INVESTING IN TREES AND LANDSCAPE RESTORATION IN AFRICA

OVERVIEW













Acknowledgments

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INVESTING IN TREES AND LANDSCAPE RESTORATION IN AFRICA

OVERVIEW





THE GIVING TREE

In 2011, the Horn of Africa experienced the worst drought in 60 years. Millions of people went hungry. They abandoned their farms in search of jobs or crowded refugee camps. Tens of thousands perished. The lucky ones turned to trees for timber, woodfuel, food, and fodder—to cope with the lack of rainfed crops.

In field after barren field, trees have stood out as survivors, protectors, and providers. With their long root systems drilling toward the water table, trees are more drought-resistant than annual crops. Trees help retain moisture, nutrients, and carbon in the soil, while protecting farms from wind erosion. And trees provide critical products—fruits, leaves, nuts, gum, charcoal, timber—that people can eat, feed to their animals, or trade for food in times of need.

The good news is that smallholder farmers in Kenya, Niger, and elsewhere, already recognize the importance of trees on farms and are investing in saplings, nurturing trees from existing roots, and putting their trust in agroforestry. The incentives for farmers are immediate and tangible: increased crop yields, diversified income sources, and reduced vulnerability to climate extremes. Trees on farms also help support animal life, control erosion and protect watersheds. The global benefits are less visible but crucial too: Improved agricultural practices that include trees, conservation tillage, mulching, and other proven sustainable land management techniques sequester more carbon than mainstream farming techniques and can help mitigate climate change.

What has always been obvious at the farm level is becoming increasingly so for larger scale private investors. Unprecedented opportunities exist for private investors and entrepreneurs in the business of planting and managing trees in forests and on farmland in Africa. Reforestation measures for degraded lands, strategies for the sustainable management of forest resources, and agroforestry practices which incorporate trees into farming systems have demonstrated their promise for producing commercialized tree products. While the level of investment so far has been modest, the challenge now is to find ways to scale up promising investments so they will have a clear impact at the landscape level.

With the right programs and policies in place, the climate-smart investment opportunities described in this volume could occur on a much greater scale: restoring entire landscapes to productive, functional ecosystems that achieve the 'triple wins' of increasing rural incomes, making yields more resilient in the face of climate extremes, and making agriculture part of the solution to climate change rather than part of the problem.

- Andrew Steer, World Bank Special Envoy for Climate Change

MAIN MESSAGES

- Historically, both public and private sector investments in landscape restoration measures such as reforestation and agroforestry in sub-Saharan Africa have fallen short of their potential for generating income, increasing food security, and protecting and restoring the environment.
- Low levels of investment are in spite of the fact that Africa has possibly the greatest potential for landscape restoration. The Global Partnership on Forest Landscape Restoration estimates that a range of landscape restoration approaches could be applied to over 715 million hectares of deforested and degraded lands in Africa.
- Trees which are integrated into farming systems have significant potential for meeting all three measures of what constitutes climate-smart agriculture: reducing poverty and improving food security, increasing resilience to climate shocks (adaptation), and helping to mitigate climate change by locking up carbon in trees and agricultural soils.
- In order to explore this potential, the World Bank, PROFOR, the World Agroforestry Centre, IUCN, EcoAgriculture Partners and TerrAfrica co-organized a forum on Mobilizing Private Investment in Trees and Landscape Restoration in Africa, in May 2011 in Nairobi, Kenya. Participants included entrepreneurs, communities, financial institutions, as well as governments who worked to identify business opportunities and supportive public policies that can boost tree cover and productivity on farms.
- The range of available tree-based technologies and success stories is truly exciting. The experience in Kenya, in Niger, and elsewhere shows that both small-scale farmers and larger scale investors can invest in agroforestry and other sustainable practices if they have access to information and capital and see real benefits.
- One role for public institutions and for social entrepreneurs could be to support additional market development and access to processing technologies. A conducive business environment could help bring grass-roots re-greening initiatives to the next level of scale and impact.

THE GLOBAL CONTEXT

Changing global markets and prices for key commodities are making scaled-up investments in trees increasingly viable and attractive.

Reforestation measures for degraded lands, strategies for the sustainable management of forest resources, and agroforestry practices that incorporate trees into farming systems are increasingly demonstrating their promise for producing commercialized tree products. The challenge now is to find ways to scale up promising investments in a way that will have a clear impact at the landscape level. These types of investments can help achieve the 'triple wins' of climate-smart agriculture: increased incomes and yields, climate change adaptation and greenhouse gas mitigation.

Several changes are making such investments increasingly viable and attractive.

- Population growth is driving demand for forest and tree products, in particular woodfuels (the most important energy source in Sub-Saharan Africa), but also fresh tropical fruit. This is creating new markets, especially in urban areas, and providing strong incentives for more sustainable tree and forest planting and management.
- The emergence of climate change mitigation responses has resulted in the development of a large carbon market and spurred private and public initiatives to support tree-based projects in many countries.
- Greater awareness of the links among food security, poverty and climate change has led to renewed appreciation for climate-smart agricultural solutions, many of which include trees in profitable, productive systems that can generate important benefits for local partners.
- New tools are available to identify where the potential for investment in landscape restoration is greatest.
- Governments are increasingly supporting policy measures that are enabling private agricultural investment, and are improving the overall framework for forest governance.
- New sources of finance are becoming available, for example, from private investment funds, pension funds, and environmental services markets for socially responsible investors.
- Participatory approaches are being used to negotiate agreements with local rights-holders.

OPPORTUNITIES IN AFRICA

In Sub-Saharan Africa, 250 million people went hungry in 2010–almost a third of the population. Hunger is particularly prevalent in arid and semi-arid lands, where soil quality has been decreasing for several decades, rainfall is unpredictable and the yields of staple food crops remain very low. The addition of trees into agricultural landscapes has been shown to positively alter the soil-crop environment by improving soil aggregation, enhancing water infiltration and water-holding capacity, which reduces water runoff and soil erosion and lessens the effects of dry spells. In Niger, benefits associated with increased tree cover have increased sorghum yields by 20–85 percent and millet yields by 15–50 percent in rejuvenated areas.

A recent assessment published by the Global Partnership on Forest Landscape Restoration identified about 115 million hectares in Sub-Saharan Africa that have potential for wide-scale forest restoration (where natural forest regeneration could occur over large, sparsely inhabited areas) and 600 million hectares which could be restored in forest-agriculture mosaics. These lands include extensive areas in West Africa (from Guinea east to Nigeria), the Sahelian band in Chad and Sudan, coastal East Africa, virtually all of Madagascar, and scattered areas in Central Africa. In addition, major parts of Ethiopia, Malawi, and the lands around Lake Victoria offer ample opportunities for protective restoration, in which reforestation is integrated into rainfed cropping systems.

Investors can reap benefits by restoring the productive potential of degraded landscapes, with positive effects on food production, ecosystem health, and profitability. Identifying a complementary set of investment opportunities—areas where degradation is occurring and where investment could reverse the process and its negative feedback loops—would be an important focus for subsequent spatial analysis.

BOX 1: WHAT WE MEAN BY LANDSCAPE RESTORATION

A tree-oriented approach to landscape restoration is meant to complement and enrich more narrowly defined approaches to afforestation, reforestation and land and water conservation. Central to this approach is the need to improve both human livelihoods and ecological integrity. Landscape restoration aims to:

- restore a balance of environmental, social, and economic benefits from forests and trees within a broader pattern of land use;
- enhance the functionality of a landscape and the supply of environmental services across the range of land uses, rather than focusing on maximizing new forest cover;
- have an impact on the whole landscape, and not just individual sites. This allows for trade-offs to be made but also introduces particular challenges with respect to scaling-up;
- stimulate grassroots economic development which supports sustainable livelihoods and thus diminishes some of the drivers of landscape degradation;
- involve local stakeholders in decision-making and implementation as people are central elements of the landscape; and
- adapt plans, programs, and projects to changing landscape dynamics based on new knowledge and information.

The approach can involve the use of a wide range of restoration options that may include active promotion of natural regeneration, as well as different types of tree planting and agricultural and sustainable land management strategies. The expectation is that these approaches would not lead to the conversion of natural forests or other ecologically important landscape features into plantations or ecologically degrading farming systems.

MAP 1: OPPORTUNITIES FOR FOREST AND LANDSCAPE RESTORATION IN AFRICA

Over 715 million hectares of deforested and degraded forest lands in Africa offer opportunities for restoration.



Source: The Global Partnership on Forest Landscape Restoration, 2011.

Note: The results must be interpreted with caution. The map is based on significant simplifications due to limited data.

TREE-BASED TECHNOLOGIES WITH PROVEN BENEFITS

A range of restoration systems and tree-based technologies can increase food security, repair ecosystems and strengthen the resilience of people and landscapes to climate change.

Market trends are promising for a wide-range of tree-based technologies, including tropical fruits, timber and wood products, lipids, gums and resins, tree crops and agroforestry systems. A few highlights:



Maize growing under Faidherbia albida trees.

Fertilizer trees

There are a variety of nitrogen fixing trees that enrich soils and increase yields at low cost. One of them, *Faidherbia albida*, is indigenous to Africa. It has the unique tendency to drop its leaves in advance of the crop growing season so that there is no competition for light, while bringing significant benefits to the soil in the form of leaf litter. Studies have found that the litter fall beneath Faidherbia contains over 100 kg of nitrogen per hectare. Mature intercropped Faidherbia farming systems show double the yield of traditional farming systems, and are far more resilient to environmental stress. Regeneration can be encouraged from

offshoots of roots in the ground, but there is also a move toward planting Fairdherbia in the context of conservation agriculture practices promoted by government, donors and the private sector. At scale, Faidherbia and other 'evergreen agriculture' systems could greatly increase food production on the one hand, while building soil carbon on the other.

Cocoa agroforestry

Shade is another co-benefit of trees in farming systems, of relevance to cocoa growing areas. At a time when the demand for cocoa is increasing, recent trends have seen a decline in the productivity and ecological integrity of production systems where cocoa is grown in full sun: the trees require heavy chemical inputs and need to be replaced after 10–20 years compared to 40–60 years in agroforestry systems. This has prompted a reappraisal of traditional systems where cocoa is grown in the shade of diverse agroforests which also provide farmers with a range of edible tree fruits and food crops. One study suggests that the integration of improved varieties into shade systems can be competitive with cocoa monocrops and can even be more profitable with an appropriate selection of other fruit and timber trees.

Woodfuel

The consumption of woodfuel in Africa is estimated to rise by about 34 percent between 2000 and 2020. At the same time, forests and woodlands are becoming increasingly regulated and protected for their environmental services. The gap between projected wood energy supply and demand has spurred private investors to grow trees on plantations, in small woodlots and on farms. Provided natural forests are not cleared for plantations, and plantations and woodlots are managed responsibly, trees planted for woodfuel can provide profitable business opportunities while playing a positive environmental role—directly by fighting erosion, restoring land or storing carbon for example, and indirectly by reducing pressure on natural forests.

Shea butter

The shea butter tree occurs in a narrow band of vegetation extending some 5,000 km from Senegal in the west to Uganda and Ethiopia in the south and east of the range. The shea tree provides an annual bounty of nutritious fruit to rural communities during the annual 'hungry season'. The seeds of the shea fruit are large kernels with a high percentage of edible oil, known as shea butter, which is a very important nutritional and economic resource for households and communities across the shea parkland savanna. According to recent trade figures, regional shea butter exports are increasing exponentially, having multiplied fourfold between 2003 and 2007. The market demand for shea butter of African origin is currently estimated at roughly 5,000 to 8,000 metric tons per year.



Shea butter.

Allanblackia

Like shea butter, the seed of the Allanblackia tree produces an edible oil that is solid at room temperature, making it an ideal ingredient for spreads such as margarine, with a vast potential market in the food industry. Until now very low rates of germination have slowed its propagation, but recent progress in the selection of germaplasm and the development of vegetative propagation methods could make Allanblackia a very promising and profitable crop in the rainforest zone of Africa.

Cashews

Cashew grows on very poor sandy soils, is drought-tolerant, and is commonly intercropped with cultivated food crops such as cassava, thus providing a buffer against failure of rainfed annual crops in a context of climatic uncertainty. From an ecological perspective, the cashew tree has been shown to have high potential for the restoration of severely degraded lands, including sand tailings from mining operations in Sierra Leone. It is estimated that if Africa's cashew crop was processed domestically, it would generate more than US\$150 million in added value and more than 250,000 new jobs, particularly benefiting women in rural areas.

Gum Arabic

Gum Arabic is the dried sap of the acacia tree, valued for its ability to grow in drylands while restoring soil fertility. Gum Arabic, an edible glue and binder, has many commercial applications including adding fizz to sodas, stabilizing food, coating medication, binding paint and shoe polish. Harvested from the wild mainly in the African Sahel, the trees show excellent potential for increased productivity and sustainable management in areas that are at risk of desertification and characterized by land degradation and high population growth. European and African scientists are currently collaborating to improve gum quality and profitability for populations in gum-Arabic production zones.



Acacia Senegal.

The following observations stand out from a review of existing investment opportunities:

- Many tree-based investments are highly profitable and are projected to remain so.
- Many tree-based investments are critically important for providing environmental services and restoring landscapes; for example, fertilizer tree systems, parkland systems, and exclosure-based systems.
- Some tree-based investments (for example, the parkland systems) provide win-win outcomes in terms of profits and ecological services.
- Some tree-based investments could be improved upon to better deliver both profits and ecological benefits; for example, integrating high-value trees into tree crop systems.
- Achieving large scale restoration almost always requires a combination of investments in tree and non-tree technologies; for example, vegetation regeneration, soil conservation, and planning for woodland-riparian management.

SCALING-UP LANDSCAPE INVESTMENT APPROACHES IN AFRICA

The greatest opportunity, in terms of scale, is where market incentives stimulate the transition from crops whose conventional production practices are associated with degradation, to crops, grasses or trees that can be produced profitably with much less destructive environmental impacts.

In many cases, African entrepreneurs, farmers, civil society, and governments have responded dynamically to the widespread challenge of land degradation. The continent is dotted with landscapes where production of trees on farms and in managed forests has grown dramatically to meet market and subsistence needs; sustainable agricultural practices and re-vegetation have restored soils and watersheds; and key conservation areas are being protected.

However, this is not happening at the scale required by societal needs in Africa. In part, this is due to a lack of strategic cooperation and coordination between private sector investors and land managers (who are focused on realizing profitable opportunities and meeting their own needs), and public and civil society actors (who are focused on restoring forest cover and ecosystem services). Such coordination is only possible when the biophysical potential for landscape restoration, private sector investment opportunity and incentives, and societal demand for multiple benefits converge.

Much can be learned from examples of large-scale landscape restoration in countries like Ethiopia, Kenya, Niger, Tanzania, and Zambia, and the variable roles of the private sector, farmers, government, and civil society in supporting and undertaking investment (see box 2).

A review of large-scale examples finds that private incentives for landscape restoration depend on ecological features of production systems, market infrastructure, eco-certified markets and payments for ecosystem services. Spatial patterns of land and forest tenure, international investment, good governance, and conflict also matter. New mechanisms are engaging private investors and businesses more effectively in multi-stakeholder landscape restoration planning and action. More explicit analysis of the convergence of private and public interests in landscape restoration can help identify promising opportunities for cooperation.



Coffee-growing area in Kenya's Central Province.

BOX 2: THE MEETING OF MANY MINDS

The private sector, farmers, government, and civil society play variable roles in supporting and undertaking investment.

In Embu district in the central Kenyan highlands, growing local and national urban markets for tree products have been the driver of landscape restoration.

A long-settled farming region, Embu District was substantially deforested by the mid-20th century. With the development of commercial coffee, burgeoning markets in the nearby capital of Nairobi, and local population growth, demand for tree products grew sharply—in particular for building poles, farm-grown tree fodder for a burgeoning smallholder dairy industry, tree fruits for local consumption, and other products. Improved agroforestry species and technologies were introduced in the 1990s and 2000s that increased the productivity of trees that grew compatibly with crops. As higher-value trees were grown, Embu began to import lower-value products like fuelwood from places like Mbeere. Over the past 25 years, the landscape has been transformed to a high level of tree density, though little natural forest cover. This has been associated with significant increases in crop productivity and whole farm income.

Public agencies, NGOs and national and international research centers have contributed to the availability of improved agroforestry systems in Embu. But most of the investment has been undertaken by farmers and private companies involved in developing the supply chains and inputs for on-farm tree-growing and marketing. Important examples were tea and coffee factories, and the Kenya Cooperative Creameries (KCC) and other milk producers.

In Zambia, a coalition of stakeholders from government, donors, and the private sector have successfully scaled up conservation agriculture.

Large expanses of the Southern Province, a semi-arid plateau region, were subjected to serious soil erosion, nutrient depletion, watershed deterioration and loss of biodiversity as a result of unsustainable farming practices and over-exploitation of natural vegetation. To address these challenges, the government of Zambia promoted the widespread adoption of conservation agriculture (CA) which fosters natural ecological processes to increase agricultural yields and sustainability, such as retaining crop residues, intercropping and, increasingly, incorporating nitrogen fixing trees. An estimated 30 percent of small-scale farmers in Zambia have adopted elements of CA. The socio-economic and environmental benefits have been well documented. Yields on farms using such practices have doubled in maize plots and are 60 percent higher for cotton, as compared to conventional plowing systems. CA has improved soil structure, water retention, and biological activity, as well as reduced greenhouse gas emissions since residue is no longer burned.

Led by the Zambian Conservation Farming Unit (CFU), there was strong policy and extension support from the Ministry of Agriculture and international donors. The World Agroforestry Centre, the African Conservation Tillage Network and the Food and Agriculture Organization of the United Nations were actively involved. From civil society, NGOs including the Catholic Archdiocese of Monze, Development Aid from People to People, CARE, and Africare participated in promotion efforts. Other stakeholders included

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the Zambia National Farmers Union (ZNFU), the Golden Valley Agricultural Research Trust (a publicprivate partnership created by the government and the ZNFU), the Cooperative League of the USA, and World Vision. The Dunavant Cotton Company, one of the largest cotton companies in Zambia, worked closely with the CFU, especially in farmer training, in part due to the widespread spontaneous adoption of CA by Zambian cotton farmers.

In Niger, revised legislation provided the most important catalyst for the 'regreening' of the southern savannas.

The southern savannas of Niger were long considered to be a 'hot spot' of dryland land degradation. Farmer managed natural regeneration (FMNR) and soil and water conservation have led to what has been called a 'regreening' in Niger. FMNR involves simple, low-cost techniques for native tree and shrub management, to produce continuous harvests of trees for fuel, building materials, food, medicine, and fodder. In Niger, farmers incorporated the approach into agricultural landscapes. It is estimated that five million hectares and 4.5 million people are affected. The protection and management of 200 million trees (amounting to a 10- to 20-fold increase in tree cover between 1975 and 2005) have reduced erosion, increased soil fertility, and water availability, and supported higher yields (sorghum yields have improved by 20–85 percent and millet yields by 15–50 percent in participating areas). With improved yields, people eat better and have better food security in drought years, and families and communities have been able to diversify their livelihoods. Not only is fuel wood and fodder more readily available, but households are able to sell surplus products in the local market.

The former Niger Rural Code discouraged sustainable management of trees because they were federally owned. Local action catalyzed by an NGO modified application of the law, which then spread and eventually resulted in a New Rural Code that transferred tree ownership to farmers. Signed in 1993 (and fully implemented in 2004) it provided the needed confidence for farmers to invest in tree management without fear of breaking the law. The past two decades have been a period of innovation in FMNR, supported by international donors and NGOs who provided assistance in research and dissemination and played the role of promoters in the field. Farmers conveyed the message that FMNR can be implemented at little cost and produces significant benefits. With most trees naturally regenerated, there was little need for tree nursery stock, and little role for markets.

INVESTMENT OPPORTUNITIES AND CONSTRAINTS

A first step towards overcoming the challenge of mobilizing investment in trees and landscape restoration is to recognize that investment is attracted by a value proposition, not merely an empty landscape.

Investing in land and forestry simply to raise yields for fiber, food, and fuel—perhaps by achieving economies of scale—is a narrow objective that, more often than not, does not consider the long term ecological, economic and social consequences of land use change. However forests and landscapes, particularly in Africa, can satisfy the needs of investors who are seeking an attractive rate of return combined with a sustainable and socially responsible impact.

There is great investment potential in releasing the latent energy of the small and medium sized enterprise (SME) sector. Local enterprises can manage and restore landscapes in a manner that reflects the need for achieving social, environmental and economic objectives. These landscapes are populated by people who have certain rights over the land and the resources it provides. 'Climate-smart' investment needs to account for the role local people play in the landscape in order to address the drivers of deforestation.

However, there are constraints to investing in such enterprises, such as low capacity, unclear tenure, and weak institutions. These constraints can be overcome if 'soft' investment—from donors, multilaterals, and governments precedes 'hard' investment in order to improve the enabling environment and reduce transaction costs; for example, by supporting institutional reform and financing intermediaries that are often crucial in helping SMEs overcome their isolation from markets, investors, and political influence.

Building a partnership among different types of investors, intermediaries, and SMEs takes trust, patience, and transparency. Certain steps are needed in the process to ensure a clear understanding of goals and the means by which issues such as benefit sharing and quality improvement will be handled in a business-like manner. To realize investment opportunities into trees and landscapes, appropriate investments must be made in people and enterprises that have a value proposition and the wherewithal to carry out their plan. This vision of 'climate-smart' investing is optimistic about the opportunity to restore forests and landscapes while also stimulating grassroots economic and social development.

POLICY IMPLICATIONS

Various policy responses could support an improved climate for private investment in trees and landscape restoration.

Policies and institutions need to be reoriented to ensure that investments in trees and landscape restoration are addressed in the decentralization agenda. The devolution of full control over land and other natural resources to local institutions and organizations is increasingly seen as a requirement for bringing about better natural resource management. While decentralization is not a guarantee of success, local control increases the chances for improved management and benefits. The challenges are to enhance the legitimacy of local management organizations, to ensure that these organizations can put in place effective management mechanisms, and see that local organizations have the capacity to limit elite capture.

Improving value-addition at the local level can increase incentives for better management of landscapes and trees in farming systems. Local value-added can be enhanced through various policy and regulatory mechanisms; these include simplifying the regulatory regime to reduce transaction costs for poor producers, and developing a framework for providing greater support for producer organizations and user groups. In many ways, regulatory regimes have acted as a trade barrier, limiting competition, restricting market entry, and keeping producer margins low and consumer prices high. A simplified regulatory regime that favors the capacity of producers to manage trees could contribute to expanding markets. Trade associations have shown that they can play a role in promoting market diversification, improving the prospects for niche market entry, and establishing product standards.

Payments for environmental services can help. Markets for environmental services from trees and from better managed farming landscapes are potentially important for carbon sequestration, biodiversity conservation, tourism, and watershed management. These markets could be more fully developed in line with the emergence of new financing instruments and international commitments. Experience so far has suggested that these types of initiatives are most successful when they are integrated with other rural development activities. Combined with direct benefits, such as productivity increases and improved climate resilience, payments for environmental services may provide additional incentives for local people to manage trees and landscapes more sustainably.

Forest organizations need to be revitalized. Forest organizations are generally underfunded and not aligned with the major thrusts of rural development efforts. These organizations often resist change, even though their failure to adapt increases their marginalization. Perhaps the biggest challenge for forest organizations in the region is the need for a reorientation from their earlier roles, which were largely regulatory, to roles with a much stronger service-delivery orientation, aligned with the poverty mitigation agenda. The skill set that currently characterizes forest organizations in much of Africa, and the budget processes which allocate public resources for forest management, are largely irrelevant for meeting the challenges of managing trees in farming systems. Similarly, with only a few exceptions, forest research institutions have demonstrated a limited understanding of the complexities of tree cultivation and management to meet local needs. It may be that responsibilities for service delivery should shift to other institutions with greater capacity for engaging local stakeholders in improving natural resource management.

Rural development efforts should work across sectors to encourage synergies. To increase investment in trees and landscape restoration on a meaningful scale, government and donor-led initiatives must go beyond forest sector authorities and engage a wide range of public and private stakeholders including water, agriculture, livestock, energy, lands and environmental finance and planning authorities; producer groups; civil society organizations, including business associations; food companies; and private investors.

Policies that support good governance encourage private investment. Throughout Africa, countries that have the strongest framework for good governance consistently generate the most significant sources of private investment. This is no less true for investing in trees and landscape restoration, as investors must have the confidence that their rights and investment outcomes are protected.

Conversely, policies that improve land, water and tree governance can minimize the risks of large-scale land acquisitions. Large-scale land acquisitions are increasingly a reality in Africa and present both risks and opportunities. Policies that strengthen information access and protect existing land rights can help ensure that land transfers are voluntary and beneficial to local people. A sound policy framework can help attract responsible agro-investors who respect a set of basic principles and can strengthen food security rather than putting it in jeopardy. At the individual farmer level, adequate legislation that recognizes farmers' rights to the trees on their farms can provide incentives for land restoration and sustainable land management practices.

SUGGESTED READING

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ACKNOWLEDGMENTS

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ABBREVIATIONS

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CHAPTER 2 / Sara J. Scherr, Louise E. Buck, Terhi Majanen, Jeffrey C. Milder, Seth Shames

CHAPTER 3 / Chris Buss, Dominic Elson, Duncan MacQueen, Carole Saint-Laurent

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HISTORICALLY, BOTH PUBLIC AND PRIVATE SECTOR INVESTMENTS IN LANDSCAPE RESTORATION MEASURES SUCH AS REFORESTATION AND AGROFORESTRY IN SUB-SAHARAN AFRICA HAVE FALLEN SHORT OF THEIR POTENTIAL FOR GENERATING INCOME, MOBILIZING RURAL ECONOMIC DEVELOPMENT, REDUCING POVERTY, INCREASING FOOD SECURITY, AND PROTECTING AND RESTORING THE ENVIRONMENT.

THIS OVERVIEW DRAWS ON THREE BACKGROUND PAPERS PREPARED FOR THE INVESTMENT FORUM ON MOBILIZING PRIVATE INVESTMENT IN TREES AND LANDSCAPE RESTORATION IN AFRICA, WHICH WAS HELD IN NAIROBI, KENYA IN MAY 2011. IT INCLUDES EXAMPLES OF TREE-BASED TECHNOLOGIES THAT ARE LIKELY TO GENERATE PRIVATE INVESTMENT INTEREST, DESCRIPTIONS OF PARTNERSHIPS AND PLACES WHERE TREE PLANTING HAS BEEN SUCCESSFUL, AND A LOOK AT THE CONSTRAINTS AND OPPORTUNITIES THAT ARE DRIVING PRIVATE-SECTOR INVESTMENT.



PROGRAM ON FORESTS (PROFOR)

THE WORLD BANK 1818 H ST NW WASHINGTON DC 20433 USA TEL: + 1 202 473 5844 FAX: + 1 202 522 1142

EMAIL: PROFOR@WORLDBANK.ORG WEBSITE: HTTP://WWW.PROFOR.INFO



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