initiative funded by the UK Department for International Development (DFID), which aims to secure land rights globally, particularly for the rural poor.

already existing, and coordinate action and fill critical learning gaps for an improved enabling environment related to finance[66], business engagement, and policy[67].

The World Business Council for Sustainable Development (WBCSD) is a conglomerate of 200 global companies that aim to galvanise the global business community towards a sustainable future. They provide a platform and informative materials for the private sector to understand and engage in SLM. This is especially the case through their 'Restoring Degraded Land' project, a private-sector initiative aiming to mobilise the business community around land degradation to work towards land degradation neutrality[63].

Additionally, there are a number of other organisations and entities that address more specific, individual issues related to land and land-based investments through a plethora of support mechanisms that encourage informed and economically viable and rewarding decisions. For example, the Columbia Center on Sustainable Investment provides resources, tools, training, support, research, and dialogue around investments in land and agriculture, particularly how to maximise the benefits of investment, while minimising harms and avoiding rights abuses[65].

Other organisations support social issues like land rights or gender inequality, as shown in *Case study 5.1*.

Tools and methods to value sustainable land management opportunities

There are numerous tools and methods that can assist private sector players in assessing the value of ecosystem services as it pertains to them. The ELD Initiative Scientific Interim Report (2013)[3] identified tools that help businesses map their ecosystem services, as noted in *Table 5.1*, with further analysis found in the report, 'The Value of Land' (2015). These tools provide results depending on data availability, with uncertainty of outcomes dependent on such.

Additionally, the WBCSD has collated a list of sector-specific (e.g., energy, mining) and issue-specific (e.g., emissions, water, etc.) tools that related to ecosystem services (WBCSD, 2013, pg. 30–36[57]). These tools are more geared towards ecosystem services as they relate to biodiversity, but translate easily into land management issues and valuations. The Corporate Ecosystem Review[49] also provides information and links on the economic valuation of ecosystem services, and

TABLE 5.1

Ecosystem service mapping tools
(sourced from ELD Initiative, 2013[3])

Name	Properties
Integrated Valuation of Environmental Services and Tradeoffs (InVEST)	A Natural Capital project that provides a number of software models that map and value natural goods and services that benefit humans
ARtificial Intelligence for Ecosystem Services (ARIES)	A modeling platform to map the provision of ecosystem services and model their evolution over time, associate them to an economic value, identify scenarios, and help assess trade-offs between the scenarios for informed decision-making
Global Land Assessment of Land Use Dynamics, Greenhouse Gas Emissions and Ecosystem Services (GLUES)	A project of the Germany Ministry of Education and Research to share datasets and data relating to SLM and optimal use of land and land-based services
Investment Framework for Environmental Resources (INFFER)	A private Australian system that develops and prioritises projects that address environmental issues like land degradation
Multiscale Integrated Models of Ecosystem Services (MIMES)	An initiative from the University of Vermont that aims to evaluate ecosystem services

can serve as an informative platform and network to identifying business risks and opportunities that arise from ecosystem changes.

The ELD Initiative, with support from the WBCSD, is also establishing a land materiality risk assessment tool, expected to be released in 2016. By recognising that the private sector needs to better understand why and how land matters to their business, this tool includes an easy-to-follow analysis that provides insight into a business's impact and dependence on land, as well as related risks and opportunities. Based on the business model and adopted or non-adopted land management practices, the analysis will also inform on associated risks in the short, medium, and long terms. This is important given that companies often focus on environmental impact, but not necessarily on land dependence[49]. This risk assessment tool further aims to help the private sector fully realise how sustainably managed land is an important asset that plays a central role in business operations, and provides them with a clear picture of such to make informed decisions and increase benefits from SLM investments. To support this, the tool will have a set of recommendations tailored to each screening result of the assessment process.

It should be noted that the uptake of environmental valuation approaches for non-marketed resources and impacts and the recognition of such values in decision-making for both governments and businesses is a relatively slow and uncertain process. However, great strides are being made to facilitate this necessary shift. Apart from the efforts of the ELD Initiative, other support for economic valuation also exists through the Natural Capital Protocol for the private sector, provided through the Natural Capital Coalition (*www.naturalcapitalcoalition.org*). These initiatives provide mechanisms, training resources, knowledge platforms, and general support so that total economic values ecosystems will increasingly be fully evaluated and quantified. They aim to ensure that over time, appropriate market based incentive mechanisms will be introduced to capture and make all values economically clear, with the aim of supporting SLM as beneficial practices.

These tools should also be used to guide the private sector through spatially explicit planning and investment processes with local stakeholders to enhance ecosystem potential (business opportunities) and reduce key risks (like land degradation) towards the potential for savings (cost-sharing). Though it is not necessarily intuitive, integrated landscape management is important in targeting interventions with clear understanding of how stakeholder action affects both economic and ecosystem outcomes over time and space.

Scaling action up and out

In order to address land degradation and its global considerations, it is essential to create conditions that enable the distribution and cohesion of SLM technologies and approaches. While the previous chapters have discussed the important role of the private sector in this, up- and out-scaling of such across companies and sectors must be supported.

The **scaling up and out** of SLM approaches refers to the broader application of techniques across sectors and industries (e.g., through knowledge transfer), as well as increasing successful implementation pathways to larger scales. It can be defined as 'expanding, replicating, adapting and sustaining successful policies, programs, or projects in geographic space and over time to reach a greater number of people' [68]. A number of frameworks are being used to achieve scaling up[68,69,70] and they have the following common steps:

- Identifying a successful intervention, defining what is to be scaled up – usually a technology, process, or organisational innovation;
- Choosing a scaling up method from available options;
- Developing a vision and assessment of the scalability of the intervention or innovation through a thorough diagnosis that includes all stakeholders, is interactive, multi-disciplinary, and multi-sectoral;
- Identifying barriers and solutions to remove them, perhaps using a theory of change process to create a favourable enabling environment;
- Develop a communication and constituency building process for increasing public awareness, and;
- Track performance through monitoring and evaluation processes that help identify bottlenecks and suggests changes in the process, provides feedback for modifications, innovations etc.

Scaling up requires a number of fundamental shifts. Perhaps the simplest is to increase general awareness and knowledge on the need to adopt SLM in relation to both the private and public sectors. Finding common approaches and formats to share technology and strengthening platforms to exchange information are crucial to enhance the range of available tools. Other changes required include changing the approach and goals of managing resources, how environmental resources are valued, and the incentivisation of activities in relation to their environmental impacts (see *Chapter 3*).

Addressing land degradation also calls for a recognition that it is a multi-faceted issue which is not a 'one size fits all' paradigm. Scaling up and out of mechanisms, innovative approaches, and practices to safe-guard the natural capital that underpins businesses as well as livelihoods are some pathways that needs to be embedded in the broader, holistic approaches. This is a paradigm inspired by a theory of change that engages with relevant stakeholders through creating or strengthening platforms; acts by scaling up innovative approaches; and tracks to measure and assess benefits that accrue at both spatial and temporal scales. One such programmatic approach is the one piloted by the Global Environment Facility in its food security program in sub-Saharan Africa (*Case study 5.2* below).

In order for SLM to be fully adopted by the private sector, appropriate incentive structures need to be enacted. These include financial mechanisms that encourage individuals and companies to generate wider societal benefits and also compensate society for losses incurred by degrading business practices. Governments and financing agencies can support the private sector through tax breaks, subsidies, loans, and grants that make it financially viable to undertake these efforts. For example, some municipalities are developing tools and models to finance green infrastructure and manage risks from extreme weather events, on the provision of the wide range of ecosystem services. The insurance industry is also introducing policy changes in response to the costs of extreme weather[71]. These

CASE STUDY 5.2

Fostering sustainability and resilience for food security in sub-Saharan Africa – an integrated approach

Twelve Africa dryland countries (Burkina Faso, Burundi, Ethiopia, Ghana, Malawi, Niger, Nigeria, Kenya, Senegal, Swaziland, Tanzania, and Uganda) are participating in an integrated approach pilot program. Given their precarious and limited livelihood assets, these dryland regions face the greatest threat of environmental degradation. Designed to be implemented over 60 months, the program draws on GEF financing of USD 120 million and an additional USD 805 million from other sources; multi-lateral development banks, bi-lateral aid agencies, private investments, and in-kind contributions from CSOs and local communities.

With a clear focus on natural capital and small farmers to create and strengthen existing multi-stakeholder platforms, scaling up of good practices, and assessing and monitoring global environmental benefits, the program presents an opportunity for GEF to influence conventional approaches to food security that do not pay considerable attention to land degradation in particular. Building on over two decades of cooperation with national governments in Africa, the GEF has partnered through this program with IFAD, FAO, UNDP, WB, Conservation International, UNIDO, and UNEP. The GEF will also work with partners like the Alliance for Green Revolution in Africa, academic institutions, CBOs, and CSOs.

This approach that brings together a wide spectrum of stakeholders including the private sector, governments, development institutions, academia, CSOs, and communities at local, national, and regional levels with a focus on institutional frameworks and scaling up approaches. It contributes to maintaining globally significant biodiversity and ecosystem goods and services, targets bringing 5 million hectares of production landscapes under improved management with an additional 10 million hectares under SLM. The program will also support a transformational shift towards a low emission and resilient development path, mitigating 10–20 million metric tons of carbon.

CASE STUDY 5.3

Private sector support of SLM practices for ecosystem services: Syngenta's *Operation Pollinator* and multifunctional approaches to intensive farming and land use

With some 80 per cent of Europe's key crops relying on insect pollination, bees are essential to the agricultural system and enhancing the biodiversity of the plants and flowers round us. They also contribute significant monetary value; the value of insect pollination to the global ecosystem is estimated at EUR 153 billion annually.

It is a major concern then, that habitat loss, disease, and changes in agricultural practice have led to declines in this essential insect. Syngenta has developed a program that works to halt or even reverse these losses by creating areas of natural habitat around cropped land.

Operation Pollinator aims to increase numbers of pollinating insects such as bees, hoverflies, and butterflies by creating feeding and breeding habitats on commercial farms. This is because such landscapes often lack the diversity and abundance of flowers that pollinators need: once a crop stops flowering, these monoculture areas become "green deserts" for the insects that rely on the pollen. Creating habitat in crop-free areas such as field margins, corners, and buffer zones addresses this problem by providing pollen and nectar. With more than half the land in Europe managed by farmers, this represents a significant opportunity to help pollinating insect populations recover – adding even just 3 per cent of dedicated habitat can make a big difference. Indeed, the proactive management of crop-free areas on commercial farms is one of the most important environmental benefits agriculture can provide.

At the same time, it's clear that such methods must be compatible with profitable agriculture. Biodiversity must be delivered while farming sustainably and intensively. The principles of the program ensure that habitats can be grown and managed using existing equipment and farming techniques. Because the habitats are established on otherwise crop-free land, growers can keep farming efficiently and profitably on the most productive parts of fields, balancing economic food production with the protection of natural resources.

With over 30 countries across Europe, Latin America, North America and Asia involved, Syngenta program is impacting a total area of 1.6 million hectares and trained thousands of farmers to site, sow, and manage habitats. A recovery in pollinator numbers is just one of the many benefits. Resulting vegetative cover can also help reverse processes of soil and water degradation, contribute to natural pest control and enhance the beauty of the landscape. That is, Operation Pollinator supports the creation of multifunctional vegetative strips that not only provide valuable sources of pollen and nectar, but also capture runoff and erosion from fields and support populations of other beneficial insects. This approach ultimately looks to integrate the protection of biodiversity with that of soil and water.

Benefits of the project

Operation Pollinator is based on more than 15 years of practical experience on farms across Europe as well as on independent science. The project promotes the planting of targeted seed mixtures of wildflowers and grass that produce pollen and nectar to support pollinator populations in field borders, hedgerows, and buffer strips: Syngenta and partnering universities have developed mixes specifically tailored to a wide range of local conditions, native insect species, and differing soil types and weather conditions.

The introduction of these habitats provides other ecosystem services such as the enhancement of soil and water quality by mitigating runoff and protecting against soil erosion. By introducing vegetation cover into otherwise non-cropped farmland, Operation Pollinator works to limit soil erosion, absorb excess nitrogen, improve soil structure and compaction, and reduce surface water runoff. Some of the plants also fix atmospheric nitrogen into their biomass, improving soil fertility. Hedgerows and field borders can improve water quality by reducing the run-off of surface water that may contain pesticide or fertiliser residues. Likewise, research has shown that buffer strips made up of permanent non-cropped vegetables can remove as much as 97 per cent of soil sediment and reduce the amount of nitrogen in runoff.

Other positive aspects also benefit farmers directly. Improved levels of insect pollination are linked to an increase in crop yield and quality, for example, higher levels of fruit production and more homogeneous ripening. There are also early indications of improved oil content in oil seeds. Operation Pollinator demonstrates that commercial farming and positive environmental management can coexist and be mutually beneficial.

Planting rich habitat on marginal and less productive farmland alongside fields and waterways generates interconnected ecological corridors and creates multi-functional opportunities to contribute to a healthy and resilient ecosystem. The core task is still to raise awareness and engage the local stakeholders (e.g. farmers, value-chain partners, policy makers) to stimulate dialogue and explore how Operation Pollinator, and similar initiatives, can contribute to enhance biodiversity in agricultural landscapes.

costs can be additionally be minimised by private sector players if they have previously invested in SLM practices, which increase the benefit of ecosystem services at large scales (see *Case study 5.2* and *5.3*), resilience to storms and weather-related damages, etc.

So while governments do need to enact market mechanisms and regulations that internalise environmental externalities, the private sector has to provide inputs on their needs, priorities, and possible incentives, as well as share knowledge for scaling. Examples include the introduction of carbon sequestration or biodiversity offset markets, and payments for ecosystem and watershed services. The application of aforementioned tools to value ecosystems and benefits are as important as using and building upon networks to disseminate SLM and reach out to individuals on the ground.

Recommendations

The private sector should consider the following recommendations and options in order to strive for the transformation of land use towards sustainable benefits:

- Developing a clear understanding of the economic risks from land degradation to the dependence and link of business to land resources is vital to secure future operations, and should be incorporated into business plans and strategies. The ELD Initiative has developed a land materiality toolkit, which supports companies in this.
- Where land degradation has been identified as a prominent risk, and production and/or sourcing is closely related to land and land-based ecosystems, the private sector should assess options to reshape production, sourcing, and management in order to maintain a steady supply base and create new market opportunities.
- Long-term sustainability analyses and principles informed by available guidelines for sustainable investments should be applied to better understand and harmonise land management. Particularly in settings with diversified production scales and complex value chains, such guidelines can secure the quality and security of supplied goods.
- Secure a clear understanding of the long-term impact on natural resources by the development and application of impact monitoring schemes in order to identify where potential risks of reduced supply can harm current and future business models.
- Enable strong networks and links to public and governmental institutions, especially NGOs in order to:
  - Benefit from local, specialist knowledge on how to sustain and update understandings of land management, ensuring effective and efficient use of natural and economic resources;
  - Ensure and certify applied production mechanisms that are socially and environmentally acceptable and in compliance with local preconditions. Where licenses to operate are required, they are gained by cooperating with relevant institutions and organisations, and;
  - Engage in joint communication of efforts to reduce land degradation and environmental destruction to support the standing of businesses in public perceptions.
- Use available sources for support in restructuring production and sourcing (e.g., through such funding mechanism of the GEF SGP, non-grant instruments, and partnerships with the GEF agencies and eligible countries) to overcome financial barriers and acquire start-up capital.
- Diversification of business models can reduce or share risks and provide co-benefits, especially if established in cooperation with local stakeholder groups. Ecotourism and on-site education are examples amongst a myriad of other options.
- Develop a scaling up process, including all stakeholders in a common vision and determination of the scalability of any SLM intervention from biophysical, social, and economic perspectives.

Conclusion

This report has highlighted the importance of SLM management for global human wellbeing, but from a business perspective, as it is in the best interest of any business that interacts with or depends on land in their supply chains to invest in SLM. Examples from different business sectors, scales, and perspectives show there is a compelling business case in sustainably managing land resources through responsible production and sourcing.

The private sector plays a crucial role in addressing the growing global issue of land degradation and desertification. They have the opportunity to participate in the dialogue to form policies and pathways to action, and should identify their needs and priorities in order for the global community to develop a holistic plan. Through a careful analysis of their impact and dependence upon land, as well as risks and opportunities, businesses can identify entry points for SLM investment and adapt their strategies accordingly.

Having the prescience to proactively understand and identify the benefits of investing into SLM will provide a competitive edge while creating a positive image, enhancing relations with civil society, and furthering environmental sustainability for the world and generations to come. This calls for a shift from perverse incentives and practices that only focus on short term high gains, to the consideration of sustainable, long-term benefits. The ELD Initiative supports these investments through the on-going provision of economic tools, knowledge transfer, networks, and other mechanisms and approaches as needed.

This report supports the view that there is an important role for the private sector in maintaining land functions and restoring them when they are degraded. The transformation of land from degraded and degrading states can be achieved by those private sector companies that can and are leading by example. As with successful development interventions, successful private sector examples are fragmented and need to be disseminated more widely and as a cohesive narrative. To scale up successes requires greater partnerships and networking amongst all actors, including greater cooperation amongst companies that are otherwise competing with each other. This increasing need for 'connectivity" amongst all actors requires stimuli and incentives from both public and private sectors and this perhaps remains the greatest challenge to bring about the transformation in land management that is required for a prosperous and sustainable future for all.

Do not miss this business opportunity!

For business enterprises it is essential to mitigate risks and make the most of their land assets. This report presents just a few of the benefits for sustainable land management by businesses facing land degradation, as well as the opportunities inherent in it.

Starting with evaluating the risks of land degradation on the relevant industry sectors, stakeholders can discuss the impacts of land degradation and related investment options based on provided examples from documented best practices. Particularly for businesses directly related to primary sourcing, land is a key asset and should be carefully and sustainably managed.

While different obstacles and barriers can exist, a wide range of solutions tailored to different enterprise sizes exists. Sources for necessary funding, certification, or development of new markets only represent a small selection of these. The outlined tools within this publication can support businesses in building up the necessary networks within their enterprise, but also guide future decisions towards an alternative land utilization.

The ELD Initiative will continue in assisting companies to assess land degradation risks to their business and opportunities through investment in sustainable land management The results from this report serves as the basis for the Initiative's awareness raising activities, and the land materiality screening toolkit for integrating land degradation issues into standard protocols of private sector enterprises will further support this. All businesses are invited to participate in the co-creation of a sustainable future for land and land-based ecosystems through these tools, and with the support of the ELD Initiative.

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Federal Ministry for Economic Cooperation and Development

European Commission

UNCCD United Nations Convention to Combat Desertification

산림청 KOREA FOREST SERVICE

SEI Stockholm Environment Institute

UNDP Empowered lives. Resilient nations.

UNEP

IUCN

United Nations University UNU-INWEH

CGIAR Research Program on Dryland Systems

Australian National University

University of Leeds

The Global Mechanism United Nations Convention to Combat Desertification

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