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Fighting Land Degradation at Landscape Scale

Sustainable
Land and Water
Management in
Africa's Drylands
and Vulnerable
Landscapes



WORLD BANK GROUP



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Acknowledgments

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Table of Contents

Foreword	7
Land Degradation and Development Challenges in Africa	8
The State of Land Degradation in Africa	
Future Prospects and Opportunities	
World Bank Support to Sustainable Land and Water Management	14
Several Decades of Support	
Lessons Learned and Looking Forward	18
Conclusion	26
Annex: Selected World Bank-funded Projects with SLWM Components in Africa 2006 – 2019	



Foreword



The World Bank's goals are to eradicate extreme poverty, and boost shared prosperity in a sustainable manner. On the African continent, poverty reduction, economic development, and sustainability are deeply intertwined and dependent on the management of natural resources—such as land, water, forest, aquatic resources, and biodiversity—which provide the basis for livelihoods and economic sectors. These resources, however, are highly vulnerable and under stress due to climatic factors, population growth, and poor management practices. Nearly half of Africa's population live in ecologically sensitive drylands, and, as a result of frequent and severe shocks, especially droughts, the future promises to be even more challenging. Population growth and expansion of drylands due to climate change could increase the number of people living in a challenging environment by up to 70 percent by 2030, according to our recent report on *Confronting Drought in Africa's Drylands: Opportunities for Enhancing Resilience*.

African countries recognize the need for bold vision, strong commitment, and impactful action on the ground. The Great Green Wall Initiative, the African Resilient Landscape Initiative (ARLI), the African Forest Landscape Restoration (AFR100), the African Landscapes Action Plan (ALAP), and others create solid foundations for action. Communities, political leaders, and the private sector are taking action to restore and protect Africa's precious natural resources. There are many inspiring successes already.

The World Bank has been supporting African countries' efforts to sustainably manage their natural resources, combat desertification and land degradation, protect valuable resources, and build resilient landscapes. This brochure presents examples, highlights lesson learned, and identifies future opportunities.

Transformative change will require deepened commitments, even more effective programs, coordinated financial support, and innovative regional and international partnerships. Together we can make Africa's landscapes productive and resilient.

Magda Lovei
Practice Manager
Environment and Natural Management Global Practice, World Bank

Land Degradation and Development Challenges in Africa

THE STATE OF LAND DEGRADATION IN AFRICA

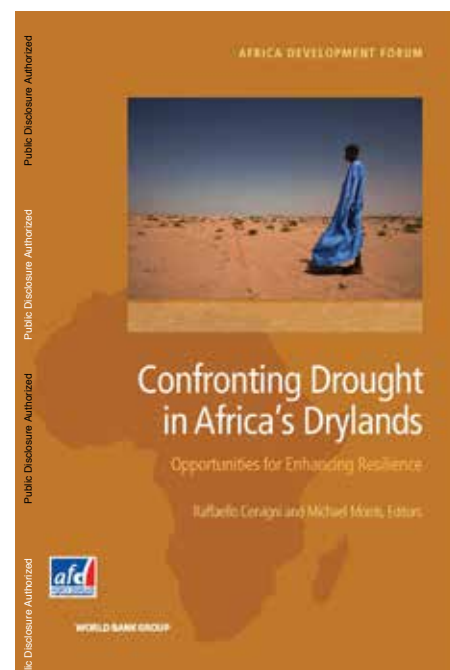
Land and the services it provides are the source of Africa's wealth and the basis for its people's livelihoods. Land provides food, fuel, fiber, and medicines while generating roughly one-third of sub-Saharan Africa's economic growth and half of its livelihoods. Land is also the primary safety net for the rural poor. Roughly two-thirds of the region's estimated 700 million people live in rural and remote areas and are overwhelmingly dependent on an increasingly stressed land resource.

Yet this resource base is highly vulnerable to degradation and desertification. Two-thirds of land available for production is considered degraded enough to hinder productivity goals; crop and livestock yields have stagnated and remain the lowest in the world, while deforestation continues, unabated, at the highest rate in the world. Such natural resource degradation is estimated to impose up to a 9 percent drag on agricultural gross domestic product (GDP) alone (TerrAfrica 2011b). The primary causes of this ecosystem vulnerability include deforestation, cultivation of unsuitable marginal lands, inappropriate or excessive use of agricultural technologies and chemicals, overgrazing, and poor management of cultivated land, often exacerbated by drought. All of these lead to depletion of soil fertility

as well as water and wind erosion. Soil erosion harms productivity by depositing silt in dams, irrigation systems and river transport canals, and by damaging fisheries. The results include increasing deficits in food production, declining food security, and worsening human poverty.

The situation has a dire effect on Africa's vast drylands. The World Bank flagship report—*Confronting Drought in Africa's Drylands: Opportunities for Enhancing Resilience*—prepared in collaboration with many technical and development partners, defines drylands to include arid, semiarid, and dry subhumid zones (Cervigni and Morris 2016). Drylands comprise about 43 percent of the continent's land surface, account for about 75 percent of the area used for agriculture, and provide homes for 50 percent of the population, including a disproportionate share of the poor. The people living in drylands are deeply vulnerable ecologically, economically, and socially. As such, they are at the heart of Africa's development challenge (figure 1).

Drylands are home to economically and socially fragile communities. It is well documented that drylands include a large share of the region's poor, most of whom do not have access to basic services such as health care, education, water, and sanitation. Such ecological and economic fragility is often compounded by the social and political marginalization of



Sustainably developing the drylands and conferring resilience to their inhabitants will require addressing a complex web of economic, social, political, and environmental vulnerabilities. Good adaptive responses have the potential to generate new and better opportunities for many people, cushion the losses for others, and smooth the transition for all. Implementation of these responses will require effective and visionary leadership at all levels, from households to local organizations, national governments, and a coalition of development partners. This work, along with an accompanying series of background papers, is intended to contribute to that effort.

*Makhtar Diop, Vice President,
Africa Region, World Bank*

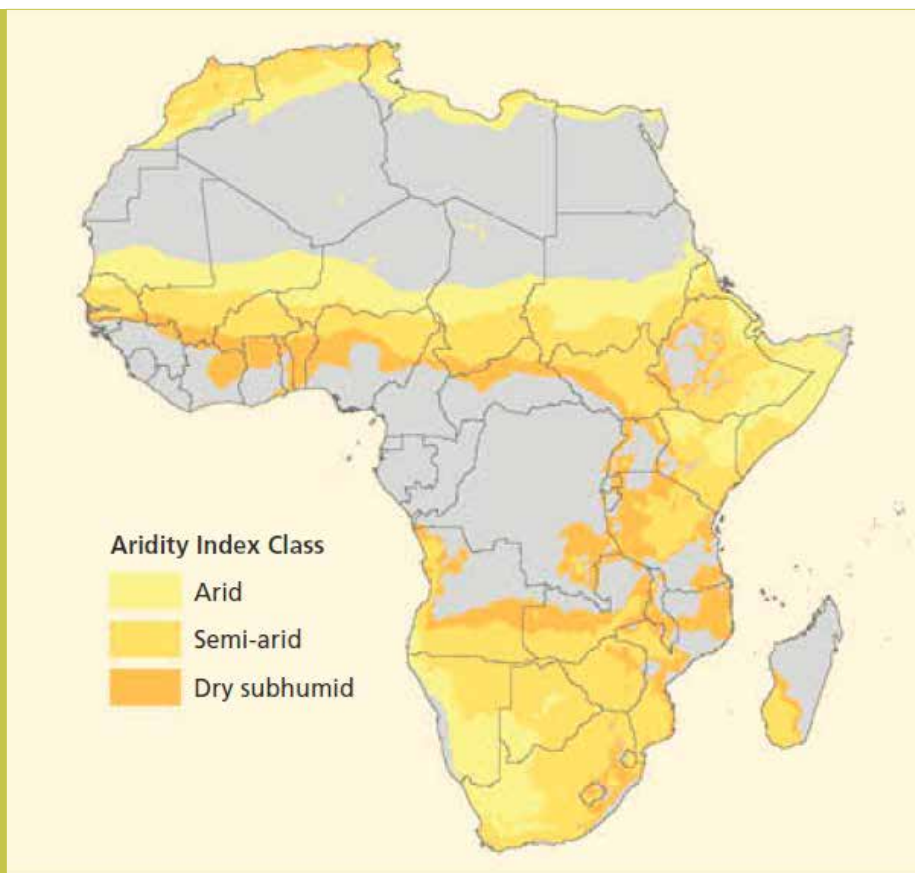


Figure 1: Drylands regions of sub-Saharan Africa, defined in terms of the Aridity Index
Confronting Drought in Africa's Drylands: Opportunities for Enhancing Resilience

many of the groups living in drylands. This muffles their voices and limits their ability to influence political processes that affect their well-being (Kerven and Behnke 2014).

Frequent and severe shocks—especially those caused by recurring extreme and prolonged droughts—limit the livelihood opportunities for poor households and undermine efforts to eradicate extreme poverty. The impacts of drought on degraded lands create a vicious cycle of shocks and humanitarian crises. In the absence of robust social protection systems and rapidly scalable safety nets, these shocks cause large drains on government budgets and consume a significant portion of the region's international development assistance. As a result, scarce resources are

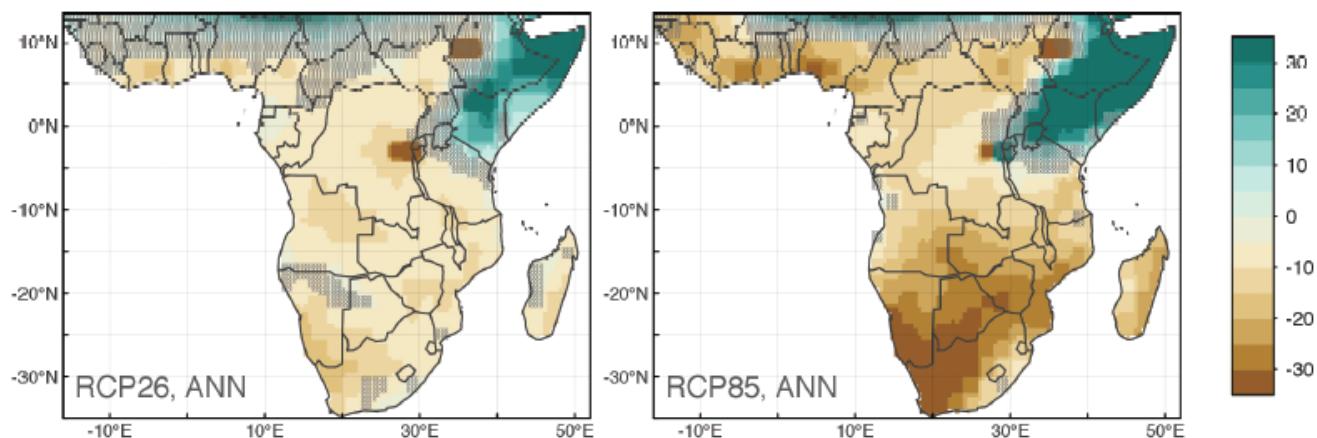
diverted away from pursuing longer-term development goals and redirected to mobilizing costly short-term responses to humanitarian crises. In 2011, around US\$4 billion was spent on humanitarian assistance in the Sahel and Horn of Africa alone, equivalent to 10 percent of total Overseas Development Assistance to sub-Saharan Africa (OECD 2015).

Natural resource degradation can also be a factor in refugee crises and social migration. Many of the countries with degraded lands have suffered—and in parts continue to suffer—civil unrest and conflict, which have resulted in a large-scale displacement of the population. Notably, about 2 million refugees and over 6 million other displaced people continue to rely on the weak local and national institutions of

their host communities. Resource scarcity, combined with rapid population growth, poverty, and underdevelopment in border regions, worsens both communal conflict and civil wars. Some of these conflicts have had disastrous direct consequences for biodiversity and ecosystems in the areas where refugees migrate to, as well as indirect impacts due to the resulting lack of law enforcement and investment in conservation. Normalizing relations between neighbor states is one of the greatest development challenges in the region. In border zones where droughts are frequent and often devastating, they cause communal clashes over scarce pasture and water.

FUTURE PROSPECTS AND OPPORTUNITIES

Figure 2: Projected impact of climate change on the annual Aridity Index in sub-Saharan Africa
Turn Down the Heat, World bank



Multi-model mean of the percentage change in the annual Aridity Index in a 2°C world (left) and a 4°C world (right) for Sub-Saharan Africa by 2071–2099 relative to 1951–1980. In non-hatched areas, at least 4/5 (80 percent) of models agree. In hatched areas, 2/5 (40 percent) of the models disagree. Note that a negative change corresponds to a shift to more arid conditions. Particular uncertainty remains for east Africa, where regional climate model projections tend to show an increase in precipitation, which would be associated with a decrease in the Aridity Index. A decrease in aridity does not necessarily imply more favorable conditions for agriculture or livestock, as it may be associated with increased flood risks.

By 2030, the population living in African drylands is expected to grow by 58 to 74 percent.⁶

Higher population density in degraded lands will put additional pressure on a fragile resource base, pushing it, in some cases, beyond its natural regenerative capacity. According to the World Bank report on African drylands, by 2030, the number of people affected by drought in East and West Africa alone is likely to be 70 percent higher than it was in 2010, and climate change could result in the further expansion of drylands by as much as 20 percent. This could escalate social conflicts over land, water, and biomass. At the same time, higher population density will bring new development opportunities linked to greater market size, increased economic specialization, and enhanced value addition as well as the potential to achieve cost savings in the provision of vital services such as education, health care, water and sanitation, energy, communications, and security.

Land and natural resource challenges are amplified by climate change.

The Intergovernmental Panel on Climate Change (IPCC) identified Africa as one of the continents most vulnerable to climate change. Projections for African countries show that the temperature will increase between 1.3°C and 2.1°C (with greater or lesser local variation depending on the model) by 2050. Precipitation either will increase or remain the same, on average across the region, however, with large variations. These impacts affect many, particularly natural resource-dependent sectors, including agriculture, energy, forestry, tourism, transport, and water.

Climate change could result in an expansion of the area classified as drylands by up to 20 percent in some scenarios.

This would bring more people into environments where livelihood options are limited and opportunities to ensure resilience are severely constrained. According to the flagship World Bank report, *Turn Down the Heat: Climate*

⁶ Depending on fertility scenario. *Confronting Drought in Africa's Drylands: Opportunities for Enhancing Resilience*



Extremes, Regional Impacts, and the Case for Resilience, the continent is confronted with a range of climate risks that could have far-reaching repercussions for sub-Saharan Africa's societies and economies in future. Sub-Saharan Africa is particularly dependent on agriculture (almost all of it rain-fed) for food, income, and employment. Under 2°C warming, large regional risks to food production emerge; these risks would become stronger if adaptation measures are inadequate and the CO₂ (carbon dioxide) fertilization effect is weak. Unprecedented heat extremes are projected over an increasing percentage of land area as warming goes from 2 to 4°C, resulting in significant changes in vegetative cover and species at risk of extinction. Heat and drought would also result in severe losses of livestock and associated impacts on rural communities.

Pastoralism is particularly affected by climate change. There are significant negative consequences including loss of livestock through heat stress, loss of land to agricultural encroachment as the rise in rainfall raises the productive potential of arid areas, an increase in frequency of flooding, and the spread of human and livestock diseases that thrive during the wet season. Over the past few decades, greater pressure has been put on pastoralist grazing lands and water resources because populations have increased and grazing land has been taken for cultivation, conservation areas, and state use. Pastoral livestock has been squeezed onto lands that are too small to be sustainable for pastoral production as pastoralists rely on freedom of movement to be able to manage the rangelands effectively. Key resource areas, for example, dry-season grazing lands, are a

target for agricultural use because of their productive potential. Once pastoralists lose these key resource areas, their whole strategy for dealing with drought is compromised.

Drylands and degraded lands can be transformed. The key question for policy makers is how best to manage the coming demographic, social, and economic changes to achieve the best possible outcomes. As governments and donor partners contemplate the design of the next generation of policies and programs for the drylands, it is important to know whether traditional pursuits, especially livestock-keeping and crop farming, can be made sufficiently productive and stable in the face of demographic, economic, and climatic change to provide secure livelihoods for the entire population. If the scope for sustainable intensification is limited, fundamental transformations of the livelihood systems may be needed to avoid

increasingly frequent and ever more consequential humanitarian crises.

There are promising successes in confronting land degradation. Some actors are increasingly finding common ground on land management, but there is much work to do to safeguard economic development from intertwined land degradation and climate risks. Sustainable land management practices—such as integrated nutrient management, watershed planning, low tillage, agroforestry, water harvesting, and erosion control—have been proven at small scale, yet are often neglected in policies and national and sector strategy due to the highly fragmented nature of land-related institutions, knowledge, and investments. Despite increasing recognition, the scale of the problem surpasses the response to date and the continued calls for action on the continent.



Figure 3: Integrated Landscape Management Approach IUCN

Single-sector approaches, isolated projects, and individual institutions cannot sufficiently address the multidisciplinary challenges posed by land degradation and climate change. Overall, it is estimated that improved natural resource management, along with better livestock management, expanded irrigation, and better management of rain-fed agriculture can cut in half (or more in some countries) the increase in the number of drought-affected people over the next decade in the Sahel and the Horn of Africa (TerrAfrica 2015).

Durable progress can be made through country-led, multistakeholder coalitions. These should identify and promote good sustainable land management (SLM) practices, harmonize policy, share knowledge, make domestic and international financing more efficient, and ultimately, strengthen the ability of land users to individually and collectively reduce intertwined land degradation and climate risks. Creating resilient landscapes that strengthen the integrity of ecosystems to provide the full range of services for productive sectors and livelihoods, including migrant and fragile communities, requires collaborative action at scale. It also requires coordination of planning and management decisions across a range of sectors and stakeholders, supportive policies and regulations, investments in effective programs, capacity building to generate learning, replication of good practices, and strategies for scaling up successful programs.



WORLD BANK SUPPORT TO SUSTAINABLE LAND AND WATER MANAGEMENT

SEVERAL DECADES OF SUPPORT

The World Bank has been engaged in supporting sustainable land and water management since the 1970s. Many of these projects and programs have contributed to the transformation of livelihoods. Countries and development partners have also stepped up their efforts to combat desertification and introduce good natural resource management techniques. This portfolio of sustainable land and natural resource management projects and programs has continued to grow (see Annex: List of SLWM Projects Africa 2006–19). Since 2006, over 200 projects with SLM components have been implemented to strengthen countries' effort. These projects span sectors such as agriculture, environment, disaster risk management, and rural development. These projects amount to about US\$12 billion in financing, of which US\$10 billion is from the International Development Association (IDA), US\$390 million from the Global Environment Facility (GEF), and US\$1 billion from other sources. Meanwhile, it has become increasingly clear that a collaborative effort and broad partnerships can facilitate learning, reduce transaction costs, and generate economies of scale for greater results.

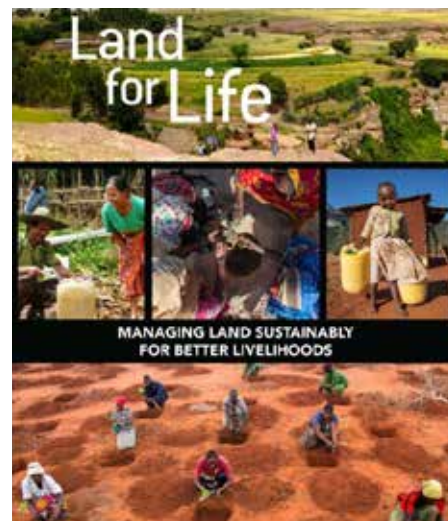
The World Bank started a collaboration with the United Nations Convention to Combat Desertification (UNCCD) in 2005. Building on many years of experience, and recognizing the platform created by the UNCCD to promote sustainable land management, this collaboration focused on enhancing resilience and adaptive capacity as well as reducing

Box 1. *Land for Life: Managing Land Sustainably for Better Livelihoods*

Land for Life: Managing Land Sustainably for Better Livelihoods—a book produced by the World Bank and UNCCD jointly in 2013—presented 40 innovative case studies from all over the world to show examples of how degraded lands can be restored. Luc Gnacadja, UNCCD Executive Secretary, and Makhtar Diop, World Bank Vice President, noted in their foreword:

The uplifting news is that people are taking action themselves to restore and protect newly fertile land all over the world... These stories testify to the fact that desertification and land degradation are not our automatic destiny. We can roll back the encroachment of drylands and reclaim enough fertile land for the world to feed itself, banish malnutrition, and create sustainable land and water management policies. This is what a land-degradation neutral world is about.

In 2016, a second edition, *Land for Life: Create Wealth, Transform Livelihoods*, shares real life examples of communities already taking steps toward achieving Sustainable Development Goal 15 focusing on “life on land” to: Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation as well as biodiversity loss.



the vulnerabilities of communities and ecosystems. Together, they have advanced the implementation of the commitments by parties to the UNCCD, the Convention on Biological Diversity (CBD), and the United Nations Framework Convention on Climate Change (UNFCCC) by sharing common a vision, knowledge, and lessons from the ground (see box 1).

In 2005, the World Bank, in collaboration with African countries and other partners, launched the TerrAfrica partnership. After the 2005 High-Level Forum on Enhanced Aid Effectiveness (Harmonization, Alignment, and Results) in Paris, TerrAfrica was created under the UNCCD and the auspices of African Ministers of Environment and Agriculture. The partnership addresses land degradation by increasing the scale, efficiency, and effectiveness of investments in SLM across sub-Saharan countries; knowledge sharing; and coalition building.

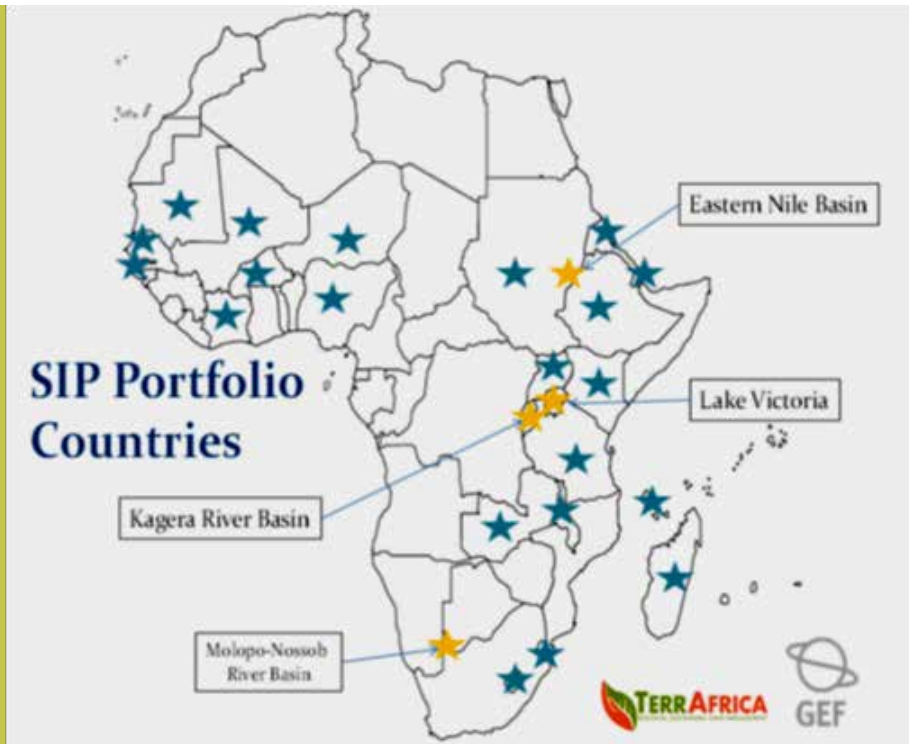


Figure 4: Projects under the Strategic Investment Program

Co-chaired by the World Bank and the African Union NEPAD (New Partnership for Africa's Development) Agency, TerrAfrica now includes 26 sub-Saharan countries and 20 partners, including Regional Economic Communities, UN bodies, international organizations, the European Union, bilaterals, and civil society. Together, they have leveraged US\$3 billion for sustainable land and water management investment (SLWM) and implemented 37 operations in 29 countries.

The TerrAfrica Leveraging Fund (TLF)—supported by the European Union, and the governments of France, the Netherlands, and Norway—provided seed money for countries to prepare SLWM interventions at scale and analytical and knowledge support.⁶

The Strategic Investment Program (SIP) for SLM, launched in 2008,

was the first high profile regional investment program on land degradation in sub-Saharan Africa.

The SIP was designed to address the multiple factors of land degradation, building on earlier approaches, while furthering on aid harmonization principles. The SIP's support focused on on-the-ground activities for SLM scale-up, creating an enabling environment for SLM at all levels (that is, intersectoral approach and policy), strengthening advisory services, and supporting knowledge management and monitoring and evaluation (M&E). The SIP was implemented by 26 countries through 36 projects, with over US\$1 billion financing in total. Financing of US\$150 million from the GEF played a catalytic role and helped leverage cofinancing of about US\$840 million, including US\$580 million from the World Bank. Six multilateral agencies: the African Development Bank,

Food and Agriculture Organization (FAO), the International Fund for Agricultural Development, United Nations Development Program (UNDP), United Nations Environment Programme (UNEP), and the World Bank, collaborated with NEPAD and Regional Economic Communities (figure 4). The SIP program reached about 4.8 million beneficiaries, and directly resulted in an additional 2.7 million hectares of land under SLM practices.⁷ Experiences from SIP have provided fertile ground for drawing key lessons from to inform future engagement by all partners (Bunning, Woodfine, and Vallée 2016).

The Sahel and West Africa Program (SAWAP) in support of the Great Green Wall for the Sahara and Sahel Initiative (GGWSSI) was launched in 2011 (box 2).

It is a US\$1.1 billion investment program funded with US\$786 million from IDA, US\$98 million from GEF, and US\$108 million from counterparts such as Norway. The program includes:

- **The 12 SAWAP country operations each take a landscape perspective.** They include a range of integrated natural resources, watershed, climate change, disaster risk management, and agriculture interventions in Benin, Burkina Faso, Chad, Ethiopia, Ghana, Mali, Mauritania, Niger, Nigeria, Senegal, Sudan, and Togo (figure 5). As of May 2017, SAWAP has reached over 14 million beneficiaries, brought about 750,000 hectares of additional land under SLM, and built the capacity of almost 6,000 local institutions on SLM practices.

6 The TerrAfrica Leveraging Fund (TLF) provides a flexible financing mechanism to support strategic and critical activities that have the potential for scaling up sustainable land and water management (SLWM) in sub-Saharan Africa countries. Established in 2009 with financial support from the European Union, the Netherlands and Norway, and managed by the World Bank, the TLF is supporting several countries in sub-Saharan Africa (29) in leveraging and designing innovative investments in SLWM, as well as supporting the TerrAfrica Secretariat at NEPAD.

7 SLM practices include: crop rotations, fallowing, intercropping, green manures, reduced or no tillage, composting, mulching, tree planting in agroforestry systems, shelter belts, woodlots, crop-livestock integration for manure production, soil and water conservation measures (stabilization of river banks, vegetation strips, stone lines, tied ridges, progressive/bench terraces, rainwater harvesting—zai and half-moon), rangeland restoration (temporary area closures, reseeding, holistic grazing management, assisted natural regeneration), and gully rehabilitation.

Box 2. The Great Green Wall for the Sahara and the Sahel Initiative (GGWSSI)

The GGWI is an African Union program launched in 2007 to strengthen the resilience of the region's people and natural systems from Senegal to Eritrea. Endorsed by African heads of state and government, it aims to tackle the detrimental social, economic, and environmental impacts of land degradation and desertification in the region. The GGWI has a bold ambition to "green" Africa from Senegal to Djibouti, restoring degraded lands and transforming local livelihoods. Once completed, the metaphorical "wall" will be one of the largest environmental accomplishments in human history. At the UNFCCC COP 21 (2015 Paris Climate Conference), the World Bank announced its intention to scale-up its support to the Great Green Wall Initiative with an additional US\$1.9 billion investment.



Figure 5. SAWAP member countries

- **The regional Building Resilience through Innovation, Communications, and Knowledge Services (BRICKS) project is the communications, innovation, monitoring, and knowledge hub for operations.** It is implemented by three regional organizations, recognized as centers of excellence: the Permanent Interstate Committee to Combat Drought in the Sahel (CILSS), the Sahara and Sahel Observatory (OSS), and the West and Central Africa Office of the International Union for Conservation of Nature (IUCN). These organizations together facilitate south–south cooperation on knowledge and provide operational services to

country projects to enhance (box 7).

The approach evolved through three generations of programs. The SIP, a *first-generation investment program*, focused essentially on supporting countries to address land degradation in productive land. As implementation progressed, it became clear to clients and partners that sustainability in land management and productivity required cross-sectoral interventions. Reflecting on what was learned, the program shifted investments toward integrated land and water management that connects protected areas, forests, woodlands, agroforestry land, rangelands,

and croplands. This culminated in the SAWAP, a *second-generation umbrella program*. Project design considered the increasing evidence on climate change impacts (shifting cropping calendar, delayed rainfall, and emerging pests and diseases) as documented by TerrAfrica in *Using SLM Practices to Adapt and Mitigate Climate Change in Sub-Saharan Africa* and included climate adaptation and mitigation. The current *third-generation investments* use the landscape approach and build the resilience of both ecosystems and livelihoods, as promoted by the African Resilient Landscapes Initiative (box 3).





Box 3: The African Resilient Landscapes Initiative

The African Resilient Landscapes Initiative (ARLI) was launched by the African Union NEPAD Agency in December 2015. It calls for the use of the landscape approach to integrate multiple sectoral initiatives and facilitate linkages and coordination among them. ARLI is mobilizing financial and technical resources from multiple sources to help design and implement operations at landscape level. Through ARLI, the World Bank supports resilient landscapes in the Sahel, the Horn of Africa, and East Africa. ARLI commits, through the implementation of the African Landscape Action Plan (ALAP) and the African Forest and Landscape Restoration Initiative (AFR100), to bring 100 million hectares of degraded and deforested land under restoration in Africa by 2030. By doing so, the ARLI is contributing to improve soil fertility and food security, access to clean water, combat desertification, increase biodiversity and habitat, create green jobs, bolster economic growth and livelihood diversification, and increase the capacity for climate change resilience and adaptation.

The ARLI will mobilize African countries and partners to leverage sectorial interventions and collectively ensure the integrity, resilience, restoration and sustainable management of landscapes across regions.

— Dr. Ibrahim Mayaki, Executive Secretary of the African Union NEPAD Planning and Coordinating Agency.



LESSONS LEARNED AND LOOKING FORWARD

Broad support can be galvanized with a shared, strategic vision. In 2015, the UNCCD adopted the Land Degradation Neutrality (LDN) target under the Sustainable Development Goals (SDGs)⁶ to combat global land degradation. The New York Declaration on Forests, endorsed by world leaders in 2014, envisions cutting natural forest loss in half by 2020 and initiating restoration on 350 million hectares by 2030. At the continental level, the Great Green Wall for Sahara and the Sahel Initiative (GGWISS) is an African vision to transform the Sahel into a stable, sustainable, resilient region through improved management of natural resources, land, water, and climate risks. Launched jointly in 2015, the Africa Resilient Landscapes Initiative (ARLI) and the Africa Forest

Landscapes Restoration 100 Initiative (AFR100) promote integrated efforts to address landscape degradation in over 100 million hectares by 2030. These initiatives can mobilize a broad coalition for action. Looking forward, the World Bank will build on these initiatives while promoting synergies, integrated approaches, and country ownership under TerrAfrica and other relevant platforms.

The vision needs to be translated into implementable programs. At the regional level, the World Bank launched its *Africa Climate Business Plan (ACBP)* in 2015 as its US\$19 billion blueprint for climate action. The plan supports the World Bank Group's overall goals to end extreme poverty by 2030 and promote shared prosperity in the developing

world in a sustainable manner. It includes a strong focus on drylands and other fragile landscapes in the region. This builds on large-scale programs such as the SIP and SAWAP. At the national level, countries are developing plans for implementation based on their Nationally Determined Contributions (NDCs), and support to these countries during preparation and implementation is critical. For instance, the Kenya Strategic Investment Framework for SLM, adopted in 2017, is now used for the preparation of new investments in the northern regions, with support from TerrAfrica. Country planning support has proven vital in promoting analysis, advocacy, consultations, and harmonization. The WBG will continue to provide support to its clients to turn their commitments

⁶ Goal 15: Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss.

Box 4. Ghana Sustainable Land and Water Management Project (SLWMP): Programmatic Approach, Integrated Solutions, and Transformational Changes

Since 2009, Ghana has been implementing a programmatic series of projects through three phases of investments. Through these projects, the country moved from a sole focus on farmland management to sustainable land and water management, then to integrated landscape management to support resilience and food security. This strategic long-term engagement is resulting in visible on-the-ground impacts, improved livelihoods, and multiple ecosystems benefits. The project design combined a package of soft and hard investments and community-level interventions, focusing on the maintenance of ecological and flood infrastructure. Emphasis has been placed on innovation, experimentation in incentives, and extension systems. Sustainability is realized through support to postharvest management improvements and a focus on value chain and nondestructive uses of forests. Multisectoral collaboration and a decentralized implementation mechanism allowed traditional authorities, women, and youth to participate in the decision making and land-use planning. Innovative financing enables farmers to receive upfront support followed by a series of performance-based payments based on the incremental environmental benefits generated by SLWM technology. The SLWMP is financed by US\$30 million in GEF grants and Ghana's in-kind contribution, equivalent to US\$14 million. It is one of the 12 country investments part of the World Bank/GEF funded SAWAP in support of the Great Green Wall of Africa.

into action. It will, in particular, aim at facilitating access to seed funding such as under the TerrAfrica Leveraging Fund and country-specific trust funds to leverage investment financing at scale. In doing so, support will be guided by the promotion of integrated approaches at landscape scale, aid harmonization principles, and the broad menu of SLM solutions (TerrAfrica 2011a) as committed under ACBP, ARLI, and TerrAfrica.

Continued government leadership and commitment are needed.

Successes such as Ethiopia's remarkable achievements under the Sustainable Land Management Program (SLMP) or the Ghana SLWM (box 4) would not have been possible without long-term commitment from government. Recognizing the key role of land degradation in the humanitarian crises of the 1970s and 1980s, the government's commitments now include key national strategies,⁷ while its program has brought together different sectors and implemented resources on a large scale. Similarly, Niger is often cited as a success story because of the greening of the Maradi region, which took off through rural community-level

efforts in the late 1980s. Building on these experiences, the government's commitment has been persistent over time, particularly under the overarching 3N initiative (The Nigeriens Feeding the Nigeriens) and, more specifically, the development of a national SLM program. The country is now implementing the third phase of the community action program and a new climate-smart agriculture project. Burkina Faso, in line with the community-driven-development (CDD) approach adopted as early as 1986, is also implementing the next phase of an ambitious SLM program through the Community-Based Rural Development Project (CBRDP).

Successful programs mobilize and build on bottom-up initiatives and incentives.

As confirmed, by the SIP review and others sources, empowering local communities has become a standard approach in every step of SLM interventions, whether for land-use planning or for the identification of locally appropriate solutions. Involving local communities at the planning stage, in particular, is a key factor to sustainability (FAO 2016). Hence, in addition to the previous examples of Niger and Burkina Faso, the

transformational shift to the bottom-up approach is the foundation of Ethiopia's results, for example, in protecting watersheds from open livestock grazing by cut-and-carry practices. The community promotion approach under the Sustainable Land Management Project in Senegal was also particularly successful, as villagers negotiated a community charter for the use, management, and conservation of pastoral lands. Looking forward, the WBG will continue to promote bottom-up and community-driven interventions as key ingredients of landscapes interventions, for example, through program development, knowledge sharing, capacity building, business sector collaborations, and adapted financing tools (such as under the CBRDP in Burkina Faso and the upcoming community-based NRM grant facility in Mozambique). In many places, there is now a need to expand toward multi-community engagement, for example, at the watershed level or for pastoral transhumance.

Piloting innovative approaches can unleash new opportunities for change.

While allocating resources to scale up proven

7 Such as the Growth and Transformational Plan-2 (GTP-2), the Climate Resilient Green Economy (CRGE) Strategy, and accompanying 2015 Climate Resilience Strategy for Agriculture and Forest, the Intended Nationally Determined Contribution (INDC), the emerging National Forest Sector Strategy and National REDD+ (Reducing Emissions from Deforestation and Forest Degradation) Strategy, as well as sector strategies for energy, water, and agriculture.

practices, innovation support allows countries and communities to develop context-specific solutions and address technical, social, and economic constraints at scale. For instance, the SIP was recognized as a platform for testing and applying SLM technologies and tools to restore ecosystems such as erosion control, water structures, composting, mulching, and so forth, especially when bottom-up innovation was allowed (box 5).

In addition, shade-grown coffee has been introduced in Rwanda and Burundi through exchanges with Colombia and Ethiopia. As an incentive to address structural bottlenecks locally while mobilizing new financing opportunities, the World Bank has built on its experience in Latin America to support Ghana in designing Payments for Environmental Services (PES). Finally, in Burkina Faso, a new project mobilizes carbon financing to promote the national bio-digester value chain and introduces new

models as part of the related national strategy.

Policies and incentives are important to create the enabling environment for sustainable natural resources management.

For instance, securing land tenure through titling as illustrated in Ethiopia has been key in the adoption of SLM practices by communities at the landscape level. In Niger, like in other Sahel countries, relaxing regulations that restricted farmers' right to exploit trees in their own fields created

Box 5. Landless Youth for Resilient Landscapes in Ethiopia

Land rights, management, value, and use form key development issues for millions of rural Ethiopians facing climate, water, food, and livelihood insecurity. This is especially true for youth facing severe challenges of landlessness and joblessness. This innovative approach provided legal landholding certificates and extension support to landless youth in exchange for restoring degraded communal lands. This resulted in youth employment, increased livelihood opportunities, empowered youths who have few other options but to migrate, and strengthened the basis for more citizen engagement and better participation in the governance of natural resources. It also helped diversify and balance competing land uses in rural landscapes and boost climate resilience in productive landscapes. As of December 2016, over 740 youth groups with more than 15,000 members (40 percent female) have received group landholding certificates or other legal documentation. About 100,000 landless youth could be reached with sufficient financing that would complement the US\$100 million of World Bank financing planned for approval in July 2018. This initiative is part of the World Bank–financed Ethiopia Sustainable Land Management Project II (SLMP 2), one of the 12 country investments comprising the World Bank/GEF–funded SAWAP in support of Africa's Great Green Wall Initiative.



Box 6. Supporting Integrated Decision Making for Landscape Management across Sectors in Madagascar and Mozambique

The World Bank has initiated a program of technical assistance in Madagascar and Mozambique under the Land Use Planning for Enhanced Resilience of Landscapes (LAUREL) project. It supports integrated decision making for landscape management through improved spatial data on land degradation and the development of prototype platforms for simulating, evaluating, and re-orienting as appropriate land use and land-use change processes. This is a highly innovative combination of analytical work, modelling and capacity building, with the ultimate goal of mainstreaming land-use planning tools in real life policy and investment decisions. It includes the assessment of alternative policies and investments to achieve specific development outcomes with lesser environmental impacts (less deforestation, land degradation, erosion, and so forth). Once developed, the conceptual and modelling approach could be replicated in other countries facing difficult decisions on how to optimize land-use planning and reconcile economic and environmental objectives.

Box 7. M&E Support to SAWAP teams under the Building Resilience through Innovation, Communication and Knowledge Services (BRICKS) Project

Under the BRICKS Project, the Observatory of Sahara and the Sahel (OSS) monitors SLM changes at national and regional levels, provides capacity building on M&E to national project teams, and facilitates the harmonization process among countries. OSS has recently developed the SAWAP Geospatial online portal (available at sawap.net) for the SAWAP community. The portal provides access to satellite imageries and allows them to overlay national data over these imageries. Geographical Information System (GIS) tools with additional in-country functionalities have been developed for the SAWAP projects in Chad, Ethiopia, Niger, Senegal, and Sudan. OSS trained country teams on GIS and on the geoportal, including Collect Earth, and provided flash drives with relevant thematic national maps to mitigate Internet access issues.

incentives for farmers to use and protect trees. It hence contributed to the success of Farmer Managed Natural Regeneration and other SLM practices. Similarly, in an increasing number of countries and operations (for example, Burkina Faso, Niger, and Mozambique), performance-based frameworks and incentives have been developed to influence communities or businesses in managing natural resources sustainably. However, as emphasized by the SIP review, policy development often requires time beyond traditional project timeline, for example, long-term programmatic support is needed

for policy reforms to be tested and adjusted. Looking forward, guidance for policy development and implementation and the design of incentives are critical elements of the WBG support to clients in Madagascar and Mozambique (Box 6).

Programs need to measure results on the ground. The importance of M&E has been emphasized throughout the programs. According to its M&E system, for example, the SIP implemented SLM practices on 2.7 million hectares with 4.8 million beneficiaries engaged. SAWAP, with 0.6 million hectares and 7.4

million beneficiaries to date, is on track to reach its 2020 target. The development of performance-based incentives as well as community-based management/control systems also generates certain needs. While experience shows that M&E for SLM operations can be challenging, recent developments in satellite imagery make its use much easier, including for those with limited technical skills. The use of drones is also becoming more accessible, for example, for communities, project teams, or decentralized administrations to monitor local resources. African capacity needs to be expanded and mobilized on M&E (box 7). At the public administration level, the increasing use of performance-based aid funding such as under the new bio-digester promotion program in Burkina Faso, or the World Bank's *Program for Results* (PforR) financing instrument, for example, in Rwanda, is contributing to stronger country ownership and simpler finance administration. Looking forward, and to inform current developments to strengthen and harmonize M&E systems in line with the SDGs, NDCs and LDN target setting, one can usefully build on the practical experience and capacity developed under SIP, SAWAP and other projects, including by African centers of excellence. Also, in addition to the permanent need to fine-tune emerging M&E tools and build related capacity, the World Bank, GEF, and their partners are also working on improving the impact assessment of SLM interventions in the long run.

Multipronged and multisectoral approaches are needed to address the complex challenges facing degraded landscapes. Addressing land degradation requires inputs from different sectors such as environment, forest, agriculture, and water. Interventions must deal with diverse land uses and a broad menu of solutions while often prioritizing multiple environment, economic, and social objectives in order to reach the desired impacts.⁸ This

8 TerrAfrica (2011a) documents proven practices in domains that range from irrigation and water harvesting to forest management, soil conservation, agroforestry, and crop-livestock integration.



Box 8. The UN / World Bank Sahel Initiative

The UN / World Bank Sahel Initiative was jointly launched by the World Bank Group and the United Nations in 2013. It builds on a development pledge of US\$1.5 billion to help Sahel countries tackle political, food, climatic, and security vulnerabilities with a regionally coordinated approach to build resilience and promote economic opportunity. The World Bank Group developed several regional landmark projects that are relevant to NRM in the Sahel drylands are at advanced preparation stage or under implementation. The initiative includes the SAWAP in support of the Great Green Wall of Africa and these projects dealing with Burkina Faso, Chad, Mali, Mauritania, Niger, and Senegal:

- **The US\$248 million Regional Sahel Pastoralism Support Project (PRAPS)**, launched in 2015 aims to improve access to essential productive assets, services, and markets for pastoralists and agropastoralists in selected transborder areas and transhumance axes.
- **The US\$280 million Sahel Irrigation Initiative Support Project (SIIP)** promotes a holistic approach such as water harvesting and the System of Rice Intensification (SRI) to tackle key constraints. It targets the development of 23,480 hectares of irrigated land, benefiting approximately 80,000 farming households (Board approval expected in November 2017).
- **The US\$64 million Sahel Adaptive Social Protection Program (ASPP)** aims to support poor and vulnerable populations. Implemented with the support of a multidonor trust fund including the United Kingdom's Department for International Development (DFID). Among others, it promotes labor-intensive public works interventions that generate environmental and economic benefits.

feature is now further emphasized by the evolution from a main focus on land degradation in productive lands to the broader, ecosystems-based resilient landscape approach. Integrated Landscape Management for Enhancing Resilience in Africa's Drylands, part of the World Bank regional study on Confronting Drought in Africa's Drylands, presents emerging findings on the importance of moving beyond single-sector interventions to embrace integrated landscape management. The World Bank mobilizes a diverse range of competencies and teams to meet this requirement, whether as part of SLM/landscape-specific operations such as SAWAP and SIP, or under projects such as the Regional Sahel Pastoralism Support Project (PRAPS), part of the UN / World Bank Sahel Initiative (box 8), PRAPS supports significant NRM activities contributing to the fight against land degradation, while mitigating tensions and conflicts among land users. It focuses particularly on the inclusion of pastoralists and other communities in the planning and

management of pastoral resources (land and water) and related livestock movements, such as during the transhumance and displacement. New and planned World Bank operations in countries such as Burundi, Madagascar, Mozambique, and Zambia now adopt landscape approaches on a systematic basis, in line with ARLI. Interventions' designs identify future drivers of vulnerability and recommend cross-border solutions that curb poverty, migration, and displacement. Looking ahead, the WBG can usefully mobilize teams across sectors to assist in the preparation, financing, and implementation at scale of new operations. Further support, tailored to countries' respective needs, should build on African countries' own experiences and learning processes and focus on designing and improving systems and interventions that promote these integrated approaches in practice.

Cutting-edge analytical work should support decision making.

The WBG's program has evolved over the years, maintaining flexibility, adjusting its focus to the emerging challenges, learning from the past and from its own implementation. It has spearheaded cutting-edge analytical work and developed tools to provide strategic guidance, inform policies and decision making at different levels, and leverage additional resources. Many studies have provided practical guidance on emerging issues and opportunities such as private sector engagement in landscape programs (World Bank 2017b). Recent country-specific support has entailed Country Environmental Assessments (for example, in Burundi and Ethiopia), Forest Policy Notes (for example, in Ethiopia and Democratic Republic of Congo), and Restoration Opportunity Assessment Mapping (ROAM) exercises. Many studies have provided practical guidance on emerging issues and opportunities such as private sector engagement in landscape programs (World Bank 2017b). Recent country-specific support has entailed Country Environmental Assessments (for example, in Burundi and Ethiopia), Forest Policy Notes (for example, in

Ethiopia and Democratic Republic of Congo), and Restoration Opportunity Assessment Mapping (ROAM) exercises in Burundi and Mozambique in collaboration with the International Union for Conservation of Nature (IUCN). Likewise, there is a need to systematically understand new emerging challenges. For instance, migrations have intensified in recent years, often exacerbated by the lack of livelihoods, and with natural resources as a contributing factor. In turn, related movements such as refugee influxes often have an impact on the natural base near refugee settlements. Addressing these situations requires specific analytical work as illustrated in Uganda and Kenya, where it will inform new lending operations (box 9).

Knowledge sharing and exchange and strategic communication are key to reach broad constituencies.

The World Bank has spearheaded knowledge sharing and innovative approaches to build capacity, strengthen communities of practice, stimulate local innovation and learning processes, leverage funding, and design large-scale, continentwide investments. Partnerships such as TerrAfrica brought an increasing and diversified number of partners to exchange and share the lessons. African media, grassroots organizations, faith groups, youth alliances, and women's cooperatives

were brought in to be part of the conversation. Typical illustrations include assessing and documenting experiences, approaches and practices (such as under TerrAfrica's SLM in Practice [2011a]), developing or building capacity on new tools, preparing guidelines for planners and practitioners (such as Country Support for Scaling-up SLM [FAO 2009]) and training countries on ROAM. South-south knowledge exchanges and field visits, as illustrated earlier with shade-grown coffee promotion in Burundi, Colombia and Rwanda, deserve special attention. Indeed, by sharing successful practices and experiences adaptable across the continent, they have contributed to stimulating initiative, confidence and innovation, as well as to the cross-fertilization of knowledge among practitioners. Several exchanges have been organized for the 12 SAWAP project teams under the BRICKS as well as the six national NRM teams under the PRAPS. Similarly, Madagascar's visit to draw lessons from Rwanda's achievements for the preparation of a large landscape project increased the related momentum within government and stimulated coordination between the ministries of environment and agriculture.

The private sector should be a key driver of positive change in sustainable natural resource management. Companies dealing

Box 9. Rapid Diagnostic Assessment of Land and Natural Resources Degradation in Areas Impacted by South Sudan Refugee Influx in Kenya and Uganda

A challenge facing Kenya and Uganda is to address a mounting land and natural resources degradation problem associated with a rapidly growing influx of refugees from South Sudan and Somalia. In addition, a food security and emergency agricultural livelihoods strategy provides refugees with a small plot of land for agriculture. These circumstances are resulting in land degradation, woodland loss associated with overcutting of woodlands for biomass fuels, competition for scarce water resources, and significant impacts on host populations' access to education and health care services. In Kenya, the large number of refugees since 1991 has resulted in negative economic, social and environmental impacts, especially degradation and loss of vegetation cover. With TerrAfrica support, the World Bank has initiated a rapid diagnostic assessment of land and natural resources degradation in areas in Kenya and northern Uganda impacted by the influx of refugees from South Sudan.



with natural resource-based dependent commodities are increasingly recognizing the need for committing to sustainability and goals such as zero deforestation. Motivations can be diverse, from customers' perception to supply-related risk management. Each of these industries and companies dealing with goods like rubber, palm oil, coffee, cocoa, shea butter, timber, beverages, and cement bring their own capacity and know-how, expanding economic opportunities and widening the knowledge base. However, companies need to mitigate risks and uncertainty that may deter businesses or affect

local communities. Support can be targeted at easing companies' dialogue with government and stakeholders at the landscape levels, developing performance-based management and promotion systems, and implementing reliable monitoring systems. Illustrations include the current development of an innovative performance-based management system for forests by timber companies in Mozambique's miombo ecosystems. In that perspective, the WBG, and specifically the International Finance Corporation (IFC), can draw significant lessons on value-chain experiences from Nespresso Coffee in Ethiopia,

value-chain groupings with cotton companies in Zambia (box 9), or from the global cocoa industry (Kroeger et al. 2017).

Mobilizing and leveraging financing are essential for supporting large-scale programs. The Paris Climate Conference of 2015 (COP 21) was a turning point for African countries to strengthen the resilience of their landscapes and livelihoods. More resources need to be mobilized, combined with technical assistance, empowering local land users, and scaling up success stories across Africa for sustainable poverty reduction and shared prosperity in

Box 10. TerrAfrica's Strategic Communications

An ambitious youth outreach initiative invited young people to submit photos, videos, music videos, and podcasts that communicate compelling climate change and land degradation stories. The competition brought them into the conversation. The initiative relied on countries' networks of radio stations and grassroots organizations, and through a partnership with Connect4Climate (C4C), which is building a worldwide community of individuals on climate change action. It also helped Kenyan rappers, who were raised in poverty in Nairobi, to work with Eminem and produce a CD to raise funds for climate change projects. The CD was featured on prime advertising jumbotrons in New York's Times Square (box photo) and shown on December 21, 2012, one of the busiest travel days, on 125 screens in 68 airport stores in 14 major U.S. airports. This effort had the potential to reach over 500 million passengers.

Box 11. World Bank Group Partners with Nespresso to Bolster Sustainable Coffee in Ethiopia and Cotton Companies in Zambia

In 2016, linked to Ethiopia's Oromia Forested Landscape Program, the BioCarbon Fund Initiative for Sustainable Forest Landscapes, the World Bank Group's IFC, the international coffee company Nespresso, and the nonprofit TechnoServe launched a collaboration project to support coffee farmers in Ethiopia. The goal is to support climate-smart coffee production and help increase the productivity of high-quality coffee in Oromia. This entails making 77 wet mills comply with standards under the Nespresso AAA Sustainable Quality Program™ (AAA) and training 20,000 farmers to convert 9,540 hectares of traditional coffee production to AAA standards. This is supported with a US\$3 million grant to the Nespresso Sustainability Innovation Fund to provide farmers with intensive, field-based agronomy and business training to advance sustainable coffee production, and an additional a US\$3 million loan to Nespresso to increase shade tree planting within coffee farms and enhance wet mill processing.

In Zambia, discussions have been initiated with several cotton companies to create a collective partnership to produce zero-deforestation cotton as part of COMPACI certification. The Bank's BioCarbon Fund sponsored a technical study of the cotton sector to understand how zero-deforestation cotton schemes can be successful, including the types of operational activities and corporate policies that would need to be supported. This study is complete and is now serving as a basis for engaging cotton companies and other agribusiness. In addition, several partnerships are being discussed with other private sector entities to leverage opportunities for climate-smart agriculture, ecotourism, and nonforest timber products.

climate resilience. To mobilize and implement finance at scale while promoting integrated approaches, the World Bank Group will draw from its recognized systems, tools, and teams across sectors. In addition, the World Bank Group will continue to mobilize resources from IDA and leverage climate finance and trust funds. It will form alliances for larger impact, for instance with GEF, which

has been a long advocate of the land degradation agenda. For this, it can build on the experience of large regional programs like SIP and SAWAP (respectively \$657 and \$992 million from IDA, GEF and donors such as Norway in Ethiopia) as well as country specific co-financing as illustrated with the French Agence Française de Développement for new landscape operations in

Madagascar. The World Bank will also support clients in seizing emerging opportunities offered by private sector financing (for example, impact investors). Finally, the World Bank will continue to work with financial and technical partners on the preparation of new programs and the design of new approaches.



CONCLUSION

The importance of sub-Saharan Africa drylands and the scale of the challenges that they face now and in the years to come call for shifting away from a business-as-usual mode. In fact, there is a range of proven and well-documented interventions in key sectors that can be scaled up and implemented while remaining within reach of the national budgets and development aid. Fighting against land degradation at landscape scale is key not only to meeting these challenges toward improved resilience, food security, and stability—it can also generate significant economic, social, and environmental benefits for the populations of these regions as well as beyond.

Implementing this agenda effectively will require a number of key ingredients from the respective countries and their partners such as:

- relying on robust analysis and tools, as well as experience sharing, to provide guidance to decision makers at different levels, including policy makers, planners, and land users;
- promoting integrated solutions that take advantage of landscape approaches and experience;
- mobilizing and channeling financing at scale and from a combination of sources, including by leveraging the private sector potential; and
- promoting partnerships to take full advantage of synergies, relative strengths, and knowledge.

Building on the experience and expertise it has accumulated in these areas, the recognized support systems it has developed, and the teams and partners it can mobilize across sectors, the World Bank will continue to support sub-Saharan African countries to meet their ambitions. Interventions' designs will identify future drivers of vulnerability and recommend cross-border solutions that curb poverty, migration, and displacement. Further support, tailored to countries' respective needs, should build on African countries' own experiences and learning processes and focus on designing and improving systems and interventions that promote these integrated approaches in practice.







Desertification is not Fate

Blog by Magda Lovei on Nazikiliza, I am Listening – World Bank Blog

In East Africa and West Africa, about 300 million people living in dryland areas rely on natural, resource-based activities for their livelihood. By 2030, this number could increase to 540 million. At the same time, climate change could result in an expansion of Africa's drylands by as much as 20%.

The degradation of land, water, and forests transcends institutional and geographic boundaries. So do recurrent droughts and floods. They compel us to increase our commitment to the sustainable use of natural resources, to climate change adaptation and mitigation, and to improving food security and water security.

Business as usual is definitely not a viable option when it comes to the drylands. Instead, there is a need for natural resource-based interventions, such as landscape restoration and sustainable management, complemented by better safety nets, contingent finance mechanisms, and alternative livelihoods.

African countries are now reconfirming commitments and targets to achieve these, and jointly mobilizing resources for the large-scale restoration of Africa's landscapes.

I recently returned from Ghana where I attended a conference including representatives of 12 countries, participants in the [Sahel and West Africa Program \(SAWAP\)](#), a \$1.1 billion program funded by the World Bank, GEF, and others under the [TerrAfrica](#) partnership to support the African Union's Great Green Wall initiative—a continental vision to halt desertification and land degradation.

Teams from Benin, Burkina Faso, Chad, Ethiopia, Ghana, Mali, Mauritania, Niger, Nigeria, Senegal, Sudan, and Togo reviewed their progress, shared their experience, and discussed future opportunities for landscape restoration. Many successes, innovations, and inspiring results across the continent were cited. They are making us believe that desertification is not our fate.

Through the SAWAP, as many as 5,894 institutions across the continent have increased their adaptive capacity and as many as 14.9 million direct beneficiaries have been reached. These commitments motivate us to do more.

In [Ethiopia](#), where large-scale landscape rehabilitation is already a reality, the provision of legal landholding certificates and extension support to formerly landless youth—in exchange for restoring degraded communal lands—represents a successful innovation. It has resulted in employment, more livelihood opportunities, the empowerment of youth, and an alternative to migration. It has also helped diversify and balance competing land uses and boosting climate resilience in productive landscapes. Over 740 youth groups with more than 15,000 members, 40 percent of them female, have benefited. About 100,000 landless youth could be reached with the right financing.

In Ghana, a programmatic series of Bank projects has evolved through three phases of sustainable land management, each one expanding the reach and scope of intervention. This programmatic series of Bank projects has focused on connecting fragmented habitats in protected areas, forest reserves, woodlands, agroforestry land, rangelands and croplands. So far, it has supported over 14,000 land users who adopted conservation measures in 150 communities.

In Burkina Faso, the Sahel Integrated Lowland Ecosystem Management Project has pioneered the concept of biodiversity in productive landscapes in 180 villages. It has created and catalyzed community dynamics for the sustainable management of natural resources at the micro-watershed level by implementing incentives, creating an investment framework, and rewarding individual and collective know-how.

More momentum needed

What emerged from the SAWAP meeting is that much more must be done to sustain the momentum, scale up successes, and face challenges emerging from the impact of climate change. The World Bank is fast-tracking support to the continent's resilience under the [Africa Climate Business Plan](#). Investment in climate-resilient landscapes is one of the key pillars of the plan, committing to mobilize \$755 million for such measures by 2024.

With a continental vision, strong commitment, broad partnerships, and commensurate financing, transformation of Africa's drylands is possible. We know we cannot transform livelihoods without restoring landscapes and building the resilience of the ecosystems upon which the people depend on for their food, water, and security.

The [UN Sustainable Development Goals \(SDGs\)](#), the [Paris Climate Agreement](#), [UNCCD's aspiration for a Land Degradation Neutral world](#), the [Africa Resilient Landscape initiative](#), the [African Forest Landscape Restoration Initiative](#), and the [Windhoek Declaration](#) on drought all remind us that collaborative action is our only chance for success.

Selected World Bank-funded Projects with SLWM Components in Africa 2006 – 2019

Over 200 projects with SLWM components were implemented to strengthen countries' effort. These projects span sectors such as agriculture, environment, disaster risk management, and rural development.

Board Approval (Year)	Regional/Country	Project Name	IBRD/ IDA Amount (US\$M)	GEF Amount (US\$M)	Other (Trust funds) Amount (US\$M)	Total Amount (\$M)
PROJECTS PIPELINE						
2019	Zambia	BioCarbon Fund Emissions Reduction Purchase Agreement*	-	-	47.0	47.0
2018	Burkina Faso	Livestock Sector Development Support Project*	60.0	-	-	60.0
2018	Burundi	Landscape Restoration Project*	50.0	-	-	50.0
2018	Central African Republic	Natural Resources Governance Project*	10.0	-	-	10.0
2018	Republic of Congo	Commercial Agriculture Project*	100.0	-	-	100.0
2018	Republic of Congo	Emission Reductions Program in Sangha-Likouala*	-	-	51.0	51.0
2018	Cote d'Ivoire	Cashew Value-Chain Competitiveness Project*	186.0	-	-	186.0
2018	Ghana	Emissions Reductions Program*	-	-	26.0	26.0
2018	Mali	Economic & Environmental Rehabilitation of the Niger River*	50.0	-	-	50.0
2018	Mozambique	Dedicated Grant Mechanism for Local Communities*	-	-	4.5	4.5
2018	Nigeria	Ogun State Nigeria: Agricultural Production and Industrialization*	350.0	-	-	350.0
2018	Senegal	Support to Senegal Land Reform*	15.0	-	-	15.0
2018	Tanzania	Catalyzing the Future Agri-food Systems of Tanzania	100.0	-	-	100.0
2018	Tanzania	Resilient Natural Resource Management for Tourism and Growth*	150.0	-	-	150.0
CURRENT PROJECTS						
2017	Angola	Smallholder Agriculture Development and Commercialization Project	70.0	-	-	70.0
2017	Burkina Faso	Support to the National Biodigester Program	-	-	6.1	6.1
2017	Cameroon	Livestock Development Project	100.0	-	-	100.0
2017	Democratic Republic of Congo	Mai-Ndombe REDD+ Integrated Project under Central African Forest Initiative (CAFI)	-	-	18.2	18.2
2017	Republic of Congo	Forest and Economic Diversification Project	-	6.5	-	6.5
2017	Eastern Africa	Great Lakes Regional Integrated Agriculture Development Project	75.0	-	-	75.0
2017	Ethiopia	Multi-sector Investment Planning for Climate Resilience	-	-	1.5	1.5
2017	Ethiopia	Oromia National Regional State Forested Landscape Program	-	-	68.0	68.0
2017	Ghana	Dedicated Grant Mechanism for Local Communities Project	-	-	5.5	5.5
2017	Kenya	Climate Smart Agriculture Project	250.0	-	-	250.0
2017	Kenya	National Agricultural and Rural Inclusive Growth Project	200.0	-	-	200.0
2017	Madagascar	Sustainable Landscape Management Project	65.0	-	-	65.0
2017	Malawi	Agricultural Commercialization Project	95.0	-	-	95.0
2017	Malawi	Strategic Program for Climate Resilience	-	-	1.5	1.5
2017	Mozambique	Forest Investment Project	15.0	-	-	15.0
2017	Nigeria	Agro-Processing, Productivity Enhancement and Livelihood Improvement Support Project	200.0	-	-	200.0
2017	Somalia	Strengthening Pastoral and Agropastoral Resilience in Somalia	-	-	30.0	30.0
2017	Zambia	Integrated Forest Landcape Program	17.0	-	8.0	25.0
2016	Africa	Regional Great Lakes Integrated Agriculture Development Project	150.0	-	-	150.0
2016	Africa	Pastoralism & Stability in the Sahel and Horn of Africa	-	-	2.8	2.8
2016	Burkina Faso	Local Forest Communities Support Project	-	-	4.5	4.5
2016	Burundi	Coffee Sector Competitiveness Project	55.0	-	-	55.0
2016	Cote d'Ivoire	Local Governance and Local Development	20.0	-	-	20.0

2016	Kenya	Promoting Biogas as Sustainable Clean Cooking Fuel for Rural Households	-	-	4.6	4.6
2016	Madagascar	Agriculture Rural Growth and Land Management Project	53.0	-	-	53.0
2016	Madagascar	Ethanol clean cooking climate finance program	-	-	11.9	11.9
2016	Mauritania	Sustainable Landscape Management Project	-	4.8	-	4.8
2016	Mozambique	Agriculture and Natural Resources Landscape Management Project	40.0	-	-	40.0
2016	Niger	Climate Smart Agriculture Support Project	111.0	-	-	111.0
2016	Sierra Leone	Smallholder Commercialization and Agribusiness Development Project	40.0	-	-	40.0
2016	Tanzania	Southern Agricultural Growth Corridor of Tanzania Investment Project	70.0	-	-	70.0
2015	Cameroon	Agriculture Investment and Market Development Project	100.0	-	-	100.0
2015	Ghana	Forest Investment Program - Enhancing Natural Forest and Agroforest Landscapes Project	-	-	29.5	29.5
2015	Guinea	Agricultural Support Project	15.0	-	-	15.0
2015	Mozambique	Conservation Areas for Biodiversity and Development Project	40.0	6.3	-	46.3
2015	Niger	Agro-sylvo-pastoral Exports and Markets Development Project	13.8	-	-	13.8
2015	Rwanda	Landscape Approach to Forest Restoration and Conservation	5.5	-	-	5.5
2015	Rwanda	Transformation of Agriculture Sector Program	200.0	-	-	200.0
2015	Tanzania	Expanding Rice Production	-	-	22.9	22.9
2015	Uganda	Agriculture Cluster Development Project	150.0	-	-	150.0
2015	Uganda	Sustainable Natural Resources Management for Growth Project	45.0	-	-	45.0
2015	Uganda	Multisectoral Food Security and Nutrition Project	-	-	27.6	27.6
2015	Western Africa	Regional Sahel Pastoralism Support Project	248.0	-	-	248.0
2015	Zambia	Community Markets for Conservation (COMACO) Landscape Management Project	-	-	1.3	1.3
2014	Africa	African Forum for Agricultural Advisory Services Second Multi-Donor Trust Fund	-	-	6.5	6.5
2014	Africa	Centre for Coordination of Agricultural Research and Development for Southern Africa (CCARDESA)	-	-	26.0	26.0
2014	Africa	Regional Pastoral Livelihoods Resilience Project	197.0	-	-	197.0
2014	Africa	Africa Climate Risk Management for Green Growth Project	35.0	-	-	35.0
2014	Africa	Association for Strengthening Agricultural Research in East and Central Africa Multi Donor Trust Fund	-	-	30.0	30.0
2014	Burkina Faso	Forest Investment Program - Decentralized Forest and Woodland Management Project	16.5	-	-	16.5
2014	Democratic Republic of Congo	National Parks Network Rehabilitation Project	6.0	-	-	6.0
2014	Democratic Republic of Congo	Improved Forested Landscape Management Project	36.9	-	-	36.9
2014	Democratic Republic of Congo	Forest Dependent Communities Support Project	-	-	12.0	12.0
2014	Cote d'Ivoire	Agriculture Sector Support Project	50.0	-	-	50.0
2014	Gabon	Sustainable Management of Critical Wetlands Ecosystems	7.5	-	-	7.5
2014	Gambia, The	Commercial Agriculture and Value Chain Management Project	15.9	-	-	15.9
2014	Madagascar	Irrigation and Watershed Management Project	-	-	12.7	12.7
2014	Mali	Natural Resources Management in a Changing Climate Project	12.0	8.4	-	20.4
2014	Senegal	Community-based Sustainable Land Management Project	-	6.0	-	6.0
2014	Senegal	Sustainable and Inclusive Agribusiness Project	80.0	-	-	80.0
2014	Sudan	Sustainable Natural Resources Management Project	-	25.8	-	25.8
2014	Tanzania	Kihansi Catchment Conservation and Management Project	-	6.0	-	6.0
2014	Western Africa	Building Resilience through Innovation, Communication & Knowledge Services	-	4.6	-	4.6
2014	Zimbabwe	Hwange-Sanyati Biological Corridor Project	-	5.7	-	5.7
2013	Africa	Agricultural Productivity Program for Southern Africa	90.0	0.0	-	90.0
2013	Burkina Faso	Community Based Rural Development Project	70.0	7.4	-	77.4
2013	Burundi	Sustainable Coffee Landscape Project	-	4.2	-	4.2
2013	Kenya	Agricultural Sector Support Project	45.0	-	-	45.0
2013	Liberia	Forestry Sector Support Project	10.0	-	37.5	47.5
2013	Mauritania	Agriculture Development and Food Price Response	5.0	-	-	5.0

2013	Mozambique	Climate Change Development Policy Operation	50.0	-	-	50.0
2013	Mozambique	Agriculture Development Policy Operation	125.0	-	-	125.0
2013	Niger	Integrated Ecosystems Management	-	4.5	-	4.5
2013	Nigeria	Agriculture Sector Development Policy Operation	100.0	-	-	100.0
2013	Zambia	Strengthening Climate Resilience	-	-	36.0	36.0
2012	Africa	Enhancing Institutional Capacities on Reduced Emissions from Deforestation and Forest Degradation (REDD+) issues for Sustainable Forest Management in the Congo Basin	-	13.0	-	13.0
2012	Africa	Lake Malawi/Niassa/Nyasa Conservation and Development Project	36.0	-	-	36.0
2012	Chad	Agriculture Production Support Project	25.0	-	-	25.0
2012	Republic of Congo	Forest and Economic Diversification Project	10.0	-	-	10.0
2012	Ghana	Commercial Agriculture	100.0	-	-	100.0
2012	Lesotho	Smallholder Agriculture Development Project	20.0	-	-	20.0
2012	Liberia	Smallholder Tree Crop Revitalization Support Project	15.0	-	-	15.0
2012	Mozambique	Climate Change Technical Assistance Project	0.0	-	2.0	2.0
2012	Niger	Community Action Project for Climate Resilience	60.8	-	63.0	123.8
2012	Nigeria	Erosion and Watershed Management Project	500.0	8.6	-	508.6
2012	Somalia	Drought Management and Livelihood Protection	-	-	9.0	9.0
2012	Togo	Integrated Disaster and Land Management Project	-	5.5	7.3	12.7
2012	Zambia	Livestock Development and Animal Health Project	50.0	-	-	50.0
2011	Africa	Nyika Transfrontier Conservation Area Project	-	4.8	-	4.8
2011	Africa	Comprehensive Africa Agriculture Development Programme (CAADP) Multi donor trustfund: African Union Commission, Common Market for Eastern and Southern Africa (COMESA), Conference of Ministers of Agriculture of West and Central Africa, Southern African Development Community (SADC) Secretariat	-	-	13.5	13.5
2011	Africa	Support to NEPAD Planning and Coordinating Agency (NPCA) TerrAfrica Secretariat	-	-	5.3	5.3
2011	Benin	Agricultural Productivity and Diversification	76.0	-	-	76.0
2011	Benin	Support to Protected Areas Management	5.0	1.9	-	6.9
2011	Central African Republic	Agro-Pastoral Recovery Project	23.8	-	-	23.8
2011	Ethiopia	Agricultural Growth Program	550.0	-	-	550.0
2011	Ghana	Sustainable Land and Water Management	-	29.7	-	29.7
2011	Kenya	Agricultural Carbon Project	100.0	0.0	1.0	101.0
2011	Kenya	Agricultural Productivity and Sustainable Land management Project	-	10.0	-	10.0
2011	Madagascar	Environmental Program	42.0	-	-	42.0
2011	Madagascar	Support to Madagascar's Foundation for Protected Areas and Biodiversity	-	10.0	-	10.0
2011	Namibia	Promoting Environmental Sustainability through Improved Land use Planning	-	1.0	-	1.0
2011	Nigeria	Scaling Up Sustainable Land Management Practice, Knowledge, and Coordination	-	6.8	-	6.8
2011	Sao Tome and Principe	Adaptation to Climate Change	-	10.2	-	10.2
2011	South Sudan	Support to Agriculture and Forestry Development Project	-	-	14.3	14.3
2011	Swaziland	Disaster Risk Management and Livelihood Development	-	-	2.7	2.7
2011	Togo	Agricultural Sector Support Project	29.0	-	-	29.0
2011	Western Africa	West and Central African Council for Agricultural Research and Development (WECARD) Trust Fund	-	-	34.6	34.6
2011	Western Africa	West Africa Agricultural Productivity Program	361.8	-	-	361.8
2011	Zambia	Irrigation Development and Support Project	115.0	-	-	115.0
2010	Africa	Nile Equatorial Lakes Subsidiary Program (NELSAP) Regional Agricultural Trade and Productivity Technical Assistance	-	-	7.0	7.0
2010	Africa	Eastern Africa Agricultural Productivity Project	30.0	-	-	30.0
2010	Burkina Faso	Agricultural Productivity and Food Security Project	86.0	-	-	86.0
2010	Burundi	Agro-Pastoral Productivity and Markets Development Project	93.0	-	-	93.0
2010	Democratic Republic of Congo	Carbon Sink - Bateke	-	-	4.0	4.0
2010	Democratic Republic of Congo	Agriculture Rehabilitation and Recovery Support	195.0	-	-	195.0

2010	Ghana	Agriculture Development Policy Operation	82.0	-	-	82.0
2010	Kenya	Enhancing Agricultural Productivity Project	-	-	26.2	26.2
2010	Kenya	Adaptation to Climate Change in Arid and Semi-Arid Lands	-	5.5	-	5.5
2010	Malawi	Community Based Rural Land Development Project	10.0	-	-	10.0
2010	Mali	Fostering Agricultural Productivity Project	70.0	-	-	70.0
2010	Mali	Sustainable Land Management	-	6.2	-	6.2
2010	Rwanda	Land Husbandry, Water Harvesting and Hillside Irrigation	69.0	-	-	69.0
2010	Senegal	Sustainable Land Management Project	-	4.8	-	4.8
2010	Sierra Leone	Biodiversity Conservation Project	-	5.0	-	5.0
2010	South Africa	Development, Empowerment and Conservation in the Greater St Lucia Wetland Park and Surrounding Region	-	9.0	-	9.0
2010	Sudan	Agricultural Services Support Project	-	-	15.0	15.0
2010	Sudan	Revitalizing the Sudan Gum Arabic Production and Marketing	-	-	7.0	7.0
2010	Uganda	Agricultural Technology and Agribusiness Advisory Services	120.0	-	-	120.0
2010	Uganda	Sustainable Environment & Carbon Finance	-	-	8.4	8.4
2010	Uganda	Sustainable Land Management Country Program	-	7.2	-	7.2
2009	Africa	East Africa Agricultural Productivity Program	90.0	-	-	90.0
2009	Africa	Lake Victoria Environmental Management Project	142.0	7.0	-	149.0
2009	Africa	Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) Trust Fund	-	-	50.0	50.0
2009	Angola	Market Oriented Smallholder Agriculture Project	30.0	-	-	30.0
2009	Burkina Faso	Sustainable Wildlife and Biodiversity Management Project	12.0	-	-	12.0
2009	Cameroon	Agricultural Competitiveness Project	60.0	-	-	60.0
2009	Cameroon	Community Development Program Support Project	40.0	-	-	40.0
2009	Democratic Republic of Congo	Rehabilitation and Participatory Management of Key Protected Areas	-	6.0	-	6.0
2009	Democratic Republic of Congo	Forest and Nature Conservation Project	64.0	-	-	64.0
2009	Ghana	Natural Resource and Environmental Governance	65.0	-	-	65.0
2009	Guinea-Bissau	Food Price Crisis Response Program	-	-	5.0	5.0
2009	Kenya	Agricultural Input Supply Program	-	-	5.0	5.0
2009	Kenya	Agricultural Productivity and Agribusiness Project	82.0	-	-	82.0
2009	Madagascar	Rural Development Support Project	30.0	-	-	30.0
2009	Niger	Integrated Ecosystems Management	-	4.7	-	4.7
2009	Niger	Agro-Pastoral Export and Market Development Project	40.0	-	-	40.0
2009	Nigeria	Commercial Agriculture Development Project	150.0	-	-	150.0
2009	Tanzania	Accelerated Food Security Project	185.0	-	-	185.0
2009	Uganda	Environmental Management and Capacity Building	15.0	-	-	15.0
2009	Western Africa	Forum for Agricultural Research in Africa (FARA) Trust Fund	-	-	50.0	50.0
2008	Burundi	Agriculture Rehabilitation & Sustainable Land Management Supplement Project	15.0	-	-	15.0
2008	Cameroon	Environmental and Social Capacity Building for the Energy Sector	20.0	-	-	20.0
2008	Eritrea	Integrated Rural Development	42.0	-	-	42.0
2008	Ethiopia	Sustainable Land Management Program	70.0	22.0	-	92.0
2008	Ethiopia	Pastoral Community Development Project	190.0	-	-	190.0
2008	Ghana	Agriculture Development Policy Lending	25.0	-	-	25.0
2008	Kenya	Developing a Programmatic Approach to Sustainable Land Management through Strategic Planning and Capacity	3.0	-	-	3.0
2008	Liberia	Establishment of Protected Areas Network	-	2.8	-	2.8
2008	Malawi	Agricultural Development Programme Support Project	62.0	5.8	100.0	167.8
2008	Rwanda	Rural Sector Support	130.9	0.0	-	130.9
2008	South Africa	Restoration of Ecosystem Services for the Transformation of Rural Economies	-	15.0	-	15.0
2008	South Sudan	Support to Agriculture and Forestry Development Project	-	-	10.0	10.0
2008	Sudan	Improving Livestock Production and Marketing Project - A Pilot	-	-	9.8	9.8
2008	Tanzania	Lower Kihansi Environmental Management Project	3.5	-	-	3.5
2008	Uganda	Agricultural Research and Technology	12.0	-	-	12.0

2007	Africa	Investing in Sustainable Land Management Through Mainstreaming and Partnership Building - A Pilot Approach in Sub-Saharan Africa	-	1.0	-	1.0
2007	Africa	West Africa Agricultural Productivity Program	45.0	-	-	45.0
2007	Africa	West Africa Sustainable Land Management Program	-	10.0	-	10.0
2007	Republic of Congo	Agricultural Development and Rural Roads Rehabilitation Project	22.5	-	-	22.5
2007	Kenya	Greenbelt Movement	-	-	2.2	2.2
2007	Kenya	Natural Resource Management Project	68.5	-	-	68.5
2007	Kenya	Arid Lands Resource Management Project	60.0	-	-	60.0
2007	Kenya	Western Kenya Community Driven Development and Flood Mitigation Project	86.0	-	-	86.0
2007	Madagascar	Irrigation and Watershed Management Project	30.0	5.9	-	35.9
2007	Mali	Agricultural Services and Producer Organizations Project	20.0	-	-	20.0
2007	Sierra Leone	Rural and Private Sector Development	50.0	-	-	50.0
2006	Africa	Regional Facility to Promote Climate Change Mitigation in Sub-Saharan Africa	-	13.0	-	13.0
2006	Benin	Forests and Adjacent Lands Management Project	-	11.6	-	11.6
2006	Burkina Faso	Agricultural Diversification and Market Development Project	116.0	-	-	116.0
2006	Cameroon	Forest & Environment Sector Program	25.0	10.0	-	35.0
2006	Cameroon	Sustainable Agro-Pastoral and Land Management Promotion Project	-	6.0	-	6.0
2006	Ethiopia	Rural Capacity Building Project	54.0	-	-	54.0
2006	Gabon	Natural Resources Management Development Policy Loan	15.0	-	-	15.0
2006	Gabon	Strengthening Capacity for Managing National Parks and Biodiversity	10.0	-	-	10.0
2006	Guinea	Community-Based Land Management Project	0.0	7.0	-	7.0
2006	Malawi	Irrigation, Rural Livelihoods and Agricultural Development Project	90.0	-	-	90.0
2006	Mali	Agricultural Competitiveness and Diversification Project	66.4	-	-	66.4
2006	Mali	Rural Community Development Project	60.0	-	-	60.0
2006	Mauritania	Community Based Watershed Management Project	-	6.0	-	6.0
2006	Mozambique	Market led Smallholder Development in the Zambezi Valley	20.0	6.2	-	26.2
2006	Mozambique	Transfrontier Conservation Areas and Tourism Development Project	20.0	10.0	-	30.0
2006	Nigeria	National Fadama Development Critical Ecosystem Management Project	500.0	10.0	2.7	512.8
2006	Senegal	Agricultural Markets and Agribusiness Development Project	35.0	-	-	35.0
2006	Senegal	Agricultural Services & Producer Organizations Project	20.0	-	-	20.0
2006	Tanzania	Agricultural Sector Development Project	255.0	-	14.3	269.3
2006	Zambia	Agricultural Development Support Program	37.2	-	-	37.2
		TOTAL	10,624.5	389.2	1,002.4	12,016.1
		*Pipeline projects				

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