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# REVIEW OF FOREST AND LANDSCAPE RESTORATION IN AFRICA 2021

afr100

#### COVER PHOTO

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*Dry Sahelian landscape in Hapandou village, Zinder Region, Niger*

#### CHAPTER 1

*Farm landscape in Jomba, Rwanda*

#### CHAPTER 2

*A young PhD student of FAO partner INERA, Burkina Faso, monitoring restored plots under Action Against Desertification in support of Africa's Great Green Wall*

#### CHAPTER 3

*A view of terraced hills, Gicumbi, Rwanda*

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*A Karamojong pastoralist man takes his cows to graze, Kochunoi, Uganda*

#### CHAPTER 5

*Great Green Wall community nursery, Koyli Alpha, Senegal*

#### CHAPTER 6

*Aerial view of cultivated fields Betroka Region, Southern Madagascar*

# REVIEW OF FOREST AND LANDSCAPE RESTORATION IN AFRICA 2021

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# FOREWORD

The African continent is endowed with diverse forest ecosystems that offer a wide range of benefits to its people. Home to the second largest rainforest on the planet – the Congo Basin – Africa hosts 17 percent of the world’s forests and 31 percent of woodlands across the Sahel and other regions. These landscapes deliver numerous products and services, including food, fuel, shelter and freshwater, protect against hazards and provide habitats for wildlife.

Worryingly, however, these natural assets are currently undergoing structural changes due to degradation and fragmentation as the result of both natural processes and human (anthropogenic) activities. As much as 65 percent of productive land in Africa is degraded, while desertification affects 45 percent of the continent’s land area. Every year, nearly three million hectares of Africa’s forests are lost, leading to a 3 percent loss of GDP associated with soil and nutrient depletion. As a result of degraded forests and croplands and the associated loss of land productivity and desertification, Africa spends more than USD 35 billion on food imports annually. Rural smallholder farmers and households suffer the most from degraded lands as their activities directly depend on healthy soils, tree cover and clean water. Degraded forest landscapes not only intensify the effects of climate change but also severely threaten the ecological functions that are vital to building prosperous and resilient economies to the communities.


The urgent need to reverse these negative and devastating trends has prompted African leaders to commit to the restoration of the continent’s ecosystems. Through its roadmap for development, Agenda 2063, the African continent commits to ecosystems restoration by protecting, restoring and promoting sustainable use of terrestrial ecosystems, sustainably managing forests, and combating desertification. In 2015, the African Forest Landscape Restoration Initiative (AFR100) was launched to

restore 100 million hectares by 2030. In addition, the Pan-African Agenda on Ecosystem Restoration for building resilience led to commitments to restore 200 million hectares. The Great Green Wall Initiative for the Sahara and Sahel, launched in 2007, also led to the commitment of restoring 100 million hectares of degraded lands. On 1 March 2019, the United Nations General Assembly declared 2021–2030 *The UN Decade on Ecosystem Restoration*. All these efforts are expected to massively scale up the restoration of degraded landscapes as a proven measure to fight climate change and enhance food security, water supply and biodiversity.

*The Review of Forest and Landscape Restoration in Africa 2021* is a timely stocktake of the continent’s efforts on restoration. Although Africa presents the largest restoration opportunity among all continents – with more than 700 million hectares of degraded landscapes that can be restored – progress remains slow. A review of current approaches and exploration of emerging opportunities is key to accelerating restoration efforts.

The AUDA-NEPAD remains committed to working with a broad base of other African institutions, Member States and partners to fast-track restoration efforts on the continent. Transforming African agriculture and building resilient communities in the face of climate change is intricately linked to our success in restoring degraded lands into healthy, productive and diverse ecosystems.

Dr Ibrahim Assane Mayaki  
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Food production – a fundamental cornerstone of human development – is reliant on factors such as soil properties, water and climate, and goods and services from natural ecosystems, such as forests. In turn, trees and forests in the landscape play a key role in sustaining all these features and therefore in food production. Productive landscapes are particularly important in Africa, where the majority of people live in rural areas where poverty levels remain unacceptably high. Here, people are reliant on agriculture and natural resources for their livelihoods, food security and nutrition. Several countries in Africa have suffered from land degradation, which in many cases has prompted positive changes in land use and major attempts to restore rural landscapes, including through massive tree-planting campaigns.

Extending well beyond tree-planting, forest and landscape restoration (FLR) is an all-encompassing approach to returning trees and forests to landscapes where they have been lost. As such, it holds the promise of meeting multiple objectives, including food production, disaster risk reduction and climate change mitigation and resilience. The FLR process is long-term and can take many different pathways but ultimately seeks to return forest quality and quantity and their goods and services where they have been lost, in order to meet the needs of people and improve the environment. It is a sustainable, forward-looking solution.

The African continent embraced FLR through the AFR100 partnership, launched in 2015, with a challenge to restore 100 million ha of land by 2030, also taking advantage of the Great Green Wall of the Sahara and the Sahel initiative launched in 2007. Other initiatives such as the Regreening Africa programme or the work led by the Green Belt movement, developed under the pioneer and Nobel prize winner Wangari Maathai, all play important roles in rolling out FLR.

We are pleased to launch today, jointly with our partner the AUDA-NEPAD, this first ever *Review of Forest and Landscape Restoration in Africa* as we enter the UN Decade on Ecosystem Restoration. Findings from this report highlight the many successes already visible in Africa, identify factors contributing to these successes, and present opportunities and challenges going forward. Far from being exhaustive, we expect it to provide a useful baseline, a starting point from which we can assess progress during the UN Decade and beyond.

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# ABBREVIATIONS AND ACRONYMS

AAD	Action Against Desertification	ECCAS	Economic Community of Central African States
ACP	African, Caribbean and Pacific Group of States	EUR	Euro
AFR100	African Forest Landscape Restoration Initiative	FAO	Food and Agriculture Organization of the United Nations
A/R	Afforestation/Reforestation	FERI	Forest Ecosystem Restoration Initiative
ALAP	African Landscapes Action Plan	FIP	Forest Investment Programme
AMU/UMA	Arab Maghreb Union	FLEUVE	Front Local Environnemental pour une Union Verte
ANR	Assisted Natural Regeneration	FLR	Forest and Landscape Restoration
ARCOS	Albertine Rift Conservation Society	FLRM	Forest and Landscape Restoration Mechanism
ASFF	Africa Sustainable Forestry Fund	FMNR	Farmer-Managed Natural Regeneration
AU	African Union	FRA	Forest Resources Assessment
AUDA-NEPAD	African Union Development Agency-NEPAD	GAMS	Gums for Adaptation and Mitigation in Sudan
BMZ	German Federal Ministry for Economic Cooperation and Development	GBM	Green Belt Movement
BRICKS	Building Resilient, Information, Communication, and Knowledge Services	GCF	Green Climate Fund
BRIDGES	Boosting Restoration, Income, Development, Generating Ecosystem Services	GDP	Gross Domestic Product
CAFI	Central African Forest Initiative	GEF	Global Environment Facility
CAR	Central African Republic	GGW	Great Green Wall
CBD	Convention on Biological Diversity	GGWSSI	Great Green Wall for the Sahara and Sahel Initiative
CCB	Climate, Community and Biodiversity	GPFLR	Global Partnership on FLR
CCSEGD	Climate Change, Socio-Economic Development and Governance	ICRAF	World Agroforestry Centre
CDM	Clean Development Mechanism	IFAD	International Fund for Agricultural Development
CEN-SAD	Community of Sahel-Saharan States	IGAD	Intergovernmental Authority on Development
CILSS	Permanent Inter-State Committee for Drought Control in the Sahel	IKI	International Climate Initiative
COMDEKS	Community Development and Knowledge Management for the Satoyama	INDC	Intended Nationally Determined Contributions
COMESA	The Common Market for Eastern and Southern Africa	IPBES	Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services
CRGE	Climate-Resilient Green Economy	ISOEWR	Information System, Observatory, Early Warning and Response
DRC	Democratic Republic of the Congo	IUCN	International Union for Conservation of Nature
EAC	East African Community	LDCF	Least Developed Countries Fund
EbA	Ecosystem-Based Adaptation	LDN	Land Degradation Neutrality
ECOWAS	Economic Community of West African States	NAPA	National Adaptation Programme of Action

NASA	National Aeronautics and Space Administration	SLWM	Sustainable Land and Water Management
NEPAD	New Partnership for Africa's Development	SNRPL	Sustainable Natural Resources and Livelihoods Programme
NGO	non-governmental organization	TFCG	Tanzania Forest Conservation Group
NRM	Natural Resource Management	TOELP	Tunisia Oases Ecosystems and Livelihoods Project
NTFP	Non-Timber Forest Product	TRI	The Restoration Initiative
OECD	Organisation for Economic Co-operation and Development	UN	United Nations
OSS	Observatoire du Sahara et du Sahel	UNCCD	United Nations Convention to Combat Desertification
PPP	Private Public Partnership	UNDP	United Nations Development Programme
REDD+	Reducing Emissions from Deforestation and Forest Degradation	UNEP	United Nations Environment Programme
ROAM	Restoration Opportunities Assessment Methodology	UNFCCC	United Nations Framework Convention on Climate Change
RPTIP	Rural, Pastoral and Transhumance Infrastructure Project	UNFF	United Nations Forum on Forests
SADC	Southern African Development Community	USD	United States Dollar
SAWAP	Sahel and West Africa Program in Support of the Great Green Wall	VCS	Verified Carbon Standard
SER	Society for Ecological Restoration	WCA	Wildlife Conservation Area
SLM	Sustainable Land Management	WHO	World Health Organization
SLMGE	Sustainable Land Management and Green Economy	WRI	World Resources Institute
		WWF	World Wide Fund for Nature

# EXECUTIVE SUMMARY

**The purpose of this report** is to assess the current implementation of forest and landscape restoration (FLR) in Africa. It presents the context for FLR on the African continent, highlights major FLR initiatives, and provides an overview of FLR in Africa at the start of the UN Decade on Ecosystem Restoration (2021–2030). It identifies key challenges, opportunities, actors and processes, illustrated with some case studies. Data collection was both primary (interviews) and secondary (extensive desk research). The report contributes to tracking progress on the implementation of AFR100 and other FLR initiatives in Africa on the ground. It provides a baseline for the UN Decade on Ecosystem Restoration and is expected to be updated at regular intervals. The report is prepared under the jointly implemented regional technical cooperation programme by FAO Regional Office for Africa (RAF) and the African Union Development Agency-NEPAD (AUDA-NEPAD) “Support to the implementation and monitoring of the African Forest Landscape Restoration Initiative (AFR100)” and in close collaboration with AFR100 Management Team members and partners. It is also responding to the recommendation of the 22nd Session of FAO African Forestry and Wildlife Commission, held in March 2020 in South Africa.

The report is **structured** as follows: Chapter 1 introduces the importance of Africa’s forests and tree-based landscapes and to the challenges they and their people face, as well as the relevance of restoration and the global policy context. The next chapter presents an overview of FLR and restoration more generally. The third chapter provides a more detailed overview for Africa’s subregions of the current status of forests with examples of FLR initiatives (or other relevant ones that may not have the FLR label but are in fact aligned with FLR). Chapter 4 then reviews some key success factors for FLR in Africa. Chapter 5 presents opportunities going forward and remaining challenges. The last chapter is more forward-looking and speculative, highlighting potential priorities for FLR in the UN Decade on Ecosystem Restoration.

The African continent hosts 17 percent of the world’s forests (636 639 000 ha) and 31 percent of the world’s “other wooded lands”. These forests are very diverse – from mangroves to Afromontane forests, dry forests and tropical rainforests. Africa is home to the second largest rainforest on the planet: the Congo Basin. An estimated 60 million people depend directly on these forests while over 60 percent of Africans depend either directly or indirectly on their goods and services. And these forests are fundamental to addressing some of the major challenges of our time: the biodiversity extinction crisis, climate change and food security, all of which will have severe impact on the most vulnerable rural populations that are already facing food and energy insecurity.

Yet, between 2015 and 2020, Africa lost 4.4 million ha of forest each year. As much as 65 percent of productive land in Africa is degraded, while desertification affects 45 percent of Africa’s land area. It is urgent to reverse

these trends for current and future generations. Forest and landscape restoration is one approach that is being embraced by Africa’s leaders to do just that.

**Reversing** forest loss and land degradation requires first and foremost addressing the drivers behind this loss and degradation, but it also requires scaling up restoration. African governments have stepped up to their responsibilities with over 120 million ha committed to restoration through AFR100, 200 million ha through the Pan-African Agenda on Ecosystem Restoration and 100 million ha through the Great Green Wall for the Sahara and Sahel Initiative. Although these areas overlap, they illustrate the extent of the political will for restoration.

**Forest landscape restoration** (FLR) was first defined in 2000 as “a planned process that aims to regain ecological integrity and enhance human wellbeing in deforested or degraded landscapes”. This definition

has evolved, but in all cases the approach retains two important features: its scale (landscapes) and its intention to reconcile both human and ecological priorities. To further describe the characteristics of FLR, the Global Partnership on FLR defined six principles in 2018: (1) focus on landscapes; (2) engage stakeholders and support participatory governance; (3) restore multiple functions for multiple benefits; (4) maintain and enhance natural ecosystems within landscapes; (5) tailor to the local context, using a variety of approaches; and (6) manage adaptively for long-term resilience. Having multiple objectives is central to FLR, and these can include ecosystem objectives (e.g. connectivity for wildlife, strengthening the value of protected areas, ecosystem resilience, etc.) and human objectives (e.g. alternative income-generation, improved agriculture and agroforestry for food security, disaster risk reduction, etc.)

In the African context, the urgency of reversing land degradation serves as a major driver for FLR. As such, FLR in Africa extends well beyond forested landscapes to include the vast drylands, including grasslands, (for example, where trees may not dominate the landscape) but still play a fundamental role in the resilience of both the land and its people. In this report, FLR interventions refer mainly to active or passive restoration in wider projects or programmes that have both a socio-economic and an ecological component. Recognising the importance of reversing not only forest loss and degradation but also land degradation, FAO refers to “forest and landscape restoration”.

African governments have made ambitious restoration **commitments**. In 2015, the African Forest Landscape Restoration Initiative (AFR100) was launched to restore 100 million ha by 2030. Three years later, the Pan-African Agenda on Ecosystem Restoration for building resilience led to the commitment to restore 200 million ha. And the Great Green Wall for the Sahara and Sahel, launched in 2007, also led to the commitment to restore a 100 million ha zone of degraded lands across the Sahel. Yet, Africa continued to lose forest in the last decade, with a net annual forest loss of 3.94 million ha during the 2010–2020 period. Estimates suggest that the continent also has 660 million ha of degraded land and 132 million ha of degraded cropland. Although 625 million ha are regenerating, and 11.39 million ha have been planted in the last decade, that is insufficient to address the scale of the problem.

In the 2010–2020 period, only 11 out of 58 (19 percent) African countries and territories showed an overall **increase** in forest cover, according to their national reports to the FAO Global Forest Resources Assessment. In the same period, 26 African countries and territories out of 58 (45 percent) reported annual forest expansion figures (either through afforestation or natural expansion).

For each of the **five subregions** (Northern, Eastern, Central, Western and Southern), the status of and threats to forests are outlined and a selection of FLR projects (or those which are compatible with FLR) presented. Most of the projects reviewed had a strong climate change dimension, aiming at not only sequestering carbon, but also reducing the vulnerabilities of rural people and building their resilience. Many projects addressed job creation and food security concerns. A number of continent-wide initiatives, such as and Regreening Africa, are also highlighted. A selection of 100 projects aligned with FLR and funded by major donors is listed in Annex I.

**Key success factors** for FLR in Africa are institutional, social, political and economic. Local ownership and stakeholder engagement are fundamental success factors. Ultimately, FLR takes place on the ground with local communities that are most affected by forest loss and degradation; they need to embrace the approach if it is to be carried through in the long term. At the same time, high-level political support for FLR provides the political foundation for any FLR action to take place. Champions are also important to generate the momentum necessary and bring in more stakeholders around FLR. Access to finance is critical, particularly for those on the ground. Another success factor for FLR is its integrative nature, given its relevance to and linkage with other priorities, such as climate change, desertification, biodiversity, food security and disaster risk reduction. Knowledge-sharing and lesson-learning provides another avenue for success by inspiring replication. A favourable policy environment provides the foundations for long-term and sustainable FLR implementation and impact. Using partnerships and collaboration to push FLR forward is also critical as many stakeholders operating at different levels need to be brought together.

Forest and landscape restoration can present an opportunity in the long term for Africa. At the same

time, it faces ongoing challenges. **Opportunities** include the fact that FLR has multiple dimensions that link to other priorities, including food and job security, combatting climate change, desertification and biodiversity loss. Significant funding has also been committed to FLR that presents a unique opportunity for implementation under the upcoming UN Decade on Ecosystem Restoration. In the context of post-COVID-19 recovery plans, FLR's holistic perspective can be an important contribution related to land use. The positive economic growth witnessed by Africa can be both an opportunity and a challenge for FLR. Mainstreaming FLR in development plans is critical. FLR also plays a central role in the UN Decade on Ecosystem Restoration, the UN Decade of Family Farming (2019–2028), in the renewed commitments under the UNFCCC's nationally determined contributions (NDCs) and implementation under the Paris Agreement, and Post-2020 Global Biodiversity Framework, all of which are likely to lead to significant investments in Africa.

**Challenges** remain, however. They include first and foremost the ongoing and accelerating rate of forest loss and degradation. Many of these challenges, however, are not unique to Africa. FLR is a challenging concept and many different interpretations of the term and the approach co-exist (some of which are clearly not aligned with the FLR principles and model). Ill-defined or inequitable tenure and property rights are major challenges across large parts of Africa leading to insecurity and conflict with subsequent impacts on FLR investment and implementation. Human and technical capacity to implement FLR effectively remain insufficient. Locally relevant tools for FLR are missing (for example, in monitoring FLR progress; see Berrahmouni *et al.*, 2015). Poor infrastructure creates access difficulties in many parts of Africa, making it difficult for support staff to enter the landscape and support FLR implementation, but also for products from the landscape to reach markets. Information gaps and the lack of mechanisms to share results hamper the dissemination of success stories, and an ability to build on existing knowledge and expertise. Two major challenges associated with restoration through planting of native trees, shrubs and grasses concern on the one hand, the supply of sufficient seeds of the appropriate species and on the other, the genetic diversity of this source material. Private-sector

investment needs to be scaled up if FLR is to reach the ambitious scales proposed. The limited availability of credit for farmers often prohibits them from investing in improved techniques, including investing in tree-planting. Indeed, often the cost of FLR is a limiting factor. Illegal exploitation and trade of forest products remains a major cause of deforestation and forest degradation in Africa which needs to be tackled. Conversion to agriculture and unsustainable agricultural practices are major drivers of forest and land degradation. Climate change is affecting much of Africa in severe ways, and reversing forest loss and degradation becomes harder under such conditions.

Overcoming existing constraints and building on opportunities and success factors provide a pathway to accelerating FLR implementation at scale. The next ten years will be decisive for FLR in Africa, and indeed, globally. Some of the pathways to move from commitments to large-scale actions include:

- Responding to local needs in FLR programmes and projects and adapting FLR implementation to local conditions;
- Seeking to meet the multiple socio-economic and ecological objectives of FLR with high levels of ambition;
- Ensuring that landscape improvements aligned with FLR strive for the best possible outcomes – social, economic and ecological in any given context;
- Designing locally relevant regional and subregional FLR implementation strategies;
- Giving successful FLR initiatives more visibility so that they can be replicated and scaled up;
- Ensuring that sufficient and sustained funding reaches local stakeholders;
- Applying a systemic change to bring together different sectors to collaborate on FLR (as FLR is not just the remit of the forestry sector but should involve actively other sectors such as agriculture, livestock, water, tourism, rural development, energy, urban development, etc.);



- Investing to expand knowledge of FLR in the African context;
- Improving participatory monitoring to correct errors, adapt to changing conditions and learn from the process;
- Promoting multistakeholder partnerships at local, landscape, country, subregional and continent levels for FLR implementation;
- Fully integrating FLR into post-COVID-19 development plans, including preventing future emerging diseases by using a “One Health” approach, and protecting and restoring natural habitats.

*Farmers loading fodder from a restoration site on their carts. Tera, Niger*



# ABOUT THIS REPORT



## Purpose

As we start the United Nations Decade on Ecosystem Restoration (2021–2030), the purpose of this report is to assess the current implementation of FLR in Africa. It presents the current context of FLR on the African continent. Numerous initiatives related to FLR are underway in Africa, and this report seeks to highlight the key initiatives in order to present in one document a coherent picture of FLR in Africa. The report also identifies key challenges, opportunities, actors and processes, illustrated with some case studies (the intention is not to provide a comprehensive overview of existing or planned projects for this first edition, although it is anticipated that future editions of this *Review of FLR in Africa* may do so). This first report presents a baseline, and regular updates are expected. The report is prepared under the jointly implemented regional technical cooperation programme by FAO Regional Office for Africa (RAF) and the African Union Development Agency-NEPAD (AUDA-NEPAD) “Support to the implementation and monitoring of the African Forest Landscape Restoration Initiative (AFR100)” and in close collaboration with AFR100 Management Team and partners. It responds also to the recommendation of the FAO’s African Forestry and Wildlife Commission, at its 22nd session held in March 2020 in South Africa.

## Methodology

This report was produced using both primary data collection (semi-structured interviews with key stakeholders involved in FLR in Africa) and desk-based research. The websites and project databases of major organizations were surveyed; project databases of multilateral donors (GEF, GCF, the World Bank) were reviewed; project and programme documentation was

analysed. In parallel, a survey has been circulated to gather data on projects. However, limited feedback at the time of production signified that this source of information was not included in the current report (but will be used for future editions of this report). National reports to the Convention on Biological Diversity (CBD) were also reviewed for a selection of countries to identify projects. Furthermore, data from the FAO Global Forest Resources Assessment 2020 was analysed. Case studies were selected, notably taking into account reported information in the Forest Resources Assessment (FRA) 2020. The 11 countries reporting an increase in forest cover in the FRA 2020 are showcased.

## Structure

The report is structured as follows: the first chapter introduces the importance of Africa’s forests and tree-based landscapes and the challenges they and their people face, the relevance of restoration, and the global policy context. The second chapter presents an overview of FLR and restoration more generally. The third chapter provides a more detailed overview for Africa’s subregions of the current status of forests and examples of FLR initiatives (or other relevant ones that may not have the FLR label but are in fact aligned with FLR). Chapter 4 then reviews some key success factors for FLR in Africa. Chapter 5 presents opportunities going forward and remaining challenges. The last chapter is more forward-looking and speculative, identifying potential priorities for FLR in the UN Decade on Ecosystem Restoration.





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# CHAPTER 1

Introduction: background and context

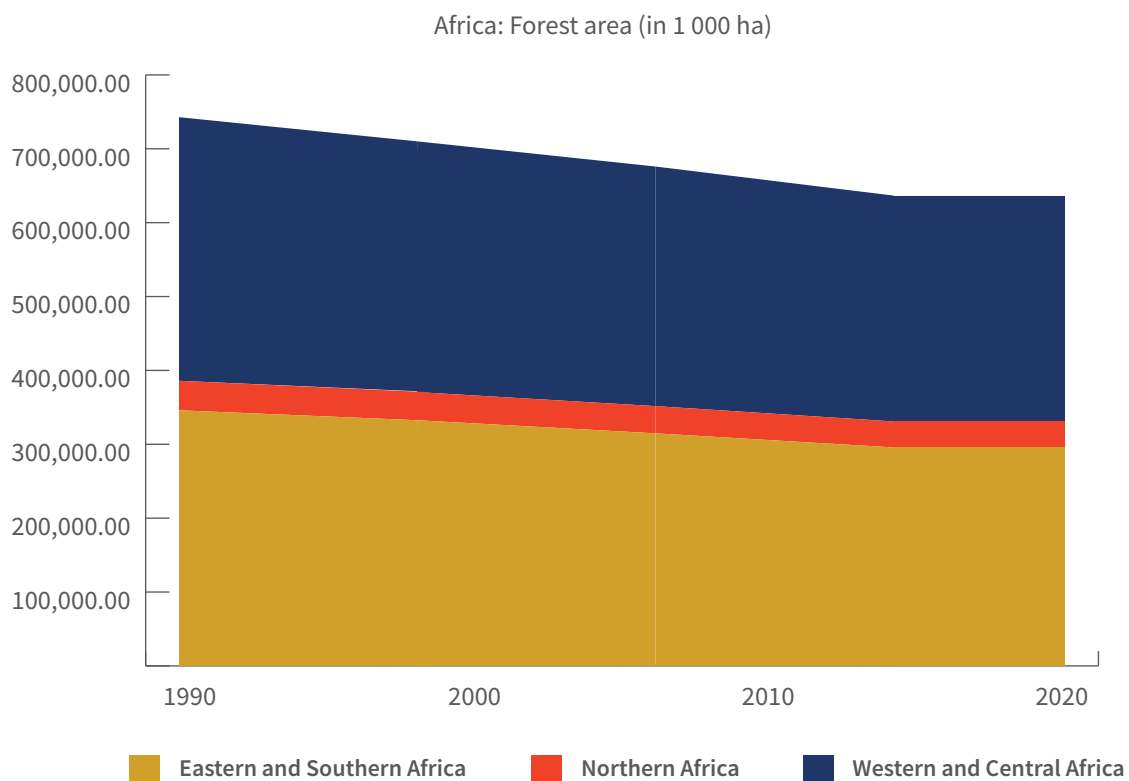
## 1.1. Importance of Forests and Tree-based Landscapes in Africa

Close to a fifth (17 percent) of the world's forests can be found in Africa (Figure 1) as can 31 percent of the world's "other wooded lands" (IPBES, 2018b). The continent is home to the second largest rainforest on the planet: the Congo Basin. These Central African forests are estimated to provide subsistence to over 60 million people (de Wasseige *et al.*, 2015). In contrast, the western part of Africa is home to vast expanses of drylands, within which trees form agrosilvopastoral landscapes, play a fundamental role, particularly in terms of soil and water protection, food provision and fuelwood (FAO, 2019). Mangroves, montane forests and Miombo dry forests also feature among Africa's unique landscapes.

Forests and tree-based landscapes are fundamental to sustaining life on earth (IPBES, 2018) and are of particular relevance to the African continent where the vast majority of the population is rural. Forests and trees provide ecosystem services such as water regulation (Creed and van Noordwijk, 2018), carbon

and nitrogen cycling (Le Quéré *et al.*, 2009; Pan *et al.*, 2011) and pollination (Potts *et al.*, 2016). They contribute to soil formation and erosion control (Bennett *et al.*, 2009). Forests represent a habitat for wildlife species and a place of recreation, tradition and spirituality (Plieninger *et al.*, 2015), for millions of people. Forests are sacred to many cultures in Africa, including the Kaya forests of Kenya or those of Coptic monasteries in Ethiopia. These forests and tree-based landscape are teeming with products that are essential to everyday life and livelihoods of the majority of Africa's people (OSS, 2019). The list of products includes, for example, food, feed, building materials, medicines and importantly, energy. More than 62 percent of Africa's population depend on the goods and services from ecosystems, many of which are forested (IPBES 2018b). An estimated 90 percent of the continent's population depends on firewood and charcoal for energy, especially for cooking (IPBES, 2018b). Forests provide a primary source of medicinal products to about 80 percent of the populations, with a total of 5 400 medicinal plants having been documented in Africa (IPBES, 2018b). A meta-analysis by Reed *et al.* (2017) covering the ecosystem services impacts in tropical forests, found that overall, the presence of forest and trees has a primarily positive effect on crop yields in Africa. Forests and trees play

**FIGURE 1:** Africa's forests by subregion







*Mangroves in the coastal village of Lonji in southern Cameroon*

an important role in risk mitigation by providing a “security net” function for millions of rural people (Dudley *et al.*, 2008). This role is increasingly apparent in the face of climate change and anticipated impacts.

The role of forests in poverty alleviation is also increasingly better understood (Miller *et al.*, 2020). This is particularly important in a continent that is home to the ten countries featuring at the bottom of the Human Development Index (UNDP, 2020). Extensive research in 21 African countries highlighted the positive correlation between trees and dietary diversity (Ickowitz *et al.*, 2014). Forests contribute directly to the gross domestic product (GDP) of many countries in Africa, with estimates of the contribution of forests to GDP for example at up to 6 percent in the Republic of the Congo (de Wasseige *et al.*, 2015). The contribution of forests to the informal economy, although unquantified, is assumed to be significantly higher.

Forests are fundamental to addressing major challenges of our time: the biodiversity extinction crisis, climate change and food security. In addition, as the world faces a global pandemic (and the spectre of more to come) it is increasingly apparent that clearing forests raises the threat of zoonotic diseases such as COVID-19 or indeed other diseases that have already plagued Africa, such as Ebola (Sen, 2020).

Yet, at the time of writing, Africa continues to lose forests at a rate of 4.4 million ha per year (FAO, 2020). Up to 65 percent of productive land in Africa is degraded (Chomba *et al.*, 2020) and

desertification affects 45 percent of Africa’s land area (IPBES, 2018b). Reversing this trend is essential and recognising this urgency, many governments and other stakeholders in Africa are actively engaging in forest and landscape restoration (FLR). At its 31st Session hosted by Zimbabwe, the FAO Regional Conference for Africa (normally attended essentially by ministers of agriculture) called for FAO’s support in elaborating/strengthening its work programme on climate change, biodiversity and sustainable natural resources management, especially land degradation, desertification, floods, etc., building on flagship programmes such as Africa’s Great Green Wall or the Green Cities Initiative.<sup>1</sup>

## 1.2. Reversing the trend

While protecting forests is important, restoring them where they have been lost and degraded is also necessary; necessary because without those trees in the landscape, soils, water and the goods and services provided by forests and trees are lost or impaired. Restoring forests in the African context is about much more than returning trees to the landscape. It is about meeting both development and environmental priorities in a context that is primarily rural and predominantly low in terms of human development. The loss and degradation of forests exacerbate impacts on already vulnerable populations with direct repercussions on their livelihoods.

<sup>1</sup> <http://www.fao.org/3/ne288en/ne288en.pdf>

Reversing forest loss and land degradation requires first and foremost addressing the drivers behind this loss and degradation (di Sacco *et al.*, 2021), but also scaling up restoration. One of the first and most famous proponents of tree-planting is the Kenyan Nobel laureate Wangari Maathai, who started planting trees in Kenya with women in the 1970s to promote job creation, empowerment (particularly of women) as well as to reverse environmental degradation (Case Study 1). Today many initiatives promoting restoration, particularly FLR, exist in Africa, and indeed around the globe.

In order to begin to define opportunities for FLR, global and regional maps of priority areas have been developed, starting with 2 billion ha globally needing restoration (Laestadius *et al.*, 2011) to 0.9 million ha considered available for restoration (Bastin *et al.*, 2019). In their research on lowland tropical rainforest landscapes to identify global restoration opportunities, Brancalion *et al.* (2019) found that the top six countries with the highest mean “restoration opportunity score” were in Africa: Burundi, Madagascar, Rwanda, South Sudan, Togo and Uganda. These restoration opportunities are intended to delimit areas where interventions are expected to be more cost-effective, where socio-environmental benefits are maximized

and investment costs and risks are minimized. The private sector has also increasingly engaged with tree-planting more broadly (Mansourian and Vallauri, 2020). But the role of governments in restoration remains fundamental, and African governments have stepped up to their responsibilities with over 120 million ha committed to restoration through AFR100, 100 million ha through the Great Green Wall for the Sahara and Sahel Initiative, and 200 million ha through the Pan-African Agenda on Ecosystem Restoration. FAO estimates that a total of 221 million ha need to be restored in Africa’s drylands – 166 million ha across Northern Africa, the Sahel and the Horn of Africa, and 55 million in the Southern Africa subregion (Sacande *et al.*, 2020 b).

### 1.3. International policy context

The launch of the Bonn Challenge on FLR in 2011 by IUCN and the German Government gave FLR a new dimension. Countries started committing to restoring millions of hectares of forest landscapes to meet the challenge of reaching 150 million ha by 2020. Three of

#### BOX 1:

#### FLR, the UN Rio Conventions and the UNFF Global Forest Action Plan

**CBD:** The current draft of the Post-2020 Global Biodiversity Framework refers to restoration under Goal A: “*The area, connectivity and integrity of natural ecosystems increased by at least [X%] supporting healthy and resilient populations of all species while reducing the number of species that are threatened by [X%] and maintaining genetic diversity*”. It also includes a proposed target (Target 1) that “*by 2030, [50%] of land and sea areas globally are under spatial planning addressing land/sea use change, retaining most of the existing intact and wilderness areas, and allow to restore [X%] of degraded freshwater, marine and terrestrial natural ecosystems and connectivity among them*”.

**UNFCCC:** The 2015 Paris Agreement emphasizes “*activities relating to reducing emissions from deforestation and forest degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries*”.

**UNCCD:** Land Degradation Neutrality refers to restoration: “*Land Degradation Neutrality [in affected areas][in arid, semi-arid and dry subhumid areas] is a state whereby the amount and quality of land resources, necessary to support ecosystem functions and services and enhance food security, remains stable or increases within specified temporal and spatial scales and ecosystems. This state can be achieved by the prevention or mitigation of land degradation, the adoption of sustainable land management policies and practices, and the recovery of degraded land.*”

**UNFF global Goal 1:** “*Reverse the loss of forest cover worldwide through sustainable forest management, including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation and contribute to the global effort of addressing climate change.*”



the most significant pledges are from Africa: Ethiopia (15 million ha); the Republic of Sudan (14.6 million ha) and Cameroon (12,062,800 ha). In 2014, at the UN Climate Summit, the New York Declaration on Forests endorsed and extended the Bonn Challenge objectives to 350 million by 2030 (the Bonn Challenge then also adopted this new target). Restoration more generally has become prominent in the international environmental governance framework. Research has highlighted how FLR can contribute to many of these international commitments and framework agreements (UNEP, 2016; UNEP, 2018; Gichuki *et al.*, 2019) and to the SDGs (Mansourian, 2018).

Ecosystem restoration was already part of the CBD's Aichi Target (Target 15) and in 2015 was included in the Paris Agreement to the UNFCCC. Many nationally determined contributions (NDCs) refer to forests (see Box 3). Restoration is also expected to feature prominently in the framework of the post-2020 biodiversity framework. The CBD's draft "Post-2020 framework" also refers to restoration (see Box 2). Within the UN Convention to Combat Desertification (UNCCD) the 'land degradation neutrality' (LDN)

initiative includes restoration as a central component, as does the first goal of the United Nations Forum on Forests' (UNFF) Strategic Plan for Forests 2030.

The UN Sustainable Development Goals also acknowledge the importance of restoring ecosystems, with Goal 15 aiming to "protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss." Under SDG 15, Target 15.3 calls to "combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world". This last target was integrated into the UNCCD's LDN framework.

The current launch of the UN Decade on Ecosystem Restoration (2021-2030) has further raised the profile of restoration and FLR is seen as a major approach to the broader priority of ecosystem restoration.

## BOX 2:

### Forest restoration in a selection of intended nationally determined contributions (INDCs) under the UNFCCC

Excerpts from a selection of countries' INDCs:

**Algeria:** "The country aims to accelerate and intensify its National Reforestation Plan with a global objective of reforestation of 1 245 000 ha."

**DRC:** "The country foresees to support projects to plant about 3 million ha latest by 2025 through afforestation and reforestation that would enable the sequestration of about 3 million tonnes of CO<sub>2</sub>."

**Ethiopia:** "Improve and diversify economic opportunities from agroforestry and sustainable afforestation of degraded forest area. Ethiopia intends to increase its ambition by expanding its forest cover, beyond the initial target for the afforestation and reforestation of 7 million hectares."

**Ghana:** "Continue 10 000 ha annual reforestation/afforestation of degraded lands (unconditional); double 10 000 ha annual reforestation/afforestation of degraded lands translating to 20 000 ha on annual basis (conditional); support enhancement of forest carbon stocks through 5 000 ha per annum enrichment planting and enforcement of timber felling standards (conditional)."

**Kenya:** "Making progress towards achieving a tree cover of at least 10 percent."

**Namibia:** "Afforest 5 000 ha per year; reforest 20 000 ha per year; reduce deforestation rate by 75 percent."

Source: INDCs available on the UNFCCC website.

**CASE STUDY 1:****Green Belt Movement**

*“Tree-planting became a natural choice to address some of the initial basic needs identified by women.”*  
(Professor Wangari Maathai in her Nobel lecture)

The Green Belt Movement (GBM) was founded in 1977 by late Professor Wangari Maathai. She was inspired to reverse forest loss while at the same time providing work opportunities for women in her homeland of Kenya. In the 1970s, rural women in Kenya, at the forefront of farming and food production, were seeing their streams running dry and their landscapes becoming bare, making food production for their families more challenging. Maathai’s GBM demonstrated the reach of restoration, by empowering communities, particularly girls and women, supporting democratic institutions, improving rural environmental education, promoting climate resilience, improving food security, among other benefits. For Professor Maathai, democracy, human rights and environmental conservation were inextricably linked. As of today, the GBM has planted over 51 million trees in Kenya (Green Belt Movement website). It works in close collaboration with the Kenyan Government to align with the priorities identified by the government.

Between 2007 and 2011, the GBM carried out the only forest-based Clean Development Mechanism (CDM) project in Kenya – the Aberdare Range/Mt. Kenya Small-Scale Reforestation Initiative. The aim of the project was to restore environmentally sensitive lands in the catchment areas of the Tana River within the Aberdare and Mt. Kenya Reserve Forests while at the same time generating carbon credits. Through the project, GBM together with the local communities reforested 1 649 ha using a mix of fast, medium and slow growing indigenous species.

Professor Maathai was awarded the Nobel Peace Prize in 2004 in recognition of her lifelong work in sustainable development, democracy and human rights.

*Farm landscape in Jomba, Rwanda*







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# CHAPTER 2

Restoring what and for whom?

## 2.1. Brief overview of options for restoration

Restoration can take many different forms. A total of 26 terms associated with restoration (*sensu lato*) have been identified, each potentially (but not always) associated with different methods (Mansourian, 2018). Some of the most prevalent ones are explained here in Box 1. Stanturf *et al.* (2014) highlight the different forms that forest restoration can take, and emphasize the importance of clear terminology as well as an understanding of both starting (baseline) conditions and endpoints or objectives for restoration. Forest restoration can be active, through the planting of native species, or mixes of native and non-native species and through assisted natural regeneration. It can also be passive, by removing causes of degradation to allow or encourage natural regeneration. Diverse

manipulations and silviculture treatments can be applied under the broad banner of restoration, including for example, enrichment planting with desired species, removal of exotic species to reduce competition and agroforestry to promote both tree cover and food production (Stanturf *et al.*, 2017).

### What is forest and landscape restoration?

Forest landscape restoration was first defined in 2000 by a group of experts convened by the World Wide Fund for Nature (WWF) and the International Union for Conservation of Nature (IUCN) (Mansourian *et al.*, forthcoming) as “a planned process that aims to regain ecological integrity and enhance human wellbeing in deforested or degraded landscapes”. Over time, the definition and indeed the term, has evolved (e.g. Sabogal *et al.*, 2015; Besseau *et al.*, 2018). The definition used by the Global Partnership on Forest and Landscape Restoration (GPFLR) – by a group of over

#### BOX 3:

### Common terms associated with forest landscape restoration

**Reforestation:** “Re-establishment of forest through planting and/or deliberate seeding on land classified as forest.” (FAO, 2012)

**Afforestation:** “Establishment of forest through planting and/or deliberate seeding on land that, until then, was not classified as forest.” (FAO, 2012)

**Rehabilitation:** “Emphasizes the reparation of ecosystem processes, productivity and services.” (Clewell *et al.*, 2004)

**Reclamation:** “The main objectives of reclamation include the stabilization of the terrain, assurance of public safety, aesthetic improvement, and usually a return of the land to what, within the regional context, is considered to be a useful purpose.” (Clewell *et al.*, 2004)

**Natural regeneration:** “A gradual process of recovery of the structure, function, and composition of the pre-disturbance ecosystem.” (Chazdon and Guariguata, 2016)

**Ecological restoration:** “The process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed.” (Clewell *et al.*, 2004; Gann *et al.*, 2019)

**Ecosystem restoration:** “The process of managing or assisting the recovery of an ecosystem that has been degraded, damaged or destroyed as a means of sustaining ecosystem resilience and conserving biodiversity.” (CBD, 2016)

**Assisted natural regeneration:** “Deliberate human protection and preservation of naturally regenerating woody vegetation on forest land or abandoned agricultural land or enclosures.” (Chomba *et al.*, 2020)

**Farmer-managed natural regeneration:** “An agroforestry practice that involves the deliberate protection and management of naturally regenerating woody vegetation by farmers on agricultural land.” (Chomba *et al.*, 2020)



30 partners engaged in FLR – is “a process that aims to regain ecological functionality and enhance human well-being in deforested or degraded landscapes.” FAO refers to “forest and landscape restoration” to highlight the importance of landscape restoration more widely. The difference here concerns the role of trees in the landscape that do not necessarily qualify as forests. Thus, for example, trees in a productive landscape may play a significant role (e.g. protecting crops from wind erosion) and restoring them may lead to substantial ecological and social benefits. The intention behind FLR has always been to improve forested landscapes by returning the quality and quantity of forests in the landscape. Nevertheless, it is important to highlight that FLR was never intended to bring trees where they are not naturally occurring, e.g. in grasslands (Veldman *et al.*, 2015; Bond *et al.*, 2019). Only landscapes where forests and trees have a natural role to play are appropriate for FLR.

Forest and landscape restoration aims to reconcile both the social and ecological dimensions of restoring forested landscapes. To further describe the characteristics of FLR, the GPFLR defined six principles in 2018: (1) focus on landscapes; (2) engage stakeholders and support participatory governance; (3) restore multiple functions for multiple benefits; (4) maintain and enhance natural ecosystems within landscapes; (5) tailor to the local context using a variety of approaches; and (6) manage adaptively for long-term resilience (Besseau *et al.*, 2018). These form key elements of what FLR is and how it is different to other restoration efforts.

## 2.2. Why restore, what is being restored, by whom and for whom?

### Objectives

Loosely defined, forest and landscape restoration signifies improving the landscape. Improvements for one set of stakeholders may, however, not be perceived as an improvement by another set of stakeholders (Mansourian, 2017). For example, while woodlots of fast-growing non-native species may be perceived as providing minimal biodiversity benefits by a natural scientist, they may be a major improvement for a local village requiring fuelwood. The objectives of restoration can diverge significantly depending on the stakeholder (Table 1). A review of initiatives labelled as FLR in Burkina Faso found that the three most common objectives were the recovery of ecological functionality, an increased resilience of local communities to climate change and the promotion of agrosilvopastoral productivity (Vinceti *et al.*, 2020). It is useful to review some of these potential objectives, and to outline a typology of objectives for FLR. In 2014, a broad typology of objectives for FLR was proposed (Mansourian and Vallauri, 2014) that can be used as a starting point. Importantly, the essence of FLR is that it should aim for multiple objectives, both social and ecological.

*A boy stands next to a tree in a farmland area belonging to agro-pastoralist communities of the region in Amudat, Uganda*



Table 1: Some objectives for FLR

	OBJECTIVES OF FOREST AND LANDSCAPE RESTORATION	EXAMPLES FROM AFRICA
<b>Ecological objectives</b>	Connectivity for wildlife	In Tanzania's East Usambara landscape, village land forest reserves were established as a tool to improve connectivity between existing protected areas (Mansourian <i>et al.</i> , 2019).
	Strengthening the value of protected areas	The South African Government initiated the Subtropical Thicket Restoration Programme, as part of the Eastern Cape Biodiversity Conservation Plan – a large-scale restoration effort that includes private lands in order to support the natural values of the protected areas and re-establish connectivity across the landscape (Keenleyside <i>et al.</i> , 2012).
	Securing endemic plant species and maintaining a genetic pool	Tooro botanical Gardens in Uganda is operating the largest tree nursery of native tree species and has been working with local communities to bring 52 ha of degraded forest reserves under restoration (SER website).
	Ecosystem resilience	On Praslin Island (Seychelles), reforestation along the shoreline aims to improve soil physiochemical properties to reduce the coastal ecosystem's vulnerability to increased episodes of intensive rainfall due to climate change (and reducing erosion and fire risks) (Adaptation Fund website).
	Habitat and food for keystone species	The Conservation action plan for the Greater Virunga landscape (DRC/Rwanda/Uganda) includes restoration, notably for the endangered mountain gorilla (Plumptre <i>et al.</i> , 2016).
<b>Both ecological and socio-economic objectives</b>	Water protection	In Madagascar, FLR helped to improve water sources. ( <a href="https://www.wwf.mg/en/?uNewsID=309810">https://www.wwf.mg/en/?uNewsID=309810</a> )
	Soil stabilization	In Ethiopia's Machakel district, East-Gojam zone (Amhara region) tree-planting seeks to reduce soil erosion and stabilise soils (We Forest website).
	Resilience to drought	Restoring more trees in the landscape provides improved conditions for crops in the face of droughts, and ultimately, helps improve the resilience of rural communities as has happened in Niger (World Vision website).
	Carbon sequestration	The FAO/GCF project Gums for Adaptation and Mitigation in Sudan (GAMS) aims to enhance the adaptive capacity of local communities and restore the carbon sink potential of the Gum Arabic belt (FAO website).
<b>Socio-economic objectives</b>	Alternative income generation	In Tanzania's East Usambaras landscape, WWF worked with local communities to diversify the local economy through beekeeping, butterfly farming and growing aromatic plants, which raised the target communities' incomes by 239 percent (Mansourian <i>et al.</i> , 2019).
	Improved agriculture and agroforestry (food security)	The Acacia Operation Project in six Sahelian countries aimed to contribute to sustainable development, food security and the fight against desertification through the promotion and integration of gum and resin production into rural economic activities in Africa (FAO website).
	Cultural values	In Kenya's coastal forest, the Mijikenda have restored the Kaya, sacred ancestral villages surrounded by forests. These Kayas are between 10 and 900 hectares and represent valuable remnants of the forest (WWF and UNESCO websites).



Table 1: Some objectives for FLR

	OBJECTIVES OF FOREST AND LANDSCAPE RESTORATION	EXAMPLES FROM AFRICA
<b>Socio-economic objectives</b>	Secure source of fuelwood and building materials	The German Government through the IKI funding mechanism, is funding ten charcoal-producing communities in the Bono East and Savannah regions of Ghana. Afforestation is being carried out on degraded land for sustainable energy wood production (IKI website).
	Disaster risk reduction	On Djibouti's coastline, mangroves were restored to protect farmland and freshwater aquifers from saltwater intrusion and flooding (UNEP, 2017).

(Source: adapted from Mansourian and Vallauri, 2014).

## CASE STUDY 2:

### Agdals in Morocco's High Atlas

The agdals (or aqdals) represent an age-old Berber traditional way of managing the land in Algeria, Morocco and Tunisia. It involves setting aside areas, enabling them to regenerate. Although it faded in the twentieth century because of a centralized approach to forestry, it is still present in the High Atlas Mountains in Morocco. In practice, six categories of agdals have been identified, depending on the land use (Auclair et al., 2006). For example, there are agdals for pastures and also for forests. A set of rules apply to the set aside area. The authority responsible for defining the specific rules may be the assembly of family chiefs, a religious authority or a representative of the State. They define the geographical limits of the agdal and the rules for it, assign patrolling roles to members of the community and impose sanctions when necessary. Three modes of organization and management also exist for agdals. These are defined according to the ultimate authority of the agdal. There is the agdal of the taqbilt (agdal-n-taqbilt), where the community is fully responsible for the organization and management of the agdal; the agdal of the Saint (agdal-n-ougourram) where the supervision (and therefore the definition of the rules, supervision of their application, etc.) of the agdal falls to a saint (zaouia) or to a religious institution; and the agdal of Makhzen where a government representation is the ultimate authority. Forests in agdals appear to be better managed and protected.

Source : Auclair et al., 2006 and Herzenni, 2008.

## Activities

Diverse methodologies and activities can be carried out to meet these objectives. The Restoration Opportunities and Assessment Methodology (ROAM) recognises seven broad categories of activities in the framework of FLR: (1) planting forests and woodlots; (2) natural regeneration; (3) silviculture; (4) agroforestry; (5) improved fallow; (6) mangrove restoration; and (7) watershed protection and erosion control. When identifying activities associated with FLR, a distinction can be made between core restoration interventions that typically refer to putting trees back into the landscape, and supportive interventions that bring in the wider landscape dimensions (Figure 2). Core restoration interventions can be divided into active restoration, that involve “a range of human interventions in an effort to accelerate and influence the successional trajectory of recovery” and passive restoration that aims to remove prior anthropogenic land-use types to allow the forest to recover naturally or unassisted (Meli *et al.*, 2017). Active approaches include assisted natural regeneration and a diversity of efforts to plant trees (indigenous or mixes of native and non-native, fast growing or slow growing, food and fodder species, energy species, etc.). They also include efforts to combine trees with agriculture, through agroforestry, agro-ecology, climate-smart agriculture, conservation agriculture, dynamic agriculture and other methods. Passive efforts to FLR include physical or social fencing/exclosures to remove grazing or other pressures. The long-standing farmer-managed natural regeneration (FMNR) efforts carried out by farmers in Niger (Case study 3) have been highlighted repeatedly. Passive restoration can also be prompted through governance measures, such as traditional land governance systems like the hima or agdal land management systems of Northern Africa (Case study 2).

Several activities are important, and in some cases, essential, to achieve the broader and long-term objectives of FLR. These supportive FLR interventions

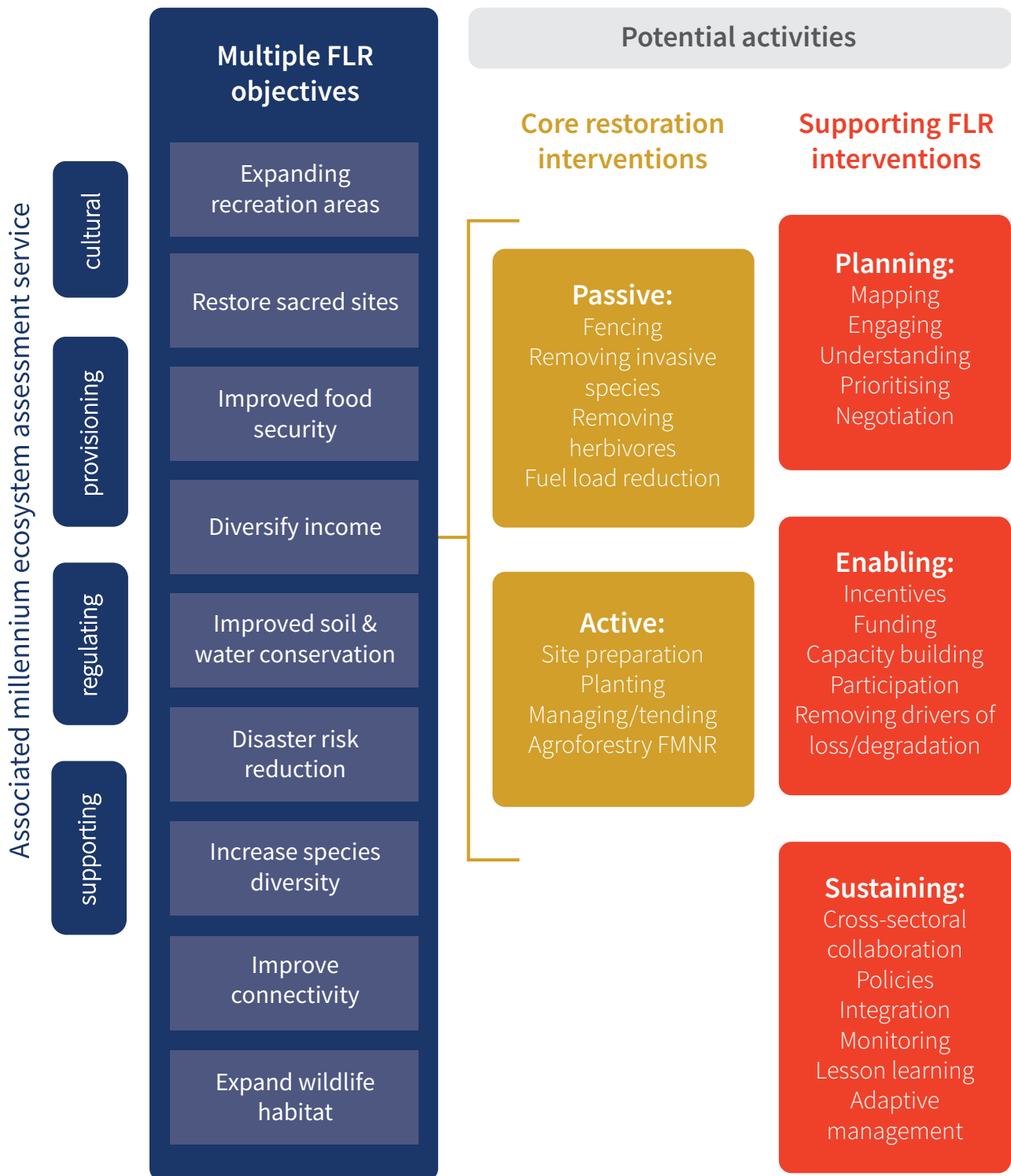
relate to broader socio-economic and governance aspects that contribute to the wider FLR programme. For example, the integration in Kenya’s constitution of a target to secure a minimum 10 percent forest cover, provides a strong incentive and political framework within which restoration can take place and be promoted (Mansourian, 2020). This was a policy intervention that will make a major difference to FLR implementation. Capacity-building at all levels is also fundamental: without the appropriate skills (from those required to manage land directly to those required to develop businesses that can support families or access markets), knowledge (about species, but also about market opportunities or about running a tree nursery) or expertise, the long-term objectives of FLR are difficult to achieve. Similarly, without adequate monitoring in place, it is difficult to know what works, what does not work, and what remedial actions are necessary. Monitoring enables improvements in processes and helps to speed up FLR initiatives by promoting the practices that work, and stopping or correcting those that do not.

While comprehensive programmes that include diverse interventions are more likely to achieve the multiple and long term objectives of FLR, punctual interventions associated with capacity-building, improvement of knowledge on genetic diversity or policy changes, can all contribute to the eventual scaling up of restoration interventions.

## A typology for FLR

There is no single approach to FLR as it remains highly context-dependent. However, mapping some activities – both core and supportive – and some possible objectives, can provide guidance and a typology to support FLR implementation.

**FIGURE 2:** A typology of FLR objectives and activities



Source: Adapted from Mansourian and Vallauri, 2014 and Sabogal et al., 2015.



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*Farmer harvesting fodder from one of the project restoration sites, Tera, Niger*

In practice, and in light of the typology outlined above, different projects and programmes – even without the label ‘FLR’ – can be considered as contributing towards FLR. For example, projects that plant mangroves while engaging local communities and seeking to define alternative livelihoods so that mangroves are no longer destroyed, may be considered as FLR. Equally, projects that seek to reduce deforestation by promoting the planting of small village woodlots for the purposes of the community, may count towards FLR.

***In Africa, FLR takes place within a complex context of rapid change, diversity across subregions, a largely***

***rural population and significant land degradation. In this context, the two dimensions – social and ecological – of FLR are paramount. Also, the importance of reversing land degradation serves as a major driver of FLR in Africa. As such, FLR in Africa extends well beyond forested landscapes to include the vast grasslands in the drylands, for example where trees may not dominate the landscape but play a fundamental role to the resilience of both the land and its people (FAO, 2015b). In this report FLR interventions refer mainly to active or passive restoration, with a social, economic and ecological component.***



*“Without forests we are nothing”*

*— (Interviewee 5<sup>2</sup>).*



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# CHAPTER 3

## FLR in Africa: Context, Commitments and Current Situation

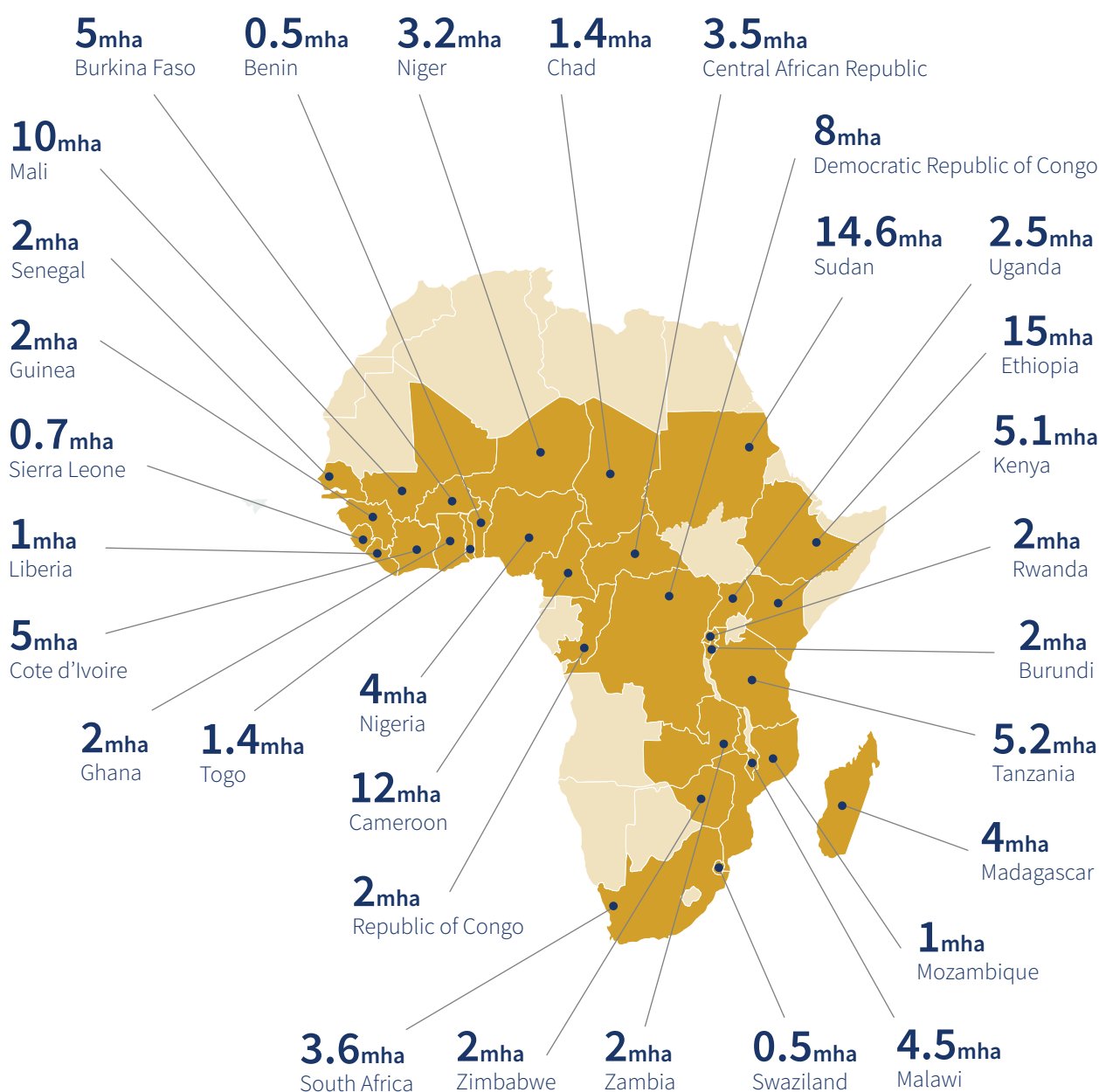
<sup>2</sup> Anonymised quotes from the interviews are used to illustrate some sections of the report.

### 3.1. Reviewing restoration potential and pledges

The potential for restoration in Africa has been estimated at over 720 million hectares, an area nearly as large as Australia (UNEP, 2018). Within Africa's drylands, FAO estimates that a total of 221 million ha are in need of restoration – 166 million ha across Northern Africa, the Sahel and the Horn of Africa, and 55 million in the Southern Africa region (Sacande *et al.*, 2020b). Stepping up to the challenge, African countries, inspired by the Bonn Challenge on FLR, proposed

their own “restoration challenge” with the launch of the African Forest Landscape Restoration Initiative (AFR100) in 2015, a pledge by over 30 African countries to restore 100 million ha by 2030 (see Box 4; Figure 3). In addition, three years later, under the Pan-African Ecosystem Restoration Action Agenda, countries pledged to restore over 200 million ha by 2030. And under the Great Green Wall, countries pledged to restore an 8 000 km stretch of degraded land across Africa from East to West, for a total area of 100 million ha. It is important to note that there is potential overlap with some of these pledges and, therefore, they cannot be aggregated.

FIGURE 3: AFR100 Infographic





**BOX 4:****African Forest Landscape Restoration Initiative (AFR100)**

In 2015, as the world leaders were coming together in Paris for the watershed Paris Agreement under the UNFCCC, 10 African leaders (from the Democratic Republic of the Congo, Ethiopia, Kenya, Liberia, Madagascar, Malawi, Niger, Rwanda, Togo and Uganda) decided to embrace the FLR agenda by launching their own regional version of the Bonn Challenge: the African Forest Landscape Restoration Initiative (AFR100). Under this agreement, African governments committed to bringing 100 million ha under restoration by 2030. Today, this initiative regroups 31 governments, and commitments have exceeded the target of 100 million ha, standing in June 2021 at 129 912 800 ha (see Figure 3). This represents by far the most significant commitment under the Bonn Challenge, with the Africa region making up over 60 percent of the total share of the area committed under the Bonn Challenge by January 2021 (210 211 080 ha).

The Secretariat of the AFR100 is held by the African Union Development Agency-NEPAD with support notably from the German Federal Ministry for Economic Cooperation and Development (BMZ), FAO, IUCN, the World Bank and the World Resources Institute (WRI), among others. Twelve financial partners and 28 technical partners are also contributing to the AFR100. Other major international financial and technical partners include the World Bank, which has earmarked USD 1 billion in development finance through the Africa Climate Business Plan. Private financing from impact investors totalling USD 481 million have also been pledged for restoration under AFR100.

## 3.2. Current status of forests in Africa

### Forest loss

Despite the importance of forests, according to FAO's latest global forest resources assessment (FRA), the world is losing 10 million ha of forests each year (FAO, 2020) – an area the size of Iceland – and the African continent is not spared with a large share of this loss. Alarming, while the overall global trend of deforestation appears to be slowly decreasing, the trend in Africa has been on the increase with a net forest loss of 3.94 million ha/year in the 2010–2020 decade (up from 3.4 million ha annually in the previous decade) (FAO, 2020). The rate of deforestation in the 2015–2020 period represented 4.41 million ha/year (Ibid).

### Forest and land degradation

While data on deforestation is easier to obtain, data for forest and land degradation is more complex, given the subjective nature of degradation (Hobbs, 2016). The IPBES defines land degradation as the “many human-caused processes that drive the decline or loss in biodiversity, ecosystem functions or ecosystem

services in any terrestrial and associated aquatic ecosystems” (IPBES, 2018). The same panel estimates that about 20 percent of Africa's land surface (660 million ha) is degraded (IPBES, 2018b).

Some of the most threatened forests of Africa are the mangroves of Western and Eastern Africa and Madagascar, and dry forests with more than 50 percent of dry forest land having been converted to agricultural use (Chidumayo and Gumbo, 2010). About 30 percent of mangrove forest cover were lost in West Africa alone over the 1980–2006 period (UNEP, 2007). Latest figures suggest that the rate of loss of mangroves has dropped, although still at an average continent-wide annual rate of loss of 2 330 ha in 2010–2020, down from 6 610 ha per year in 1990–2000 (FAO, 2020).

It is estimated that Africa has a further 132 million ha of degraded cropland (Cai *et al.*, 2011). Projections suggest that forest cover will continue to shrink, down to less than 600 million ha by 2050 (UNEP, 2016). About 45 percent of Africa's land area is impacted by desertification and 55 percent of this area is at high or very high risk of further degradation (UNCCD, 2020). At the same time, the populations of Africa are the most vulnerable to land degradation and desertification. Climate change and its impacts further add to the vulnerability of populations already facing multiple challenges in their daily lives.

## Drivers of forest loss

Subsistence and industrial agriculture, extraction for fuelwood, timber and construction materials, and climate change are among the top direct drivers of forest loss and degradation (Hosonuma *et al.*, 2012), although there are subregional differences, as shown in the next sections.

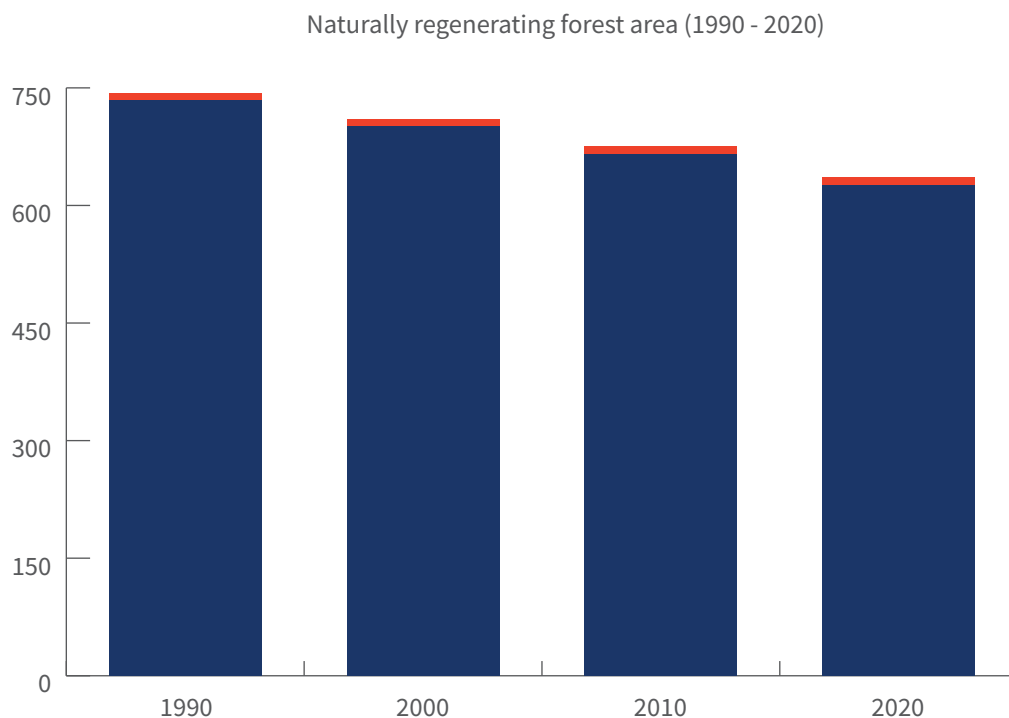
## Forest growth

In 2020, an estimated 625.25 million ha of forests were regenerating in Africa and 11.39 million ha had been planted each year by 2020 (FAO, 2020; Figure 4). Agroforestry, woodlots and timber plantations each made up about a third of the increase in tree cover in sub-Saharan Africa (700 000 ha) in the 2011–2019 period (FAO, 2020b).

In the period 2010–2020, only 11 out of 58 (19 percent) African countries<sup>3</sup> reported an increase in forest cover (see Table 2) to the Global Forest Resources Assessment (FAO, 2020). Of these, only Réunion showed a sustained positive trend in forest cover change from 1990 to 2020, with Eswatini showing a relatively stable increase over the last three decades

at 12 million ha per decade. Algeria and Burundi started with negative figures in the 1990–2000 period, followed by an increase (or stabilisation) of forest cover in the next two decades. Cabo Verde saw a significant increase in the 1990–2000 period (24 340 ha/year), followed by a more modest increase in the following two decades (at 3 000 ha/year). Djibouti saw no change in the 1990–2010 period, followed by a modest increase (200 ha/year) in the 2010–2020 period. Ghana saw massive losses in the 1990–2010 period (1 075 000 ha/year from 1990 to 2000 and 905 680 ha/year from 2000 to 2010) followed by an increase in the 2010–2020 period (at 42 780 ha/year). Mauritius saw an increase in the 1990–2000 period (860 ha/year), offset by a larger decline in the 2000–2010 period (3 540 ha/year) and a modest increase in the 2010–2020 decade (380 ha/year). Morocco saw an increase in the 1990–2000 period (21 250 ha/year), followed by a significant increase in the next decade (168 030 ha/year) and a lesser increase in the 2010–2020 period (67 920 ha/year), while Tunisia witnessed a steady decline in the increase, although each decade saw an increase in forest cover (23 870 ha/year, 19 580 ha/year and 15 300 ha/year, respectively).

**FIGURE 4:** Area of naturally regenerating forest and planted forest in Africa



Source: FAO, 2020.

<sup>3</sup> The countries included in the analysis are the 58 countries and territories reporting under FRA2020 for the Africa region.

**Table 2: Eleven countries and territories show an overall increase in forest cover in the 2010–2020 period**

	CHANGE 1990–2000	CHANGE 2000–2010	CHANGE 2010–2020
	'000s ha		
<b>Northern Africa</b>			
Algeria	-88.00	339.00	31.00
Morocco	21.25	168.03	67.92
Tunisia	23.87	19.58	15.30
<b>Western Africa</b>			
Cabo Verde	24.34	3.00	3.00
Ghana	-1,075.65	-905.68	42.78
<b>Eastern Africa</b>			
Burundi	-82.54	0.00	85.70
Djibouti	0.00	0.00	0.20
Rwanda	-30.00	-22.00	11.00
<b>Southern Africa</b>			
Eswatini	12.14	12.15	12.13
Mauritius	0.86	-3.54	0.38
Réunion	3.02	3.02	4.45

A total of 26 African countries and territories out of 58 (45 percent) in the FRA2020 reported annual forest expansion figures (either through afforestation or

natural expansion) (see Table 3). In addition, eight countries reported 0 ha per year for forest expansion; the remainder did not report at all.

**Table 3: 26 countries and territories showing annual forest expansion**

	FOREST EXPANSION ('000S HA/YEAR)			
	1990–2000	2000–2010	2010–2015	2015–2020
<b>Northern Africa</b>				
Algeria	6	48.4	9	4
Mauritania	32.28	35	37.35	39.93
Morocco	2.9	17.88	10.74	11.56
Sudan	226.98	209.54	98.29	93.92

Table 3: 26 countries and territories showing annual forest expansion

	FOREST EXPANSION ('000S HA/YEAR)			
	1990–2000	2000–2010	2010–2015	2015–2020
Tunisia	6.71	6.3	2.95	2.1
Western Africa				
Cabo Verde		3.14	2.2	1.12
Guinea	12			
Mali	5	30	0	0
Niger	2.5	2.5	2.5	2.5
Nigeria	0.01	0	0	0.01
Senegal			11	11
Togo	1	1.5	2	2
Central Africa				
Cameroon	0.3	2	2	2
Gabon	4.13	9.68	7.37	7.37
Eastern Africa				
Burundi	0	0	17.14	0
Djibouti	0	0	0	0.2
Ethiopia	19	19	19	19
Uganda	9.84	9.84	9.84	9.84
Southern Africa				
Madagascar	3.6			
Mauritius	0.1	0.01	0.08	0.21
Mayotte	0.03	0.08	0.01	0.01
Mozambique	0	45.44	60.6	27.78
Réunion	0.3	0.3	0.41	0.48
South Africa	362.6	362.6	162.6	162.6
United Republic of Tanzania	28	28	0	5
Zambia		0.45	1.5	1.5

Out of the 11 countries and territories reporting an increase in forest cover in the 2010–2020 period (Table 2). Algeria, Cabo Verde, Djibouti, Morocco and Tunisia also reported an annual expansion of forest cover through afforestation or natural expansion (Table 3). However, the six other countries did not. Fifteen countries that reported annual forest expansion did not report a net increase in forest cover, suggesting that losses were greater than gains.

### 3.3. FLR in the African subregions

In this section we briefly introduce the forest status for each subregion,<sup>4</sup> threats to the forest and tree-based landscapes, highlight a selection of FLR projects and programmes. These were selected either because they have the FLR label or have led to an increase in forest cover while also improving social conditions (two basic dimensions of FLR). In addition to the projects highlighted here, Annex I presents a selection of 100 projects aligned with FLR collected from major donor databases (Figure 5). The main donors identified include the Global Environment Facility (GEF), the Green Climate Fund (GCF), the German government (BMZ or BMU), as well as some projects funded through carbon credits under Plan Vivo or the Livelihoods Carbon Funds. There is an evident surge in the number of restoration projects funded in recent years. As a result, many of the projects have only just started and there is to date, little information on impacts.

#### Northern Africa

*(Algeria, Egypt, Libya, Mauritania, Morocco, Republic of Sudan, Tunisia)*

Dominated by the Sahara desert, 99 percent of the Northern Africa region is dryland, for a total of 725 million ha (FAO, 2019). Of this area, about 2 percent are forests. “Other wooded lands” account for another 1 percent (FAO, 2019). The majority (two-thirds) of the forests are broadleaves, and almost a quarter is coniferous (Ibid). Algeria and Morocco represent major centres of plant endemism. Forests here are made up of emblematic dominant tree species such as fir, cedar, argan tree, atlas cypress, olive tree, xeric pine (Aleppo pine, maritime pine and black pine, Berber thuya, cork oak, holm and holly oak, red juniper, thuriferous juniper and carob species) (IPBES, 2018b). The area classified as “other wooded land” consists mostly of grassland with trees and shrubs (53 percent) and grassland with shrubs (38 percent). Nevertheless, trees

form an important component of landscapes with, for example, the nationally determined contribution of Egypt including “the increase of the country’s CO2 absorptive capacity through plantations”. Up to 30 percent of forests in the subregion are managed for soil and water conservation (FAO, 2018). Algeria, Morocco and Tunisia all reported an increase in forest cover between 2000 and 2020 (FAO, 2020). However, trends overall in the region are on the decline, with the main threats being habitat transformation for agriculture, climate change, fire, urbanisation, demographic change and overgrazing (IPBES, 2018b; FAO, 2019).

In 2017, the Mediterranean region (both northern and southern shores) endorsed the Agadir Commitment to restore 8 million ha by 2030. Framed in the context of the UNCCD’s Land Degradation Neutrality (LDN), it has four main components:

- Assess the ongoing national efforts on FLR;
- Reinforce regional cooperation on FLR and LDN;
- Cooperate, among interested partners, to develop a consensual and diversified strategy for the financing of FLR efforts and reinforce national capacities.
- Assess efforts through the establishment of a voluntary monitoring and notification system for FLR and LDN efforts.

Only one country in the region made a pledge under the AFR100 (Table 4). Three Northern African countries (Algeria, Egypt and Mauritania) have developed action plans for implementation of the Great Green Wall (GGW).

Table 4: AFR100 pledges from Northern Africa

AFR100 PLEDGES	
COUNTRY	Area pledged (ha)
Republic of Sudan	14 600 000

#### Selection of FLR projects/programmes:

**Algeria:** The government launched a 20-year national reforestation plan in 2000. According to its CBD report, Algeria had set aside 4 million ha for natural regeneration and rehabilitated 300 000 ha of degraded pastureland (Republic

<sup>4</sup> FAO subregional classifications are used.





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*Semiarid Sahelian landscape in Malamawa village, Zinder Region, Niger*

of Algeria, 2014). By October 2020, more than a billion trees had been planted, many of them being fruit trees (*El Watan* online). Algeria has revived and enhanced the development of the “Barrage Vert” (that was launched in the 1970s) using a landscape and sustainable management and restoration approach, and building on lessons learnt from the implementation of the Barrage Vert. The enhanced Barrage Vert is considered Algeria’s contribution to the implementation of the GGW for the Sahara and the Sahel Initiative.<sup>5</sup>

**Algeria:** *Rehabilitation and integrated sustainable development of Algerian cork oak forest production landscapes:* The objective of the project is to conserve, sustainably manage and harvest Algeria’s globally significant cork oak forest ecosystems. The project intends notably

to restore at least, 121 000 hectares of cork oak forests as well as providing sustainable revenue to local populations (2019–2023).

**Morocco:** *The Middle Atlas Forest Restoration project:* The project aimed to create an appropriate technical and institutional enabling environment in Morocco to promote a multifunctional forest management approach. The project’s objective was to develop and implement an integrated ecosystem management system to restore the environmental and socio-economic forest functions of the Middle Atlas landscape (e.g. biodiversity conservation, water regulation, sustainable land management) by demonstrating and promoting the added-value of the FLR approach (2006–2016).

<sup>5</sup> Direction générale des forêts. 2021. Initiative nationale pour la restauration du Barrage Vert, Algérie, 5 p.



**Sudan:** *Sustainable Natural Resources and Livelihoods Programme (SNRLP):* The project aims to increase production, secure access to natural resources for vulnerable users and improve the sustainability of related livelihoods through scaling up community-based natural resource governance and management practices, technologies and business models. It includes ecosystem restoration and the resilience of farming systems and communities to climate-change impacts. The project is targeting 720 000 poor smallholder farmers, agropastoralists and pastoralists. One priority area is land-use governance, including defining co-management arrangements, land registration and conflict resolution mechanisms (2019–2024).

**Sudan:** *Integrated Carbon Sequestration Project:* Targeting the Butana region and its 1 000 000 inhabitants, this project aims to promote a climate-friendly rural development path in Central and Eastern Sudan by increasing the carbon stock and reducing net greenhouse gas emissions in the country, while at the same time sustaining rural development in the project area. Afforestation/reforestation (A/R) is one of the project components aimed at increasing the national carbon sequestration potential. One of the project's four objectives is to establish at least 10 000 ha of forests in areas with high potential for sustainable biomass growth using multiple A/R forms, mixed species and suitable water harvesting methods. Through A/R activities, the project will also tackle wind and water erosion, soil deterioration, increased drought effects and reduced ecosystem productivity, all of which take their toll on the livelihoods of rural populations (2012–2016).

**Sudan:** *Gums for Adaptation and Mitigation in Sudan (GAMS):* Enhancing adaptive capacity of local communities and restoring carbon sink potential of the Gum Arabic belt, expanding Africa's Great Green Wall, the project aims to enhance climate resilience of livelihoods and agrosilvopastoral ecosystem services in Kordofan while reducing greenhouse gas emissions from land use. It notably is restoring agroforestry systems with gum arabic trees that can serve to both protect annual crops and produce a marketable good (gum). A total of 1.58 million people are expected to benefit and 9.23 million tonnes of CO<sub>2</sub> sequestered during the 20-year investment lifespan (2020–2025).

**Tunisia:** *Tunisia oases ecosystems and livelihoods project (TOELP):* The project aims to improve sustainable natural resource management and promote livelihoods diversification in six selected traditional oases in Tunisia. One of its components is to restore and better manage the productive assets of the targeted oasis ecosystems and their resources through the establishment of a partnership between the various stakeholders. The emphasis is on both the ecological and the socio-economic functions of oases. Activities include the reintroduction of endangered tree species and of local forage crops (2014–2019).

There are nine projects/programmes related to FLR in Northern Africa, listed in Annex I. The majority of this sample of projects (67 percent) started after the launch of the AFR100.

### Western Africa

*(Benin, Burkina Faso, Cabo Verde, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo)*

The Western African zone is made up of rainforest, semi-desert grassland, savannah grassland with low trees, shrubs and savannah woodlands, as well as mangroves and dry forests on the Islands of Cabo Verde (IPBES, 2018b). Forests are primarily broadleaved and about 10 percent of the forest area is planted forest (FAO, 2019). Trees are an important component of food systems, with agroforestry and agrosilvopastoral systems being practised widely, whereby trees are interspersed with crops (or livestock) to protect the soil from wind and erosion, to boost water capture and provide shade and fodder for livestock, among other benefits. Timber harvesting and agriculture have put pressure on the forests, and have intensified because of a rapidly growing population (IPBES, 2018b).

The region was affected by severe droughts in the 1980–2000 period, which further exacerbated other pressures, leading to a forest cover decrease of 1.2 million ha per year in the 1990–2005 period (OSS, 2019). As an exception in the subregion, Ghana has seen an annual increase in its forest cover of 0.3 percent (Ibid.) in the last 10 years, after significant deforestation in the 1990–2010 period (FAO, 2020).

Five countries (Burkina Faso, Mali, Niger, Nigeria and Senegal) in Western Africa are part of the Great Green Wall for the Sahara and Sahel initiative (Case Study 4), and have committed to restoration under this framework. In addition, all but three countries (Cabo Verde, Guinea Bissau and The Gambia) in the subregion are part of the AFR100 (Table 5).

Table 5: AFR100 pledges from Western Africa

AFR100 PLEDGES	
COUNTRY	Area pledged (ha)
Benin	500 000
Burkina Faso	5 000 000
Côte d'Ivoire	5 000 000
Ghana	2 000 000
Guinea	2 000 000
Liberia	1 000 000
Mali	10 000 000
Niger	3 200 000
Nigeria	4 000 000
Senegal	2 000 000
Sierra Leone	700 000
Togo	1 400 000
<b>Total</b>	<b>36 800 000</b>

### Selection of FLR projects/programmes:

**Benin:** *Enhanced climate resilience of rural communities in central and north Benin through the implementation of ecosystem-based adaptation (EbA) in forest and agricultural landscapes:* The project aims to interrupt the vicious negative cycle, whereby rapidly degrading ecosystems are leading to greater vulnerability of communities to climate change in central and northern Benin and to build the climate resilience of the local communities by integrating climate-resilient agricultural techniques with tailored restoration of degraded forest ecosystems. It focuses on seven municipalities and has three components: (i) the improved provision of ecosystem goods and services for climate change adaptation through forest restoration; (ii) increased agricultural productivity to secure livelihoods in the face of climate change; and (iii) strengthened capacity and awareness to implement EbA and climate-resilient agriculture (2019–2024).

**Burkina Faso:** *Projet d'appui à la gestion participative des ressources naturelles dans la région des Hauts-Bassins:* The objective of this project was to promote and facilitate sustainable and participatory management of

natural resources of the upper watersheds. The project led to an increase of 400 percent in the number of trees and of 33 percent in the number of species in the forests of Dindéresso and Kou between 2003 and 2009. This project was followed in 2019 by one entitled “Projet d'appui à la gestion durable des ressources forestières” (EUR 17 million) (2006–2012).

**Cabo Verde:** *Removal of Invasive Plant Species and Forest Protection in Monte Velha -* The Associacao para o Desenvolvimento Comunitaria de Feijoal carried out this project between 2015 and 2016 to promote the implementation of anti-soil erosion techniques, forestation, using endemic and native species in the Monte Velha. All activities were carried out by the NGO in collaboration with the Park authorities. The objective was to improve forest quality by recovering degraded areas affected by invasive plant species as well as promoting better living conditions for the beneficiaries by protecting their main source of income (2015–2016).

**Côte d'Ivoire:** *Governance and sustainable management of natural resources in the Comoé and Taï area (Pro2GRN):* The integrated governance of the Comoé and Taï regions are being improved to enable the use of natural resources in the long term, increase agricultural productivity and professionalise the management of protected areas. It includes agroforestry as one of its main areas of work (2020–2024).

**Ghana:** *Private public partnership (PPP) in the Forest Sector:* This PPP aims to restore and expand an existing 5 000 ha forest plantation to nearly 12 000 ha of sustainable commercial forest plantation made up of 10 percent indigenous tree species and 90 percent teak. The aim is for the programme to be certified under both the Forest Stewardship Council for sustainable management and Verified Carbon Standard certification standards for carbon credits (2016–2056).

**Senegal:** *Mangrove Restoration:* Oceanium has been working with over 500 villages to plant over 150 million mangrove propagules in the deltas of Sine Saloum and Casamance. The success rate so far is estimated at 85 percent. Several international investors have engaged with this programme, such as Fondation Yves Rocher and the Livelihoods Carbon Fund, making it the largest mangrove restoration initiative in the world (2011–ongoing).

There are 24 projects/programmes related to FLR in Western Africa listed in Annex I. The majority of this sample of projects (75 percent) started after the launch of the AFR100.

### CASE STUDY 3:

## Farmer-managed Natural Regeneration in Niger

Formally introduced to Niger in 1983, farmer-managed natural regeneration (FMNR) had enabled the restoration of previously barren lands. In a zone that is subject to particularly harsh conditions exacerbated by climate change, FMNR promotes and re-invigorates a traditional farming system that includes the growth of trees already present in the soil. Whereas past, Western-influenced farming practices had encouraged their elimination, reviving these agroforestry practices has enabled the “re-greening” of large swathes of this dry country with their adapted native species. In turn, this has provided shade, soil and water conservation, fodder, medicinal plants and numerous other goods and services to farmers, their families and livestock (WRI, 2008).

Important changes in the national forest law that enabled farmers to own new trees have supported this transformation, as previous laws meant that trees belonged to the state, leaving farmers with little incentive to manage them (IPBES, 2018).

Today, satellite images confirm an increase in vegetation cover in this part of the Sahel for the period 1987 to 2015 (IPBES, 2018). Additional benefits on food security have been registered such as an increase in grain production (by half a million tonnes per year) and in fodder to feed livestock (Reij *et al.*, 2009).

The approach is also being seen as a promising method to promote FLR in other parts of Africa. In fact, it continues to be promoted and adopted through numerous large and small scale projects as well as being taken up spontaneously by farmers themselves across the continent. Indeed, according to WRI, “over 300 million hectares of currently degraded land would respond positively to farmer-managed natural regeneration”.

Source: World Vision.

*Samburu women’s group demonstrating FMNR of indigenous acacia trees on communal grazing land. Isiolo, Kenya.*





**CASE STUDY 4:****Great Green Wall for the Sahara and the Sahel Initiative**

In an effort to combat desertification, over 20 countries of the Community of Sahel-Saharan States (CEN-SAD) came together in 2007 to establish the Great Green Wall for the Sahara and the Sahel Initiative (GGW), under the leadership of the then president of Nigeria, Chief Olusegun Obasanjo, and the African Union. Furthermore, a Pan-African Agency for the Great Green Wall was established in June 2010 gathering 11 countries (Burkina Faso, Chad, Djibouti, Eritrea, Ethiopia, Mali, Mauritania, Niger, Nigeria, Senegal and Sudan) to boost GGW implementation in these GGW priority countries. The target for the GGW is to restore 100 million ha of degraded land by 2030 through a mosaic of different sustainable land uses and production systems stretching across 8 000 km of Africa from West to East (UNCCD, 2020). Many partners are supporting this initiative, which recently (January 2021) was featured at the One Planet Summit in Paris where financial and technical partners committed a further USD 14 billion to this effort, through the “Great Green Wall Accelerator Initiative” (UNCCD website).

Under the political leadership of the African Union Commission and the regional coordination of the Pan African Agency of the GGW, each country has established at country level, a national agency or coordination unit, developed its national strategy and action plan, and identified intervention areas to meet the objectives of the GGW. Implementation of the GGW initiative is seen as contributing to the three Rio Conventions (GGW website) and to the SDGs in Africa’s drylands.

A GGW harmonised strategy was developed by AUC in collaboration with PAGGW and support of FAO and GM-UNCCD and other partners in 2012 and endorsed in 2013 by the AU assembly. Countries supported by FAO and the European Union have also developed their national strategies and action plans for implementation of the GGW between 2010 and 2014. Restoration has been identified as one of the main priorities for action.

Furthermore, the PAGGW developed a comprehensive strategic framework with five main components: (1) sustainable land management and green economy; (2) climate change, socio-economic development and governance in the localities; (3) support research and development; (4) communication, marketing and advocacy; and (5) information system, observatory, early warning and response. Within these, there are 26 more objectives. To date (between 2007–2019), interventions under the GGW have served to rehabilitate an area of 4 million ha (UNCCD, 2020). The next round of the initiative (2021–2030) is intended to significantly scale up interventions.

Several on the ground projects are contributing to the initiative (see Case Study 5). Main interventions are forest and watershed management (0.9 million ha), and terracing and soil measures (0.89 million ha), followed by conservation/assisted natural regeneration (ANR) (0.73 million ha) and finally, reforestation (0.68 million ha) (UNCCD, 2020).

**Central Africa**

*(Cameroon, Central African Republic, Chad, Congo, Democratic Republic of the Congo, Equatorial Guinea, Gabon, and Sao Tome and Principe)*

Central African forests are part of the second largest tropical forests on the planet, make up 89 percent of Africa’s tropical rainforests (IPBES, 2018b) and account for more than 90 percent of the carbon stored in Africa’s terrestrial ecosystems (Mayaux *et al.*, 2013). The lowland forests have a 30 percent rate of endemism among plant species, while the Afromontane forests have a rate of plant endemism reaching 70 percent

(IPBES, 2018b). The forests here are diverse, made up of swampy forests, dryland rainforest, dry forests, woodlands and wooded savannahs and mosaics of forests, grasslands and savannahs (de Wasseige *et al.*, 2015). Main threats include road construction, mining and primary industries (IPBES, 2018b). All but three countries (Gabon, Equatorial Guinea and Sao Tome and Principe) are part of the AFR100 (Table 6). One country (Chad) is part of the Great Green Wall and has its GGW Strategy and action plan. Cameroon has also requested the AUC to be part of the GGW.

Table 6: AFR100 pledges from Central Africa

AFR100 PLEDGES	
COUNTRY	Area pledged (ha)
Cameroon	12 000 000
Central African Republic	3 500 000
Chad	1 400 000
Democratic Republic of the Congo	8 000 000
Republic of Congo	2 000 000
<b>Total</b>	<b>26 900 000</b>

### Selection of FLR projects/programmes:

**Cameroon:** *Protecting forests and the environment (PFE):* In the regions, the project works with municipalities on sustainable forest management. The aim is to enable communities and their populations to use their forests profitably while at the same time conserving them, for example through improved forest inventories, reforestation and long-term management plans. Thanks to an earlier phase of the project, about 16 000 women living in rural areas were able to increase their income by marketing non-timber forest products and better forest management in the targeted municipalities has increased forest revenues by an average of 27.5 percent (2020-2022).

**Cameroon:** *Supporting Landscapes Restoration and Sustainable Use of local plant species and tree products (Bambusa spp, Irvingia spp, etc) for Biodiversity Conservation, Sustainable Livelihoods and Emissions Reduction in Cameroon:* A medium-sized project was also approved under the GEF, with four components: (1) strengthen national commitment to FLR and improving the policy and regulatory framework governing FLR so that it is more supportive of FLR and incentivizes investment in FLR; (2) pilot and assess the effectiveness of restoration using *Bambusa* spp and other indigenous NTFPs and support the development of NTFP value chains; (3) ensure that institutional and technical capacities are strengthened and financing arrangements developed and in place for effective landscape restoration for biodiversity and CO<sub>2</sub> emissions impacts, and conservational and innovative use

and management of underutilized species; (4) support the development and implementation of a monitoring and evaluation system to assess the effectiveness of the project's interventions in achieving desired restoration outcomes (2019–2024).

**Central African Republic:** *Forest and Landscape Restoration supporting Landscape and Livelihoods Resilience in the Central African Republic (CAR):* Operating under the banner of The Restoration Initiative (TRI), this CAR project will contribute to the restoration and maintenance of critical landscapes to provide global environmental benefits and more resilient economic development and livelihoods, in support of the Bonn Challenge. Specifically, the project will: (1) fill knowledge gaps, in terms of ecosystem service valuation and restoration opportunities; (2) restore more than 3 200 ha using agroforestry and agro-ecology practices; (3) carry out a needs assessment for the civil servants of the ministries in charge of environment, forests, and agriculture and the targeted local populations in the five pilot sites; (4) support the elaboration of a technical guide of good practices in terms of FLR, the organization of regular “FLR technical days” gathering policy-makers and practitioners, and the elaboration and diffusion of training material on FLR (2018–2022).

**Chad:** *Rural, Pastoral and Transhumance Infrastructure Project (RPTIP):* The main objective of this project was to contribute to improved living conditions among the transhumant and sedentary population. Reforestation and tree-planting formed part of the activities to increase fodder material for pastoralists. By the time of project completion, 294 ha had been restored, using fodder species of value to pastoralists. The project also led to reduced conflict between nomadic pastoralists and settled communities by better delineating transhumance corridors (2011–2019).

**Democratic Republic of the Congo:** *The Restoration Initiative (TRI):* In South Kivu, a ROAM process was carried out and TRI is supporting government and community partners to develop a provincial-level strategy for FLR. Household surveys were carried out to better understand communities' needs and priorities, and determine appropriate and relevant restoration interventions (2018–2025).

There are eight projects/programmes related to FLR in Central Africa, listed in Annex I. The majority of this sample of projects (75 percent) started after the launch of the AFR100.

## Eastern Africa

*(Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, South Sudan and Uganda)*

The Eastern Africa subregion displays a diversity of forests, including Miombo woodlands, thickets, mangroves, montane and coastal forests, as well as planted forests (Mwangi *et al.*, 2018). The rich Afro-montane forests of the Albertine Rift straddle Central Africa and Eastern Africa. Population density is high, and many forest areas have suffered significant anthropogenic pressures and trends show a general forest decline (*ibid*). Overall deforestation rates are high, at 0.3-4 percent in Uganda and 0.05 percent in 1990-2010 in Kenya (Mwangi *et al.*, 2018). The main pressures on these forests are agricultural expansion for both subsistence and commercial agriculture; unsustainable harvesting of wood products (e.g. wood fuel, poles and timber), illegal harvesting and trade; wildfires and infrastructure development. Other direct drivers include overgrazing, wildlife and livestock damage, mining, industrial development and human settlement (Mwangi *et al.*, 2018).

Decentralization and community engagement in forest management are making headway in this region. In Kenya for example, communities co-manage public forests through participatory initiatives whereas in Uganda, community-based forest management takes place through collaborative forest management in Central Forest Reserves and collaborative resource management in Wildlife Conservation Areas (WCAs).

Table 7: AFR100 pledges from Eastern Africa.

AFR100 PLEDGES	
COUNTRY	Area pledged (ha)
Burundi	2 000 000
Ethiopia	15 000 000
Kenya	5 100 000
Rwanda	2 000 000
Uganda	2 500 000
<b>Total</b>	<b>26 600 000</b>

Kenya's Green Belt Movement established by late Professor Wangari Maathai is a trailblazer in forest restoration (Case Study 1). Five Eastern African countries committed to the AFR100 (Table 7). Three countries (Djibouti, Eritrea and Ethiopia) are part of the GGW, both Djibouti and Ethiopia have GGW strategies and action plans adopted and all three countries started GGW implementation.

## Selection of FLR projects/programmes:

**Burundi:** *Burundi Landscape Restoration and Resilience Project:* The project aims to restore degraded landscapes and improve land management in the targeted hills of the Bujumbura Rural and Muyinga Provinces, in the communes of Buhinyuza and Isale. At least 80 820 small-producer households are expected to directly benefit from the project (2018–2023).

**Djibouti:** *Implementing NAPA priority interventions to build resilience in the most vulnerable coastal zones in Djibouti:* The mangroves on the coast of Djibouti provide valuable ecosystem goods and services to the local populations. The project in Khor Angar and Damerjog aimed to implement a set of urgent measures that strengthen the capacity to predict future changes, while helping local populations to adapt to climate change through the adoption of more sustainable production methods, particularly in the areas of water management, agriculture, fisheries and tourism. By 2017, the project had trained local populations in techniques to restore the mangrove, established four tree nurseries and planted over 40 000 propagules. Framed in the context of climate change, the project has helped communities to adapt to the effects of more frequent droughts and erratic rains (2010–2017).

**Ethiopia:** *Resilient Landscapes and Livelihoods Project:* The project focuses on selected watersheds and aims to improve climate resilience, land productivity and carbon storage, while at the same time increasing access to diversified livelihood activities. It has three core components: (1) restoring degraded landscapes in selected watersheds and helping to build resilient livelihoods; (2) building capacity for the promotion and management of Sustainable Land and Water Management (SLWM) practices, and improving information for better decision-making in supporting resilient landscapes and diversified rural livelihoods in the project area; and (3) strengthening the rural land



administration system to improve tenure rights, optimize land use, and empower land-users to sustainably invest in productive landscapes. By January 2021, about 71 000 ha of land had been restored or was under active sustainable management (2018–2024).

**Ethiopia:** *Forest Landscape Restoration and Conservation with Livelihood Enhancement:*

This project, led by the Society for Forest Landscape Restoration and Conservation worked with community-based organizations (CBOs) to promote the implementation of small microeconomic and climate-smart income-generating activities to reduce the vulnerabilities of communities to climate change, so that they could restore landscapes and protect forest in hilly areas. The project was expected to benefit the communities by teaching them to restore degraded landscapes, carry out sustainable farming practices, and enhance their sustainable income-generating opportunities (2019–2020).

**Kenya:** *Mikoko Pamoja* (which means “mangroves together” in Swahili) is a mangrove conservation and restoration project in Gazi Bay led by a community of 5 400 people. The project aims to mitigate climate change, conserve biodiversity and enhance community livelihoods. It does this by preventing deforestation, restoring mangroves with the local community. Payments are made to the communities, who sell the carbon credits (3 000 tonnes of CO<sub>2</sub> equivalent per year) from their conservation and restoration of mangroves in the voluntary carbon market. Profits are reinvested in the community to improve clean water access for 3 500 community members, provide educational materials to 700 school children, and to ensure the 117 ha of mangrove forests remain protected (2013–date).

**Rwanda:** *Agroforestry at scale for soil, water and food:* The Albertine Rift Conservation Society (ARCOS) has partnered with the Livelihoods Carbon Fund (a fund established by 10 large multinational companies) to launch a 20-year agroforestry project in 240 villages in Rulindo and Bugesera districts in Rwanda. The project involves 30 000 smallholder farmers. The aim is to plant over 6 million trees on 15 209 ha. For the Livelihood Carbon Fund, that means the sequestration of 3 million tonnes of CO<sub>2</sub> over 20 years. For the local communities, it means 120 000 people and 30 000 households benefitting from the project and the creation of 5 000 green jobs. Local village and district

authorities are also actively involved notably in the preparation of nurseries, tree-planting activities and farmer cooperatives. The project takes a holistic approach training farmers in tree-planting combined with agroforestry, alternative crops, improved soil fertility through natural means, and diversification of incomes, as well as enhancing access to markets (2020–2040).

**Uganda:** *Natural High Forest Rehabilitation Project on Degraded Land of Kibale National Park:* The project has helped to restore over 6 000 ha of forest in what was a degraded part of the Kibale National Park. This climate mitigation project, registered under the Verified Carbon Standard (VCS) and the Climate, Community and Biodiversity (CCB) schemes, has several objectives, including to restore 6 213 ha of degraded forest in the Kibale National Park by planting locally occurring indigenous trees species and to promote regeneration of natural vegetation in the forest interior areas. It also seeks to provide employment and new income-generating opportunities for local communities adjacent to the park. The project was set up over a 60-year period and removes 164 175 tonnes of CO<sub>2</sub> equivalent per year (1994–ongoing).

There are 29 projects/programmes related to FLR in Eastern Africa listed in Annex I. The majority of this sample of projects (59 percent) started after the launch of the AFR100.

## Southern Africa

(*Angola, Botswana, Comoros, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia and Zimbabwe*).

The Southern Africa region spans several biogeographical zones and a significant altitudinal range, and as such exhibits diverse forests, from dense tropical forests in Angola, Comoros or Madagascar, to dry forests in Zambia or savannahs in Botswana. Miombo woodlands are also present in several countries (IPBES, 2018b). More than half of this region (54 percent) is made up of savannahs and grasslands (Ibid). In South Africa, vast areas of planted forest can be found consisting of fast-growing exotic species such as *Pinus* spp., *Eucalyptus* spp. and *Acacia mearnsii*, which are primarily used for the production of industrial roundwood (FAO, 2019).

The Southern Africa subregion is subject to persistent drought cycles. In addition, subsistence agriculture, fire, mining, overgrazing, fuelwood collection, illegal

logging, unsustainable wood harvesting for timber and wood fuel and infrastructure development all affect the region (FAO, 2015, 2019). South Africa is particularly vulnerable to invasive exotic species. Their uncontrolled spread poses a serious threat to water security in a country receiving less than half of global average rainfall (500 ml/year). Seven countries are committed to AFR100 (Table 8). Inspired by the GGW for the Sahara and the Sahel initiative, and under the coordination of SADC and the African Union Commission with support from FAO and other partners, the dryland countries of the SADC have developed and launched a Great Green Wall initiative for the SADC region.

**Table 8: AFR100 pledges from Southern Africa**

AFR100 PLEDGES	
COUNTRY	Area pledged (ha)
Eswatini	500 000
Madagascar	4 000 000
Malawi	4 500 000
Mozambique	1 000 000
South Africa	3 600 000
Tanzania	5 200 000
Zambia	2 000 000
Zimbabwe	2 000 000
<b>Total</b>	<b>22 800 000</b>

### Selection of FLR projects/programmes:

**Eswatini:** *Smallholder Market-led Project (SMLP):* The project aims to enhance food and nutrition security and incomes among smallholder producer families through diversified agricultural production and market linkages. One of its outcomes is to ensure soil and water resources are sustainably managed for market-led smallholder agriculture in 25 chiefdoms. The project has included the rehabilitation of five wetlands through fencing to allow natural regeneration on some 50 ha of land and rehabilitation of an area of 82 ha of heavily degraded community sites by growing various fodder and fruit tree species for the use of the communities. Importantly, the project has

trained 481 farmers, many of them women, in climate-smart agricultural practices (2015–2021).

**Madagascar:** *Livelihoods Vanilla Project:* In 2017, the Livelihoods Fund for Family Farming launched a ten-year project in the vanilla-growing region of Sava in Madagascar to promote agroforestry techniques in this sector. In addition to improving practices for vanilla farming and restoring trees in the landscape (as windbreaks and firewalls), the project will enable farmers to generate higher revenues with an estimated 60 percent of cured vanilla's value going back to farmers (instead of 5 percent to 20 percent today). The project has already helped to organize over 600 producers into associations (2017–2027).

**Madagascar:** *Forest Landscape Restoration in Fandriana-Marolambo:* Over a 13-year period, WWF worked with local stakeholders in the Fandriana-Marolambo landscape in south-central Madagascar to restore the goods, services and authenticity of the moist forests of the landscape of Fandriana-Marolambo so as to support the development of the populations and to secure the objectives of biodiversity conservation. Through active and passive restoration as well as the promotion of alternative income-generating activities the project led to a reduction in the rate of deforestation in the landscape, the active or passive restoration of 6 786 ha and 1 400 households benefitting from new alternative income-generating activities (2004–2017).

**Mauritius:** *Mainstreaming biodiversity into the management of the coastal zone in the Republic of Mauritius:* The project's objective is to mainstream the conservation and sustainable use of biodiversity and ecosystem services into coastal zone management and into the operations and policies of the tourism and physical development sectors in the Republic of Mauritius through a 'land- and seascape wide' integrated management approach. It includes an ecosystem restoration component to reduce erosion and soil loss in 200 ha of erosion-prone watersheds and restore ecosystem services on 15.4 ha of freshwater wetlands and 23.9 ha of associated buffer. Restoration includes the removal of invasive exotic species such as the Chinese Guava (*Psidium cattleianum*) plant which outcompetes the growth and regeneration of native plants (2018–2021).

**Namibia:** *Building resilience of communities living in landscapes threatened under climate change through an ecosystems-based adaptation approach:* The project builds on the successful results of the Community Development and Knowledge Management for the Satoyama (COMDEKS) programme, implemented by the United Nations Development Programme (UNDP). It aims to use large-scale Ecosystem-based Adaptation as a cost effective and low risk approach to build climate resilience within the eight large landscapes targeted for implementation. One component includes ecosystem restoration in the landscape to reduce the vulnerability of ecosystems and increase the resilience of local communities (2019–2024).

**South Africa:** *Working for Ecosystems:* This programme aims to reverse environmental degradation through ecological restoration and maintenance programmes. It aims to regain natural ecosystem composition, structure and function and enhance ecosystem services. At the same time, the aim is to improve livelihoods security and the productive potential of land, improve natural species diversity, and promote the development of a market for ecosystem services and pro-poor economic development and empowerment in rural areas. It follows from the Subtropical Thicket Restoration Project started in 2004 (2004–ongoing).

**Tanzania:** *Securing long-term benefits for the communities and forests of the East Usambara Mountains:* In Tanzania’s East Usambara landscape, WWF worked with its local partner, Tanzania Forest Conservation Group (TFCG), for 10 years “to prevent the loss of globally important biodiversity values, improve the livelihoods of the local population and restore and maintain the multiple functions of forests.” Through three consecutive phases, the project worked with 19 village communities to establish village land forest reserves as a mechanism to improve connectivity between existing protected areas. Several alternative income-generating activities were introduced such as butterfly farming or the cultivation of aromatic herbs to reduce pressure on natural forests, while improving livelihoods. Thanks to the project, forest clearance went down by 88 percent (between 2006 and 2012) and targeted villagers’ incomes rose by 239 percent (Sumbi, 2013) (2004–2013).

**Tanzania:** *Supporting the implementation of integrated ecosystem management approach*

*for landscape restoration and biodiversity conservation in Tanzania:* The objective of the project is to strengthen integrated natural resources management and restoration of degraded landscapes for building resilient socio-ecological systems in Tanzania. It has three components: (1) establishing national landscape restoration governance and regulatory structures, and mainstreaming landscape restoration and sustainable land management into policies, regulations and strategies; (2) engaging communities and local authorities in identifying and implementing feasible restoration options at landscape level; (3) putting in place effective M&E and data management systems that would enable the project to gather gender-disaggregated data, disseminate lessons and facilitate learning, and scale up good practices (2018–2023).

There are 23 projects/programmes related to FLR in Southern Africa listed in Annex I. The majority of this sample of projects (61 percent) started after the launch of the AFR100.

### 3.4. Major multicountry FLR initiatives and programmes

**African Landscapes Action Plan (ALAP):** In 2014, 200 experts, practitioners and policy-makers from across Africa and beyond came together to synthesize lessons learned from research and experience in integrated landscape management to jointly achieve food security, biodiversity and climate objectives. Stemming from that meeting, a set of policy and programmatic plans for national, regional and international action were developed around six action themes: policy, governance, business, finance, research and capacity development.

**The Great Green Wall (GGW) for the Sahara and the Sahel Initiative** was launched in 2007 to restore Africa’s drylands, including Northern Africa, the Sahel and the Horn of Africa, in the context of sustainable development and to address socio-economic and environmental challenges (including biodiversity loss, climate change and desertification (see Case studies 4 and 5). Initially interpreted as being a wall of trees, or planting programme, a common understanding has evolved whereby it is a mosaic of sustainable management and restoration of landscapes including forests, crops and pastoral land), a truly sustainable development programme across sectors and requiring



the solidarity of countries, sectors, policy-makers, communities, researchers, men and women and youth. The programme is based on a more comprehensive approach to restoration of the natural and human capital, with diversity of efforts, interventions and programmes/ projects.

One such programme with on the ground results is the **Action Against Desertification (AAD)** led by FAO since 2014 (which also extends to the Caribbean and the Pacific [ACP]). It aims to restore drylands and degraded lands in support of expanding resilience in Africa. It focuses on Great Green Wall countries and emphasizes South-South Cooperation (Case study 5).

Since 2014 and with funding from the Korea Forest Service of the Republic of Korea, **the Forest Ecosystem Restoration Initiative (FERI)** supports

developing country parties to the CBD to develop and operationalize national targets and plans for ecosystem conservation and restoration. This is in support specifically of the Aichi Biodiversity Targets 5, 14 and 15. To date, it has provided funding to 12 projects, four of which are in Africa (Burkina Faso, Kenya, Madagascar and Niger).

**The Forest and Landscape Restoration Mechanism (FLRM)** was established by FAO in 2014 to scale up, monitor and report on FLR activities as a contribution to the Bonn Challenge and Aichi Biodiversity targets. It helps to coordinate and facilitate the development and implementation of projects, programmes and related activities in FAO member countries, in close collaboration with other key stakeholders such as members of the GPFLR. Key actions supported by the FLRM include the preparation and the implementation

## CASE STUDY 5:

### Action Against Desertification

Action Against Desertification (AAD) is a EUR 41 million European Union–FAO-funded programme launched in July 2014 and implemented by FAO and partners in support of Africa's Great Green Wall and Small Island Developing States in the Caribbean and Pacific.

Within Africa, AAD delivers the objectives of the GGW in six countries (Burkina Faso, Ethiopia, the Gambia, Niger, Nigeria and Senegal) to support local communities, governments and civil society to restore degraded land and manage fragile ecosystems in a sustainable way. Since 2018, AAD has been extending in other three countries (Eritrea, Mauritania and Sudan) through BRIDGES project with funding support from Turkey.

Through this project, actions that are carried out include:

- **Land restoration:** putting rural communities at the heart of restoration and upscaling interventions.
- **Non-timber forest products:** supporting economic growth and sustainable management of natural resources.
- **Capacity development:** strengthening capacities in sustainable land management and land restoration.
- **Monitoring and evaluation:** collecting data, keeping track of progress, measuring impact.
- **Information-sharing:** knowledge exchange and awareness-raising about land degradation and desertification.
- **South-South Cooperation:** sharing lessons learned on how to reverse land degradation.

To date, 63 000 ha have been restored and over 12 million seedlings and 120 tonnes of forest seeds from over 100 mixed native species, of trees and fodder grasses, were planted using a restoration model combining plant science, local knowledge, community mobilization and mechanised technology. A total of one million people have been reached through the programme.

Source: FAO website: [www.fao.org/in-action/action-against-desertification](http://www.fao.org/in-action/action-against-desertification).

of national FLR Action Plans; the promotion of networking; support to partnerships on FLR; striving for increased intersectoral collaboration; and exploring investment opportunities and greater involvement of the private sector to develop appropriate value chains linked to FLR opportunities.

**Regreening Africa** is a partnership between CARE International, Catholic Relief Services, GIZ/Economics of Land Degradation, ICRAF, Oxfam, Sahel Eco and World Vision. It is funded by the European Union for 5 years (2017–2022). The overall goal is to improve livelihoods, food security and increase resilience to climate change of smallholder farmers, by restoring ecosystem services, particularly through agroforestry. It aims to reverse land degradation on one million hectares across eight countries (Ethiopia, Ghana, Kenya, Mali, Niger, Rwanda, Senegal and Somalia) in sub-Saharan Africa. For example, in Mali, Regreening Africa aims to engage 80 000 smallholders to regreen 160 000 ha in four districts: Bla, Koutiala, San and Yorosso. In Kenya, the project aims to have an impact on the livelihoods of 50 000 smallholders and begin restoring 150 000 ha of degraded land by 2022 (Regreening Africa website). Overall, a total of 301 225 households had been reached by the project by 2020. Restoration activities that were carried out included agroforestry, FMNR and tree planting. By 2020, 442 179 ha were under restoration in all eight countries. The project has helped to strengthen the value chains of several products, such as baobab fruit, shea butter or mango (Regreening Africa, 2020).

Carried out between 2012 and 2020, **the Sahel and West Africa Program in Support of the Great Green Wall (SAWAP)** contributed to bringing 1.6 million ha of land under sustainable land and water management (SLWM) (with Ethiopia alone representing 68 percent of that figure) and reached over 19.4 million beneficiaries (as of 2019) across 12 member countries (Benin, Burkina Faso, Chad, Ethiopia, Ghana, Mali, Mauritania, Niger, Nigeria, Senegal, Sudan and Togo). A total of 74 680 farmers received training in SLM practices and improved agricultural technologies. Farmers adopted SLWM in a total of 821 542 ha across the 12 countries. Improved forestry management was either planned or in place in 6 of the 12 project counties, on a total of 455 702 ha. Data on change in forest and vegetation cover were found to be less reliable (World Bank, 2021). SAWAP's total budget was about USD 1.3 billion (USD 100 million from the GEF and USD 1.2 billion from the World Bank) (UNCCD, 2020; World Bank, 2021).

Alongside SAWAP, a regional project named **BRICKS (Building Resilient, Information, Communication, and Knowledge Services)** project (USD 4.6 million)

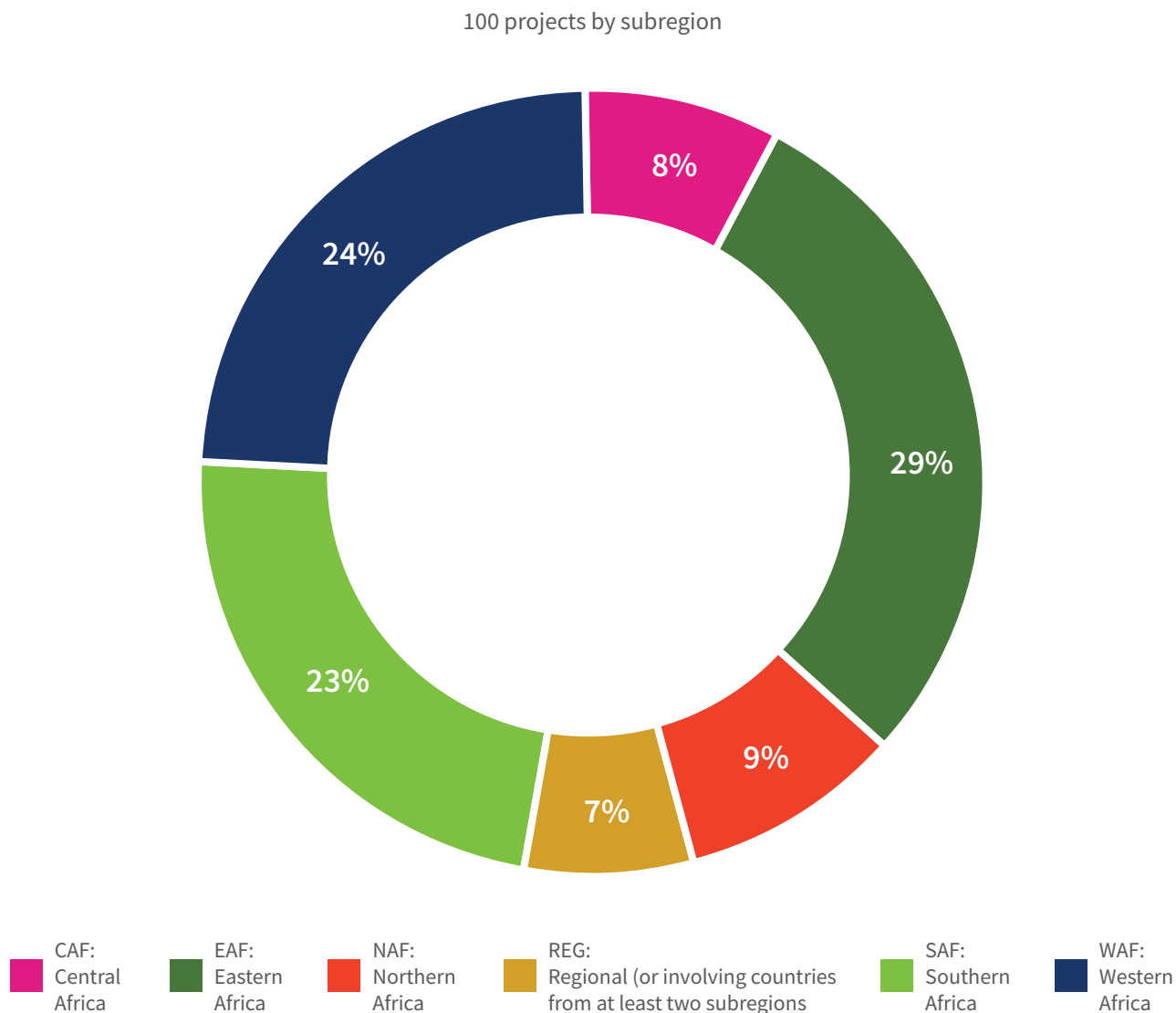
was implemented, focusing on coordination, monitoring and knowledge. It complemented SAWAP by aiming to improve accessibility of best practices and monitoring data for SAWAP implementing countries. The BRICKS project was executed by existing regional institutions (the Permanent Inter-State Committee for Drought Control in the Sahel [CILSS], the Sahara and Sahel Observatory [OSS] and the regional office of IUCN in Burkina Faso).

A recently approved GEF project on **“Large-scale Assessment of Land Degradation to guide future investment in SLM in the GGW countries (GEF Trust Fund, NASA/USAID)”** is to be implemented from 2019 to 2024 to improve the science-based evidence about sustainable land management (SLM) in the GGW region. Focusing on Burkina Faso, Ethiopia, Niger and Senegal it aims to assess available tools and methodologies for scientific measurement of the ecological impacts of land degradation and SLM practices, and monitoring and knowledge management systems. The total budget for this project is USD 5.6 million.

The **Large-scale Forest Landscape Restoration in Africa** project is funded by BMU's International Climate Initiative (IKI) for 6 years starting in 2019. It aims to increase the economic, ecological and climate-related benefits from large-scale FLR in Cameroon, Kenya, Malawi and Rwanda. The project will provide field support, capacity-building and policy advice, leverage further resources for FLR, share experiences and monitor results. Because funding comes from a climate budget line, the establishment of new carbon stocks and reduction of pressure on existing ones is an important component of the project.

**The global project Forests4Future (F4F) (BMZ)** is being carried out in Côte d'Ivoire, Ethiopia, Madagascar and Togo. The objective of F4F is to restore tree-rich, productive landscapes and improve forest governance. As an overarching FLR project, F4F provides conceptual support to the AFR100, is involved in its steering group, deals with issues related to the Bonn Challenge and other international FLR-related initiatives and it also advises the German government on FLR. It supports activities contributing to achieving the national FLR goals in Ethiopia, Madagascar and Togo, including reforesting an area of 2 000 ha.

**The Central African Forest Initiative (CAFI) was launched at** the UN Sustainable Development Summit in September 2015. It is a collaboration between the six Central African countries (Cameroon, Central African Republic, Congo, Democratic Republic of the Congo, Equatorial Guinea and Gabon) and FAO, UNDP, the World Bank and a coalition of donors, including France, Germany, Norway, South Korea and the

**FIGURE 5:** 100 FLR or FLR-related country projects by subregion or multicountry (regional)

United Kingdom. The emphasis is on driving national reforms that contribute to reducing emissions from deforestation and forest degradation and contribute to sustainable development. One aspect of the initiative is a forest fund that reached capitalisation of close to 500 million, as per its objective (set out in 2015).

Most of the projects reviewed across all subregions had a strong climate change dimension. This may reflect the significant availability of funding for climate actions. In some cases the focus was on climate

adaptation, in others on climate mitigation. In all cases, consistent with FLR, this was not the only objective, and the ultimate aim was to reduce vulnerabilities of rural people and to improve their resilience. Food security was a central component of many projects. In many instances, job creation and the development of alternative income generating activities was one of the objectives. The majority of projects are recent, having started since the launch of AFR100. Consequently, there are few results and impacts reported.

*“We need to celebrate what is on the ground,  
the change-makers, not webinars!”*

*— (Interviewee 13).*



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# CHAPTER 4

Key Success Factors



This section relies heavily on interviews, although it was complemented with background research. It highlights some of the most important success factors identified for FLR implementation in Africa (Figure 6).

### Engagement of key stakeholders on the ground

First and foremost, stakeholders living in the landscape should be actively engaged. Primary stakeholders in FLR are rural communities living closest to the land and relying on forests and trees, as well as the ecosystem goods and services that they provide for their livelihoods. In a continent that remains primarily rural, and where subsistence agriculture and energy needs both depend on trees, FLR plays a fundamental role in meeting local stakeholders' needs. Consequently, the real and effective engagement of local stakeholders constitutes a major success factor for FLR. For example, under the AAD programme (Case Study 5) and further through the forestry partnership between Turkey and FAO, the project BRIDGES established networks of village-level technicians as well as the COGES (community management committees with municipalities) to work with, engage and support local communities for sustainable restoration activities in Burkina Faso, Eritrea, Ethiopia, The Gambia, Mali, Mauritania, Niger, Nigeria, Senegal and Sudan.

In many instances, the role of women is also particularly important as they are often the ones collecting products from the forest (including wood fuel), or farming, and as such, they are on the frontline, facing the impacts of degraded forests and landscapes. Building relationships and trust is central to engaging with communities. This requires close and long-term

relationships, something that is often difficult to achieve with short-term donor funding.

Local authorities, both formal and informal, are also important in creating the local governance context for FLR implementation. Traditional leaders may play an important role in mobilizing their communities. Equally, local-level associations of different types provide a way of organizing communities. For example, in Madagascar, local community organizations are paramount to securing co-management arrangements for forests. Djenontin *et al.*, (2020) highlight that the international FLR agenda (and ensuing Africa-wide movement through AFR100) may have also contributed to re-invigorating older local-level initiatives. Indeed, FLR is inherently contextual and while global principles (Besseau *et al.*, 2018) are valuable, local level variations can be significant.

### Local ownership

*“Restoration will happen at the local level, no matter what high-level statements are made.”*

—(Interviewee 13)

Beyond engagement, true local ownership of an (often) externally-driven agenda such as FLR, is frequently challenging. Yet, it is essential to ensure that FLR actions can continue into the future, beyond short-term funding and donor attention. Local ownership should start at the planning stage, and run through to implementation and monitoring.

#### CASE STUDY 6:

### Targeting local entrepreneurs

The Land Accelerator Programme was set up by WRI with funding from the Ikea Foundation, the German Ministry of Economic Cooperation and Development (BMZ) and the DOEN Foundation.

Through this programme, young entrepreneurs are trained during a week-long 'boot camp' in skills necessary to market and sell their products. Participants are all involved in land-based businesses, such as honey production. The programme empowers rural entrepreneurs in landscapes where restoration is a priority, to pitch their businesses to impact investors and sell their products more effectively. So far, alumni of the programme report that they have created 2 700 jobs, worked with 120 500 farmers, restored 101 200 ha, and grown 3.1 million trees.

Source: Land Accelerator Programme (<https://thelandaccelerator.com/>).



©FAO/Christena Dowsett

Tree nursery in Siaya, Kenya

Complex processes that are developed at other scales often fail because they are not locally adapted or relevant. Thus, ensuring local ownership serves to not only ground a process such as FLR into the local reality and context, but also to provide the necessary local perspective to ensure that it can then be acceptable to local stakeholders and integrated into their land management practices. A local dialogue helps to come up with solutions that are appropriate in a given context. For example, in Madagascar's Fandriana-Marolambo landscape, provincial and regional chiefs were involved in the FLR project, helping to build the sense of local ownership and as a result leading to it being inserted within community and regional development plans (Mansourian *et al.*, 2018).

Ultimately, communities need to believe that a change in practices is in their best interest, otherwise they will not apply different techniques or approaches. The Ethiopian community leader and Equator Prize winner, Abreha Weatsbha, emphasizes the central role of mindset change as a precursor to successful restoration.

### High-level government support

*“Countries that seem to be doing better are those that can connect high-level with on-the-ground action.”*

— (Interviewee 1)

In contrast to local-level engagement, high-level political support for FLR provides the political foundation for any FLR action to take place. Regional processes such as the AFR100 have played a significant role in garnering that high-level awareness and support. This can then translate into national-level support. For example, in Kenya, there is high-level commitment to forest restoration as seen in the 2010 Constitution which advocates for a minimum 10 percent forest cover (up from the current 6 percent). Without this support, the mobilisation of resources, enabling policies and facilitation of field-based activities are severely hampered. The massive commitments made by African governments under the AFR100, the Bonn Challenge, the GGW and other schemes represent a significant step in that direction, creating momentum for action on the ground.

### Champions

At all level – from the local to the international – champions of FLR and FLR-related projects have served to facilitate adoption of new approaches. At the local level, champions may be traditional leaders, faith leaders, government or NGO facilitators or just influential individuals who can make a difference in integrating new practices in their communities. At a higher level, champions serve to rally political and financial support. In Rwanda for example, the government was one of the first to embrace the Bonn Challenge and lead the way for large-scale adoption of FLR in Africa.

## Access to finance

Given the scale of the challenge, significant funding and accountability are required for FLR in Africa. Vast sums have already been committed by numerous governments and multilateral agencies (notably recently, at the “One Planet Summit” in Paris in January 2021). However, funding in and of itself is insufficient for success as it needs to reach those working on FLR on the ground. Rural communities, often living in harsh conditions, will continue to use the environment beyond its capacity to repair if there is no other alternative for them to make ends meet. As such, for FLR to succeed, alternative and sustainable income-generating activities need to be in place, and access to funding (micro-credit, grants, jobs, etc.) for those living in the landscapes, impacted by their degradation and working to restore them, is paramount (Case study 6).

## Promoting integration

Integration across sectors, and development priorities is necessary when seeking to restore landscapes. Typically, much of the efforts related to FLR in Africa are occurring on farmland and improving integration between the forest service and agricultural department is essential. Many other sectors (e.g. energy, mining, urban development) also have a take in the restoration of landscapes. Effective FLR implementation requires cross-sectoral collaboration, across ministries and

all levels of administration. When successful, this collaboration can extend well beyond FLR and promote more integrative land use planning, and sustainable development. Tackling climate change under the Climate-Resilient Green Economy (CRGE) strategy in Ethiopia, for example, has served as a focus to guide investments and bring together several sectors (Mansourian, 2020).

In Africa, more than elsewhere, a large number of development priorities tend to precede FLR in government and donor agendas. Yet FLR is relevant to numerous other agendas. Making explicit the links between FLR and other priorities of relevance to Africa and its people, such as food security and nutrition, increase productivity and production, energy, water, disaster risk reduction, income, climate action, economy and trade, youth employment, gender equality and empowerment is much more likely to lead to the engagement of local stakeholders and ensure action on the ground. In this respect, seeking to promote product value chains that are compatible with FLR is an important component of a sustainable FLR approach (Case study 7).

### CASE STUDY 7:

## Clean Development Mechanism – Humbo Project in Ethiopia

In Humbo, south-western Ethiopia, World Vision launched a climate change mitigation project under the UNFCCC’s Clean Development Mechanism (CDM) in 2008. It is a community-managed reforestation initiative that contributes to poverty alleviation and benefits the community by increasing production of timber and non-timber products including honey, medicine, fibre, fruit and wildlife ecotourism; improving land management, resulting in improved groundwater, decreased erosion and flooding; and providing community-based income streams.

The project’s objective is to establish biodiverse native forest and support income and employment-generation activities through assisted natural regeneration. Implementation takes place through farmer-managed natural regeneration (FMNR). Species endemic to the area such as *Acacia spp.*, *Aningeria adolfifericii*, *Podocarpus facutus*, *Olea africana*, *Cordia africana*, *Croton macrostachytus*, *Erthrina spp.*, *Ficus spp.*, *Hagenia abyssinica*, are used to restore the forest.

First of its kind in Ethiopia, the project generates carbon offset credits under the CDM and is also certified under the Gold Standard since 2019.

Source: World Vision.





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*Farmer working on her plot in Beletweyne District, Somalia*

### **Knowledge-sharing and lesson-learning**

Sharing experiences, lessons and successes provides inspiration as well as models to replicate, scale up and multiply FLR experiences. Building on experiences of other stakeholders helps to accelerate actions rather than working in isolation and re-inventing tried and tested methods. At the same time, local knowledge and context are fundamental and some internationally designed tools or practices may need to be adapted to take this local reality into account. Thus, a merging of local, indigenous and external knowledge may provide the most realistic approach to FLR implementation.

Effective communications and advocacy help to share this knowledge, lessons and successful approaches. This includes communication for development targeting local communities and farmers. Documenting good cases and experiences is also important for this learning process and to enable replication. South-South exchanges, as have been promoted under the AFR100 (with experts from Madagascar, for example, going to Cameroon to visit FLR projects), provide a

valuable opportunity to exchange experiences and learn from other practitioners. In particular, farmers listen to and learn from other farmers. Programmes that facilitate peer-to-peer learning generally expect to achieve higher rates of adoption of new practices. Co-learning, co-development and sharing in turn facilitate ownership that is critical for sustainability.

### **Favourable policy environments**

A favourable policy environment provides the foundations for long-term and sustainable FLR implementation. Incentives need to be in place to promote FLR. That includes ensuring that the effort of regenerating and/or planting, maintaining or tending trees, is rewarded. In most of Africa, farmers do not own the land and in most cases they do not own the trees that they grow and tend. Changing these institutional aspects can lead to long-term change in the way forests and trees are approached and managed. In many cases, local by-laws may be a first, and easier step to such fundamental changes. International commitments, notably in the context



of climate change, provide opportunities to promote supportive policies. For example, countries as diverse as Ghana, Niger and Tanzania have acknowledged the importance of security of tree tenure as a way of incentivizing restoration and the maintenance of trees in the landscape. Such policies release the untapped potential of the millions of small landholders and users whose livelihoods and self-interest depend on the land and who stand to benefit the most from restoration

### Partnerships and collaboration

*“The only way we reach scale is through replication of things that work.”— (Interviewee 8)*

A collaborative approach to FLR is fundamental, given the scale of the challenge and the commitments. Small isolated initiatives do not benefit from other experiences and are not being able to demonstrate their successes to others. Partnerships are important both within the country and between neighbours and beyond. The GGW is a good example of such a partnership within and between countries facing similar conditions and challenges. Networks that can effectively connect different projects and project stakeholders are a means of promoting replication and upscaling. Partnerships promote sustainability, in line with SDG 17. For example, the “Regreening Africa” programme represents such a broad coalition of actors to promote the restoration of landscapes across Africa.

**FIGURE 6:** Some key success factors for FLR in Africa





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# CHAPTER 5

Opportunities and challenges for FLR  
in Africa



Forest and landscape restoration can present an opportunity for Africa in the long term. We explore here some of the main opportunities as well as some of the ongoing challenges for FLR implementation.

## 5.1. Opportunities

### Multiple dimensions

In a complex socio-economic context, short-term development needs are inevitably prioritised, yet these are intricately linked to land degradation and climate-change impacts. FLR provides a comprehensive proposition that can be part of the broader development package. One of the central characteristics of FLR – that it seeks multiple objectives – is one of its strengths in the African context. Indeed, FLR can address fundamental needs such as food security while also achieve other benefits such as climate change mitigation and/or adaptation and biodiversity conservation. The role of forests in increasing resilience and mitigating risk to climate change is now well established. While many nationally determined contributions include afforestation and/or reforestation, adjusting the ways these are implemented to better align with FLR is a tremendous opportunity to meet multiple objectives beyond carbon sequestration.

FLR has been shown to provide direct contributions to most of the sustainable development goals. As a multifaceted approach seeking many objectives, it is a practical way of not only restoring land but also meeting other objectives such as those under the UN conventions, food security or health-related objectives (notably in the framework of the current COVID-19 crisis).

A core Africa-wide priority is the Agenda 2063, “The Africa we Want”, a sustainable development plan for the continent, which includes a goal on “environmentally sustainable development” (Goal 7). The framework document refers to restoration and aspires to reach by 2063 similar forest levels as in 1963 (African Union, 2015) and there is a clear role for FLR to contribute to Agenda 2063. The AU SFM Framework (2020–2030) has identified among others five priority objectives to reduce deforestation, forest and land degradation, and restore forests and landscapes to enhance resilience and sustainable livelihoods (AUC, 2019).

### Funding

FLR has attracted significant funding, even if estimated needs continue to outstrip committed funds and funds

actually invested on the ground. Where such funding reaches the local level, it can make a significant difference. Furthermore, given the many connections between FLR and other priorities, this funding could support related and supportive efforts, thus achieving a much larger impact.

In addition to public sector funding, numerous new options are being explored and developed to promote innovative long-term funding (Löfquist and Ghazoul, 2019). These are particularly important because of the long-term nature of FLR. At the same time, private sector funding for FLR remains low, despite there being much interest and funding going to diverse “tree-planting” initiatives (Mansourian and Vallauri, 2020). A recent study found that just over 2 percent of funds from public banks invested in climate finance are spent on small-scale farming communities in developing countries (Win, 2020). Using existing funds to leverage long-term and innovative funding presents a unique opportunity for Africa in the next years.

### COVID-19 recovery plans

The Global Environment Facility, in its strategic document for the next round of funding (2022–2026), notes that “the only lasting solution to COVID-19 and other such diseases is to promote transformational change to the human systems, be they energy, cities, food, and production/consumption, so that a balance between natural systems and human systems be restored within the planet’s safe operating space.” (GEF, 2021). Recovery plans post-COVID-19 are currently being developed. These represent an opportunity to reconsider what to prioritise for investment and the broader development and economic models applied. UNEP has been calling for a “green recovery” that emphasises solutions compatible with FLR. FAO, WHO and others are promoting a “One Health” approach that seeks to address health and well-being through an integrated, collaborative, multisectoral, and transdisciplinary approach that recognizes the interconnections between people, animals, plants and their shared environment. We are likely to see major shifts in aid and development approaches in the coming years as a result. FLR’s holistic perspective can be an important contribution to such plans.

### Economic growth

Economic growth can be both an opportunity and a challenge. Africa’s economic growth for 2020 is anticipated to have been close to 4 percent (AfDB website). In 2019, the world’s 10 fastest growing economies included six African countries: Rwanda at 8.7 percent, Ethiopia at 7.4 percent, Côte d’Ivoire at 7.4 percent, Ghana at 7.1 percent, Tanzania at 6.8 percent



Tractors at work to prepare the land for plantation. Djibo, Burkina Faso

and Benin at 6.7 percent (AfDB, 2020). Such high rates contrast with much of Europe and North America. While there are changes because of COVID-19, potential for economic growth remains in what is a very young and rapidly developing continent.

The eight subregional development commissions<sup>6</sup> represent key mechanisms which could integrate FLR within their priorities so as to effectively mainstream FLR in development plans and diverse sectoral plans. For example, in 2012 ECOWAS ministers adopted the “Forest Convergence Plan” for West Africa, which recognised the negative impacts of forest loss and degradation on human health, food security and the economy. Its objectives include rehabilitation of fragile and degraded ecosystems. These commissions could help to mainstream FLR as they drive such an agenda forward.

### UN Decade on Ecosystem Restoration and Post-2020 Global Biodiversity Framework

The post-2020 biodiversity framework provides an opportunity to better integrate restoration centrally in relation to addressing the biodiversity extinction crisis. Already, restoration is a key element in the draft

versions of the Framework. The GEF, which is a major donor for biodiversity under the CBD framework, is also likely to prioritise restoration in its new strategy (GEF, 2021).

The UN Decade on Ecosystem Restoration can provide visibility to FLR initiatives, helping to expand their reach and multiplication. Although extending to all ecosystems, this 10-year focus on restoration represents a unique opportunity to truly scale up FLR implementation in Africa and beyond.

## 5.2. Challenges for FLR in Africa

Despite the political momentum on FLR in Africa, deforestation and degradation continue. While there are many advances, a range of technical, social, policy, economic, financial and environmental challenges remain if FLR is to be truly scaled up and achieve intended environment, social and economic impacts. It needs to be noted that many of these challenges are not unique to Africa.

<sup>6</sup> The Arab Maghreb Union (AMU) in the north, the Economic Community of West African States (ECOWAS) in the west, the East African Community (EAC) in the east, the Intergovernmental Authority on Development (IGAD) also in the east, the Southern African Development Community (SADC) in the south, the Common Market for Eastern and Southern Africa (COMESA) in the southeast, the Economic Community of Central African States (ECCAS) in the centre, and the Community of Sahel-Saharan States (CENSAD) in the north.



## Property rights and tenure insecurity

Ill-defined or inequitable tenure and property rights are major challenges across large parts of Africa leading to insecurity and conflict (RRI, 2015). This stems to a large extent from the continent's colonial legacy whereby forests and lands were nationalised and formalised in many countries irrespective of traditional and customary ownership. In 2015, only about 2.75 percent of land in sub-Saharan Africa was formally recognized as belonging to indigenous communities and local peoples (with about 15 percent being either owned or designated for use by local peoples and indigenous communities) (RRI, 2015). Without secure access to the forests and the benefits from trees and forests, local communities have limited incentives to maintain or restore these forests. Women are often excluded from land use decisions, even if they have the most at stake. In the context of FLR, even if they are brought into FLR schemes, depending on institutional arrangements, they may not be guaranteed the rights to benefit from the impacts of such schemes (Sijapati Basnett *et al.*, 2017). Some positive changes are being seen in countries like Madagascar and Niger with increased recognition of rights for local communities, including land tenure security (and tenure of trees) (Mansourian, 2020). In Niger, a recent government decree has granted property rights to farmers for the trees on their farms, giving them more of an incentive to grow and tend trees.

## Human and technical capacity

*“Is monitoring the Achilles heel of restoration?”*

— (Interviewee 13)

In the framework of FLR in Africa, capacity relates to human resources at several levels. If they are to effectively engage in FLR, individuals at community level require significant support to strengthen their capacity in restoration techniques, in marketing their products and often in basic skills like book-keeping (see Case study 6). The forest service in many countries is overstretched, with a small number of officers covering huge areas. In addition, many of them may have received training in only a handful of tree species, and primarily on commercial forestry, leaving many gaps when it comes to knowledge about indigenous species and the importance of trees (as well as other native shrubs and grasslands) on agricultural and grazing land. For example, in Ghana, FAO's Forest and Farm Facility held a two-day national training workshop with IUCN on FLR targeting forest and farm producer organizations. The purpose of the training

was to improve their understanding of FLR, including on the linkages between ecosystem services and livelihoods.

Practical tools that can support FLR implementation are still few and far between. One area that has been highlighted as particularly lagging behind is locally adapted monitoring. Without effective monitoring, it is difficult to understand what works and what does not work and therefore, where to invest, what to adjust or what to expand. This shortcoming has been highlighted, for example, at the level of the AFR100 in terms of consolidating experiences and projects across Africa (UNIQUE, 2020).

There are many advances in mapping and increased enthusiasm over the potential for such remote sensing tools to enable the aggregation of FLR initiatives. However, in practice, on the ground and participatory mapping remains essential to confirm spatial data (Guariguata and Evans, 2020). Practical tools are needed for landscape-level actors to apply participatory decision-making mechanisms, to define which species to plant where, to optimise agroforestry practices, among others.

Obtaining information and ensuring that data is captured contributes to the multiplication of initiatives. Research on FLR in Africa also identified the paucity of printed and peer-reviewed material for the continent. Similarly, it proved difficult to obtain written information from project examples for this report. Experiences, lessons and successes must be shared to encourage and inspire replication and lesson-learning. Further research on FLR implementation gaps is needed, and the launch of the Society for Ecological Restoration's (SER) chapter for Africa in May 2021 is timely as it will be in a position to set a new research agenda for ecosystem restoration more generally for Africa.

## Infrastructure

Lack of adequate infrastructure creates difficulties in access in many parts of Africa. This is a challenge for support and project staff to reach the landscape, or to be established in the vicinity of the intervention area, with the result that often staff remain in the capital cities and manage projects from a distance, failing to establish a relationship of trust with local-level stakeholders. Poor infrastructure renders access to inputs, funding and assistance all the more difficult and costly. It is also a challenge for local farmers to send the products from the landscape to potential markets. While poorly planned infrastructure may go against FLR efforts, well designed and integrated infrastructure that responds to local needs can contribute to the socio-economic goals of FLR.

## Complexity

The diverse interpretations of FLR that coexist are testimony to its complexity. For some, FLR is about tree-planting only, while for others agricultural systems are central to FLR. Although potentially embracing a multitude of activities, in practice these diverse dimensions of FLR can add complexity to its implementation (Mansourian *et al.*, forthcoming). In reality, the multiple dimensions of FLR signify that there are many ways to achieve the objectives of FLR, and diverse activities can contribute to it as outlined in the typology in chapter 2 (see Table 1 and Figure. 2). Furthermore, there is no one size fits all, and understanding specific local socio-ecological conditions is fundamental to adapting the FLR approach to the local context.

## Genetic diversity and seed supply

Two major challenges associated with restoration and reforestation more generally through planting concern on the one hand the supply of sufficient seeds of the appropriate species (preferably native species) and on the other, the genetic diversity of this source material (Nef *et al.*, 2021). Poor understanding of the role of genetics in restoration may lead to the wrong choice of species, low genetic diversity and therefore poor resilience in light of climate change (Sacande *et al.*, 2020).

## Financing

Estimates for implementing FLR globally are between USD 36 and USD 49 billion per year (FAO and Global Mechanism to the UNCCD, 2015). In practice, the costs

for restoring a hectare of forests vary significantly, especially if many of the enabling activities are taken into account. For example, Pistorius *et al.* (2017) estimated the costs in Ethiopia at USD 87–1 445 per hectare. In Madagascar, the costs were estimated at USD 680 per hectare (UNIQUE, 2016). Cost/benefit analyses also highlight the value of restoring forest landscapes. In Kenya for example, estimates placed the cost of increasing tree cover to 10 percent at 48 billion Kenyan Shillings (KES) (USD 442 million) while the cost of inaction was estimated at nearly four times this cost, at KES 168 billion (USD 1.55 billion) (Mansourian, 2020). However, not all approaches to restoration are expensive. In the case of FMNR, project implementation costs can be as low as USD 40–50/hectare. Additionally, experiences in Malawi and Niger have shown that once adopted by land users, the practice can spread spontaneously without requiring external inputs. IFAD estimates that the value of a farmer's labour in practicing FMNR on their own land is in the order of USD 14/hectare (Reij and Garrity, 2016).

At the level of farmers, lack of credit may prove a significant obstacle to investing in land. In more challenging environments, particularly in the drylands of West Africa, banks are often reluctant to provide such loans to smallholders. This fuels an inability or reluctance to invest in long-term and sustainable solutions, in favour of short-term and often unsustainable practices.

To date, much of the funding for FLR comes from bilateral or multilateral donors. Yet, these are limited to short-term funding which is not in line with the long-term nature of FLR. In many cases the return on investments may be apparent in 20 years, hence

### CASE STUDY 8:

## The Africa Sustainable Forestry Funds I and II

The Africa Sustainable Forestry Fund (ASFF) I is a USD 160 million fund launched in 2010 with eight companies in Gabon, South Africa, Swaziland, Tanzania and Uganda and sponsored by the GEF. It covers 102 000 ha of sustainably managed plantation, 54 000 ha for biodiversity and conservation, and 568 000 ha of natural forest concession where only one tree is harvested per hectare every 25 years.

The second fund, ASFF II, launched in 2018, is for a 10-year term and aims to invest in (i) rehabilitation of brownfield plantations in Africa to enhance productivity; (ii) downstream manufacturing of high-value wood products; and (iii) biomass energy projects, using wood waste to replace fossil fuels and enhance the overall portfolio value. The African Development Bank is investing up to USD 20 million in this second fund.

Source: AfDB website.

it is important to manage expectations and base motivations on realistic and attainable objectives. Increasingly, FLR proponents are turning to the private sector for longer-term and durable investments in this process. This requires a mind shift from seeing FLR as a project or development activity, to seeing it as a business proposition worthy of investment. In practice, there is a fine line in a landscape between the actions that can be considered financially viable and those that do require development funding (e.g. Case study 8).

### Illegal exploitation of natural resources

Illegal extraction remains a major cause of deforestation and forest degradation in Africa. Indeed, corruption in the forest sector globally is estimated to cost USD 29 billion annually, according to the policing agency INTERPOL (INTERPOL, 2016). Allegations of illegal logging by investigative entities such as Global Witness, continue to plague countries in the Congo Basin and Western Africa for example. Such illegal activities have repercussions at multiple levels, including by impacting on forest dwelling and forest-dependent communities, the loss of revenue for governments, the emission of greenhouse gases and ultimately the risk of a drop in investment in the sector. This corruption is compounded by unworkable

laws and a dearth of sustainable alternatives to the status quo. For example, while the majority of Africa's population, both urban and rural depend on charcoal and fuelwood as a fuel source, in many countries, sale of these items is either illegal or requires a permit. At the same time, this high demand for biomass fuel is not treated as the opportunity that it is: an opportunity to implement sustainable production solutions at scale.

### Climate change

Parts of Africa are among the most vulnerable areas to climate change on the planet. Droughts and floods are particularly threatening to Western Africa, for example. In the drylands of Western Africa, conditions can be extremely harsh with high temperatures and little rainfall during many months. A survey carried out in Burkina Faso to understand critical aspects and constraints that could affect future restoration initiatives found that the main constraint (raised by 56 percent of respondents) was limited access to water (Vinceti *et al.*, 2020). While FLR implementation can be constrained by climate change, restoring landscapes is also a significant part of the solution, contributing both to mitigating its effects and building resilience of landscapes and communities.





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# CHAPTER 6

Going forward: translating commitments into action for the UN Decade on Ecosystem Restoration



Forest and landscape restoration holds multiple promises for Africa and its people. Overcoming existing constraints and building on opportunities and success factors provides several pathways to accelerate FLR implementation at scale.

First and foremost, FLR in Africa must be **responsive** to local needs. Rural communities face numerous challenges and if FLR is to be relevant to them, its implementation must be adapted to the local context and respond to communities' priorities, including food and energy security, resilience and adaptation to climate change, livelihoods or health.

By its very definition, FLR seeks to meet **multiple social, economic and ecological objectives**. This unique value of FLR must not be lost in implementation. Furthermore, FLR can meet both short- and long-term needs. A high level of ambition should be maintained when setting these multiple objectives, to reach the widest number of stakeholders. While FLR has grown in popularity and perceived by many to be a solution to a multitude of evils, it is also sometimes misused or misinterpreted. Greater care is needed to ensure that the FLR approach continues to uphold its key principles. **FLR should strive for the best possible outcomes – social, economic and ecological in any given context**. This may require a change in funding structures as short-term donor funding can hamper such ambition.

**Regional and subregional targeted strategies remain fundamental to effectively move from theory to action, from capital cities to local realities**. While global and national ambitions and movements have gained momentum, these need to be translated into something that is locally relevant and practical if they are to be reached.

A multitude of initiatives in Africa are aligned – to a greater or lesser extent – with FLR. Many of them are not called FLR, but have similar dimensions. All interviewees agreed that while there is a lot of activities many are small scale, are not called FLR and there is little documented evidence for these initiatives. **To reach the impact anticipated by the large-scale political ambitions, these initiatives need to be more visible, better measured and scaled up, where feasible**. Even approaches that have achieved scale and are successfully employed to restore land are often unknown to policy-makers, and tree-planting tends to become the default approach of choice instead of being just one of the many FLR components and interventions. Practices such as holistic grazing management, various forms of conservation agriculture, climate-smart agriculture, agro-ecology, low technology water harvesting

techniques, permaculture practices, FMNR and the use of locally adapted and multipurpose useful biodiversity in restoration, for example by planting or sowing the seeds of a mix of native species (beyond trees, including shrubs and grasses), more have been highly successful on the continent and yet are often dismissed or overlooked.

The UN Decade on Ecosystem Restoration offers **visibility** to restoration and helps to elevate its importance and relevance so that implementation can be scaled up. To that effect, the partners in the Decade have prioritised building a global movement, generating political support and building technical capacity.

Significant funding is being directed towards FLR in Africa. In January 2021, at the One Planet Summit for Biodiversity co-organized by France, the United Nations and World Bank, over USD 14 billion were pledged to the GGW alone. This represents the entire 2019 GDP of a country like Madagascar or Mozambique (World Bank, online database). **Directed to the right stakeholders, such funding can make a huge and lasting impact. Mechanisms need to be put in place to ensure that this may be possible**. For example, options include setting up trust funds or micro-credit schemes. Such financing could also serve to leverage additional and long-term private sector investment.

Integrating diverse priorities and sectors is a strength of the FLR approach. However, in practice, there are few examples of institutions following this integrative approach. This leaves a gap between the essence of landscape approaches such as FLR and their governance. The GGW agencies have been set up as a first step to overcome the typical narrow sectoral approaches. However, in practice, **a more systemic change is needed to bring together different sectors to collaborate on FLR**. Facilitators such as UN agencies and NGOs can help to accompany such deep changes.

In 2018, in the Pan-African Action Agenda on Ecosystem Restoration for building resilience, a number of research priorities were identified, most of which hold true today. For example, mapping degradation risk, establishing and/or strengthening national and regional information systems on land and ecosystem restoration or establishing a national monitoring and evaluation framework for national commitments. **The time is right to invest into expanding our knowledge of FLR and its multiple dimensions in the African context**.

**Monitoring needs to be systematic** and data that is collected should inform future actions. Without adequate monitoring, it is impossible to replicate good

practices, or correct errors. Participatory monitoring is vital to ensure it is embedded in the local context and practices, and thus, can be sustainable in the long term.

**Multistakeholder partnerships** for FLR implementation can be a useful mechanism for sharing experiences and resources, achieving economies of scale, multiplying impact and much more. A number of programmes are beginning to take such approaches. Maintaining flexibility and agility in such partnerships should remain a central preoccupation, rather than setting up cumbersome or formal structures.

The year 2020, with the global COVID-19 pandemic, brought the world to a standstill and with it a unique set of global challenges, and opportunities. Although at the time of writing, the world has still not come to grips with this pandemic, proposals or programmes to “Build Back Better” have been made by agencies and institutions such as AUC, FAO, OECD, UNEP and WRI. Whereas the traditional economic model focuses

on exploitation of natural resources, we **have an opportunity to seek to restore economic activity while reducing greenhouse gas emissions and promoting the recovery of the ecosystems on which our existence depends**. Zero net emissions appears to be a central preoccupation and the role of FLR in achieving this through carbon sequestration is evident. At the same time, there are numerous calls to ensure that forests are not simply used as a pretext for continued emissions and that instead, approaches to restoring forest landscapes must meet multiple objectives, as outlined in the FLR principles.

Today, Africa is poised to enter the UN Decade on Ecosystem Restoration with significant experience and much confidence. The many stakeholders engaged in FLR across the continent’s 58 countries and territories can contribute much to the global restoration agenda, as well as benefit from the spotlight being shone on restoration in the next ten years.

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# ANNEX I: LIST OF PROJECTS (MAJOR DONORS)

	SUBREGION	COUNTRY	PROJECT NAME	DURATION	MAIN FUNDER		OVERALL BUDGET
					Name	Amount funded	
1	CAF	Cameroon	The Restoration Initiative (TRI)	2019–2024	GEF	USD 1.3 million	
2	CAF	Cameroon	Removing Barriers to Biodiversity Conservation, Land Restoration and Sustainable Forest Management through Community-based Landscape Management – COBALAM	2018–2023	GEF	USD 3 105 023	USD 23 991 349
3	CAF	Cameroon	Supporting Landscapes Restoration and Sustainable Use of Local Plant Species and Tree Products (Bambusa spp, Irvingia spp, etc) for Biodiversity Conservation, Sustainable Livelihoods and Emissions Reduction in Cameroon	2018–2023	GEF	USD 1 326 146	USD 10 498 873
4	CAF	Central African Republic	Forest and Landscape Restoration supporting Landscape and Livelihoods Resilience in the Central African Republic (CAR)	2018–2022	GEF	USD 5 961 638	USD 16 526 638
5	CAF	Chad	Rural, Pastoral and Transhumance Infrastructure Project(RPTIP)	2011–2019	AfDB	USD 10.4 million – 50% loan 50% grant	USD 11.44 million
6	CAF	DRC	The Restoration Initiative, DRC child project: Improved Management and Restoration of Agro-sylvo-pastoral Resources in the Pilot Province of South-Kivu	2018–2025	GEF	USD 3.6 million	USD 16 131 530
7	CAF	DRC	Ibi Batéké Degraded Savannah Afforestation Project	2008–	Biocarbon Fund/CDM	sale of carbon credits	

	SUBREGION	COUNTRY	PROJECT NAME	DURATION	MAIN FUNDER		OVERALL BUDGET
					Name	Amount funded	
8	CAF	Sao Tome and Principe	Landscape Restoration for Ecosystem Functionality and Climate Change Mitigation in the Republic of Sao Tome e Principe	2018–2023	GEF	USD 4 666 515	USD 21 516 515
9	EAF	Burundi	Burundi Landscape Restoration and Resilience Project	2018–2023	World Bank	USD 30 million	USD 30 million
10	EAF	Burundi	Climate proofing food production investments in Imbo and Moso basins in the Republic of Burundi	2020–2024	GCF	USD 9 994 500	USD 31.7 million
11	EAF	Djibouti	Implementing NAPA priority interventions to build resilience in the most vulnerable coastal zones in Djibouti	2010–2017	GEF	USD 2.07 million	USD 4 550 000
12	EAF	Djibouti	Supporting rural community adaptation to climate change in mountainous regions of Djibouti	2014–2018	GEF	USD 5 379 452	USD 34 109 452
13	EAF	Eritrea	Restoring degraded forest landscapes and promoting community-based, sustainable and integrated natural resource management in the Rora Habab Plateau, Nakfa sub-zoba, Northern Red Sea Region of Eritrea	2018–2023	GEF	USD 8 260 607	USD 23 500 000
14	EAF	Ethiopia	Resilient Landscapes and Livelihoods Project	2018–2024	GCF	USD 165 237 592	USD 297.2 million
15	EAF	Ethiopia	Forest Landscape Restoration and Conservation with Livelihood Enhancement	2019–2020	GEF Small Grants Programme	USD 49 690	USD 95 140
16	EAF	Ethiopia	Responding to the increasing risk of drought: building gender-responsive resilience of the most vulnerable communities	2017–2022	GCF	USD 45 million	USD 50 million

	SUBREGION	COUNTRY	PROJECT NAME	DURATION	MAIN FUNDER		OVERALL BUDGET
					Name	Amount funded	
17	EAF	Ethiopia	Norway support to Ethiopia for REDD+	2011–	Norway's International Climate and Forest Initiative	2011: USD 60 million to the CRGE Strategy. 2013: USD 10 million for first phase of REDD+ 2017: USD 80 million to implement REDD+ Investment Plan.	
18	EAF	Ethiopia	Humbo Ethiopia Assisted Natural Regeneration	2009–	Biocarbon Fund/CDM	sale of carbon credits	
19	EAF	Ethiopia	European Union Support to the Sustainable Land Management Programme (EU Support to SLMP)	2016–2020	EU	EUR 9.7 million	EUR 19 million
20	EAF	Ethiopia	Sodo Community Managed Reforestation Project	2006–	CCBA	sale of carbon credits	
21	EAF	Kenya	Mikoko Pamoja	2013–to date	Plan Vivo	sale of carbon credits	
22	EAF	Kenya	TWENDE: Towards Ending Drought Emergencies: Ecosystem Based Adaptation in Kenya's Arid and Semi-Arid Rangelands	2019–2024	GCF	USD 23 152 082	USD 34.5 million
23	EAF	Kenya	VANGA Blue Forest	2020–	Plan Vivo	sale of carbon credits	
24	EAF	Kenya	Restoration of Arid and Semi-arid lands (ASAL) of Kenya through Bio-enterprise Development and other Incentives under The Restoration Initiative	2018–2022	GEF	USD 4 157 340	USD 16 807 340
25	EAF	Kenya	Aberdare Range/ Mt. Kenya Small Scale Reforestation Initiative	2007–	CDM	sale of carbon credits	
26	EAF	Kenya	Restoration of Degraded Lands through Reforestation in MAU Forest Complex, Kenya	2011–	CDM	sale of carbon credits	
27	EAF	Kenya	Komaza Kenya: Smalholder forestry in Kenya	2020–	LDN Fund	equity financing of €15–20 million	



	SUBREGION	COUNTRY	PROJECT NAME	DURATION	MAIN FUNDER		OVERALL BUDGET
					Name	Amount funded	
28	EAF	Rwanda	Livelihoods Funds–ARCOS Network: A partnership aiming to build resilience to climate change and sustainable livelihoods in Rwanda’s smallholder farmers’ agrosystems	2020–	Livelihoods Funds	sale of carbon credits	
29	EAF	Rwanda	Strengthening climate resilience of rural communities in Northern Rwanda	2018–2024	GCF	UDS 32 794 442	USD 33.2 million
30	EAF	Rwanda	Forest Landscape Restoration in the Mayaga Region	2019–2024	GEF	USD 6 213 538	USD 32 906 904
31	EAF	Rwanda	Landscape Approach to Forest Restoration and Conservation (LAFREC)	2015–2019	GEF	USD 9 532 000	USD 61 248 548
32	EAF	Somalia	Improving Disaster Risk Management and Food Security to Strengthen the Resilience in Somaliland	2020–2023	BMZ	EUR 9 500 000	
33	EAF	Uganda	Natural High Forest Rehabilitation Project on Degraded Land of Kibale National Park	1994–	CCB	sale of carbon credits	
34	EAF	Uganda	Building Resilient Communities, Wetlands Ecosystems and Associated Catchments in Uganda	2017–2025	GCF	USD 24.14 million	USD 44.3 million
35	EAF	Uganda	Kachung Forest Project: Afforestation on Degraded Lands	2006–	CDM	sale of carbon credits	
36	EAF	Uganda	Uganda Nile Basin Reforestation Project No.1–5	2007–	Biocarbon Fund/CDM	sale of carbon credits	
37	EAF	Uganda	Trees for Global Benefits (TGB)	2003–	Plan Vivo	sale of carbon credits	
38	NAF	Algeria	Government 20-year national reforestation plan in 2000				
39	NAF	Algeria	Rehabilitation and integrated sustainable development of Algerian cork oak forest production landscapes	2019–2023	GEF	USD 3 411 644	USD 28 035 215
40	NAF	Morocco	The Middle Atlas Forest Restoration project	2006–2016	GEF	USD 965 345	USD 997 945

	SUBREGION	COUNTRY	PROJECT NAME	DURATION	MAIN FUNDER		OVERALL BUDGET
					Name	Amount funded	
41	NAF	Morocco	Development of Argan orchards in Degraded Environment – DARED	2016–2022	GCF	USD 39 292 600	USD 49.2 million
42	NAF	Sudan	Sustainable Natural Resources and Livelihoods Programme (SNRLP)	2019–2024	IFAD/GEF/LDCF	EUR 45.2 million (grant) and EUR 11.3 million (loan) + GEF/LDCF EUR 1.8 million	USD 86.65 million
43	NAF	Sudan	Integrated Carbon Sequestration Project	2012–2016	GEF	USD 3.65 million	USD 14 809 000
44	NAF	Sudan	Gums for Adaptation and Mitigation in Sudan (GAMS)	2020–2025	GCF	USD 9.975 million	USD 9.975 million
45	NAF	Sudan	Building resilience in the face of climate change within traditional rain fed agricultural and pastoral systems in Sudan	2020–2025	GCF	USD 25 645 114	USD 41.2 million
46	NAF	Tunisia	Tunisia oases ecosystems and livelihoods project (TOELP)	2014–2019	GEF	USD 5 760 730	USD 64 808 730
47	REG	Côte d'Ivoire/ Madagascar/ Ethiopia/ Togo	Global project on forest landscape restoration and good governance in the forest sector (Forests4Future)	2020–2025	BMZ	EUR 26 540 582	EUR 26 540 582
48	REG	Cote d'Ivoire/ Liberia	Strengthening of ecological connectivity of the Tai Grebo Sapo area	2017–2022	BMZ/EU	EUR 6 969 636	EUR 8 600 000
49	REG	Benin/ Burkina Faso/ Ethiopia/ Kenya/ Madagascar/ Tunisia	Soil Protection and Rehabilitation of Degraded Soil for Food Security (ProSoil)	2014–2025	BMZ	EUR 178 231 596	EUR 178 231 596
50	REG	Cameroon/ Kenya/ Malawi/ Rwanda	Large scale Forest Landscape Restoration (FLR) in Africa	2019–2025	BMU	EUR 22 990 000	EUR 22 990 000
51	REG	Kenya/ Benin/ Ethiopia/ Madagascar/ Somalia/ Tunisia	Soil Protection, Combating Desertification, Sustainable Land Management	2020–2023	BMZ/EU	EUR 10 200 000	EUR 44 954 688

	SUBREGION	COUNTRY	PROJECT NAME	DURATION	MAIN FUNDER		OVERALL BUDGET
					Name	Amount funded	
52	REG	Ghana/Sierra Leone	Miro Forestry	2020?	LDN Fund	quasi-equity investment of USD 12 million supporting a total financing round of up to USD 54 million	
53	REG	Ethiopia/ Ghana/ Kenya/ Mali/Niger/ Rwanda/ Senegal/ Somalia	Regreening Africa	2017–2022	EU	EUR 20 500 000	EUR 24 440 000
54	SAF	Eswatini	Smallholder Market-led Project (SMLP)	2015–2021	IFAD/GEF	IFAD: USD 9.6 million loan (1 yr) and USD 0.5 million grant; GEF: USD 7.21 million	USD 24.51 million
55	SAF	Madagascar	Livelihoods Vanilla Project	2017–2027	Livelihoods Fund for Family Farming	EUR 2 million	
56	SAF	Madagascar	Forest Landscape Restoration in Fandriana-Marolambo	2004–2017	French Government, Fondation Ensemble, Good Planet Foundation/ Air France, SIDA , WWF	EUR 1 625 881	EUR 1 625 881
57	SAF	Madagascar	Biodiversity Conservation, Restoration and Integrated Sustainable Development of Lower Mangoky and South-Mananara watersheds	2020–2025	GEF	USD 7 334 246	USD 40 138 546
58	SAF	Madagascar	Tahiri Honko	2018–	Plan Vivo	sale of carbon credits	
59	SAF	Madagascar	Sustainable Landscapes in Eastern Madagascar: Improving the resiliency of climate-vulnerable smallholder farmer families, reducing greenhouse gas emissions from deforestation and leveraging private sector climate investments	2017–2026	GCF	USD 18.5 million	USD 19.3 million

	SUBREGION	COUNTRY	PROJECT NAME	DURATION	MAIN FUNDER		OVERALL BUDGET
					Name	Amount funded	
60	SAF	Malawi	Trees of Hope	2007–	Plan Vivo	sale of carbon credits	
61	SAF	Mauritius	Mainstreaming biodiversity into the management of the coastal zone in the Republic of Mauritius	2018–2021	GEF	USD 4.6 million	USD 21 933 698
62	SAF	Mozambique	Climate-resilient food security for women and men smallholders in Mozambique through integrated risk management	2020–2025	GCF	USD 9.25 million	USD 10 million
63	SAF	Mozambique	Niassa Reforestation Project	2007–	CDM	sale of carbon credits	
64	SAF	Namibia	Building resilience of communities living in landscapes threatened under climate change through an ecosystems-based adaptation approach.	2019–2024	GCF	USD 8.9 million	USD 9.1 million
65	SAF	Namibia	Namibia Integrated Landscape Approach for Enhancing Livelihoods and Environmental Governance to Eradicate Poverty (NILALEG)	2019–2025	GEF	USD 10 823 744	USD 85 136 588
66	SAF	Namibia	Empower to Adapt: Creating Climate-Change Resilient Livelihoods through Community-Based Natural Resource Management in Namibia	2016–2022	GCF	USD 10 million	USD 10 million
67	SAF	Réunion	Conservation, restoration and reconstitution of the semi-xerophilic habitats of the “massif de la Montagne”	2009–2014	EU LIFE	EUR 1 284 699	EUR 2 571 548
68	SAF	Seychelles	Replanting and enhancing community participation in rehabilitation of degraded forest lands: a demonstration project at Pt. Chevalier, Praslin, Seychelles	2011–2013	GEF small grants	USD 50 000	USD 119 258
69	SAF	Seychelles	Ecosystem Based Adaptation to Climate Change in Seychelles	2014–2020	Adaptation Fund	USD 6 455 750	USD 6 455 750



	SUBREGION	COUNTRY	PROJECT NAME	DURATION	MAIN FUNDER		OVERALL BUDGET
					Name	Amount funded	
70	SAF	South Africa	Working for Ecosystems (Sub-Tropical Thicket Restoration Programme)	2004–	Government of S. Africa	USD 147.6 million (NRM programme overall)	
71	SAF	Tanzania	Securing long term benefits for the communities and forests of the East Usambara Mountains – Tanzania	2004–2013	Govt. of Finland & WWF	EUR 1.95 million	EUR 1.95 million
72	SAF	Tanzania	Emiti Nibwo Bulora	2008	Plan Vivo	sale of carbon credits	
73	SAF	Tanzania	Supporting the implementation of integrated ecosystem management approach for landscape restoration and biodiversity conservation in Tanzania	2018–2023	GEF	USD 11 205 872	USD 75 679 373
74	SAF	Tanzania	Enhancing Climate Change Adaptation for Agro-Pastoral Communities in Kongwa District	2020–2024	Adaptation Fund	USD 1 200 000	USD 1 200 000
75	SAF	Zambia	Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia	2018–2025	GCF	USD 32 million	USD 137.3 million
76	SAF	Zimbabwe	Building Climate Resilience of Vulnerable Agricultural Livelihoods in Southern Zimbabwe	2020–2027	GCF	USD 26 574 567	USD 47.8 million
77	WAF	Benin	Enhanced climate resilience of rural communities in central and north Benin through the implementation of ecosystem-based adaptation (EbA) in forest and agricultural landscapes	2019 –2024	GCF	USD 9 million	USD 10 million
78	WAF	Benin	Restoration, conservation and sustainable management of mangroves in Costa Rica and Benin to tackle climate change	2018–20222	FFEM	EUR 1 270 000	EUR 6 650 000

	SUBREGION	COUNTRY	PROJECT NAME	DURATION	MAIN FUNDER		OVERALL BUDGET
					Name	Amount funded	
79	WAF	Burkina Faso	Rehabilitation and sustainable management by AGED of degraded pastures in the Sahel region of Burkina Faso	2014–	Plan Vivo	sale of carbon credits	
80	WAF	Burkina Faso	Rehabilitation of the Sahel (REACH)	2014–	Plan Vivo	sale of carbon credits	
81	WAF	Burkina Faso	Projet de récupération des terres dégradées en milieu pastoral	2017–2021	Lux Dev	EUR 5 000 000	EUR 5 331 730
82	WAF	Burkina Faso/Niger	Forest landscape restoration (FLR) and Sustainable Land Management (SLM) in the Sahel region	2017–2020	FFEM/AFD	EUR 1 800 000	EUR 6 487 559
83	WAF	Cabo Verde	Removal of Invasive Plant Species and Forest Protection in Monte Velha	2015–2016	GEF Small Grants Programme	USD 30 000	USD 42 214
84	WAF	Cote d'Ivoire	Sustainability and Scaling Up Approaches for Transformational Management, Restoration and Conservation of Forests Landscapes and Biodiversity in Cote d'Ivoire (SSATMARC-FOLAB)	2019–	GEF	USD 2 831 050	USD 18 479 374
85	WAF	Cote d'Ivoire	Promoting zero-deforestation cocoa production for reducing emissions in Côte d'Ivoire (PROMIRE)	2020–2025	GCF	USD 10 million	USD 11.8 million
86	WAF	Gambia	Landscape Planning and Restoration to Improve Ecosystem Services, and Livelihoods, Expand and Effectively Manage Protected Areas	2020–2025	GEF	USD 5 644 685	USD 25 733 269
87	WAF	Ghana	Private public partnership (PPP) in the Forest Sector	2016–2056	AfDB and Climate Investment Fund's Forest Investment Programme	USD 14 million; backed by a USD 10 million concessional loan	
88	WAF	Ghana	Ghana Shea Landscape Emission Reductions Project	2020–2027	GCF	USD 30 100 000	USD 54.5 million

	SUBREGION	COUNTRY	PROJECT NAME	DURATION	MAIN FUNDER		OVERALL BUDGET
					Name	Amount funded	
89	WAF	Ghana	Forest Landscape Restoration through a Sustainable Wood Energy Value Chain	2019–2023	BMU	EUR 4 500 000	EUR 4 500 000
90	WAF	Guinea–Bissau	Scaling up climate-smart agriculture in East Guinea Bissau	2020–2025	Adaptation Fund	USD 9 979 000	USD 11 726 000
91	WAF	Liberia	Cooperation on reducing greenhouse gas emissions from deforestation and forest degradation (REDD+) and developing Liberia's agriculture sector	2014–	Norway's International Climate and Forest Initiative	up to USD 150 million	
92	WAF	Mali	Zanbal Agroforestry Project	2016–	GoldStandard	sale of carbon credits	
93	WAF	Niger	Promoting Sustainable Agricultural Production and Conservation of Key Biodiversity Species through Land Restoration and Efficient Use of Ecosystems in the Dallol Bosso and Surrounding Areas (PROSAP/ COKEBIOS)	2020–2024	GEF	USD 5 296 808	USD 142 996 808
94	WAF	Niger	Niger: Acacia Plantations	2005–	Biocarbon Fund/CDM	sale of carbon credits	
95	WAF	Nigeria	Fostering Sustainability and Resilience for Food Security in the Savanna Zones of Northern Nigeria	2017–2022	GEF	USD 7 139 450	USD 64 339 450
96	WAF	Senegal	Mangrove Restoration	2011–	Livelihoods Funds/CDM	sale of carbon credits	
97	WAF	Senegal	Building the climate resilience of food insecure smallholder farmers through integrated management of climate risk (R4)	2017–2021	GCF	USD 9 983 521	USD 9 983 521
98	WAF	Senegal	Increasing the resilience of ecosystems and communities through the restoration of the productive bases of salinized lands	2016–2020	GCF	USD 7 614 260	USD 8.2 million

	SUBREGION	COUNTRY	PROJECT NAME	DURATION	MAIN FUNDER		OVERALL BUDGET
					Name	Amount funded	
99	WAF	Gambia	Large-scale Ecosystem-based Adaptation in the Gambia River Basin: developing a climate resilient, natural resource based economy	2017–2022	GCF	USD 20 546 756	USD 25.5 million
100	WAF	Togo	Project Togo	2011–	Gold Standard	sale of carbon credits	



# ANNEX II: INTERVIEWEES



Ellysar Baroudy – World Bank

Christophe Besacier – FAO /FLRM

Susan Chomba – ICRAF

Jonathan Davies – IUCN

Sean DeWitt – WRI

Mamadou Diakhite – AFR100 Secretariat/ AUDA–NEPAD  
SLWM Program

Ernest Foly – Forest Research Institute of Ghana

Victoria Gutierrez – CommonLand

Petra Lahann – GIZ

Seif Hamisi – WWF – Africa

Cecile Ndjebet – African Women’s Network for  
Community Management of Forests

Sam Kanyamibwa – ARCOS

Ousseynou Ndoye – AUDA–NEPAD

Tony Rinaudo – World Vision

Moctar Sacande – FAO– Action Against Desertification/  
GGW

Mignane Sarr – FAO Senegal





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