



GREAT GREEN WALL



United Nations
Convention to Combat
Desertification



THE GREAT GREEN WALL IMPLEMENTATION STATUS AND WAY AHEAD TO 2030

ADVANCED VERSION



Ríaltas na hÉireann
Government of Ireland



CONTENTS

• • • • • • • • • • • • • • •

04

INTRODUCTION

- 1.1 The Great Green Wall for the Sahara and Sahel Initiative
- 1.2 Aim and scope of the report

06

BACKGROUND ON LAND DEGRADATION AND RESTORATION

- 2.1 Land degradation globally and in the Sahel
- 2.2 International policy context for land restoration
- 2.3 Land restoration and international commitments
- 2.4 GGW Initiative: context and background

13

GREAT GREEN WALL IMPLEMENTATION AT THE REGIONAL AND COUNTRY LEVELS

- 3.1 Implementation status in the eleven case countries
- 3.2 Regional activities and achievements related to GGW objectives
- 3.3 Impact assessment
- 3.4 Overview of external and domestic funding mobilized

29

CHALLENGES AND INVESTMENT-RELATED FINANCING BARRIERS TO GGW IMPLEMENTATION

- 4.1 General challenges to the implementation of the GGW
- 4.2 Barriers and risks to financing land restoration under the GGW

35

A ROADMAP AND OUTLOOK FOR THE NEXT DECADE: WHAT IS NEEDED TO REACH THE 2030 OBJECTIVE?

- 5.1 Fundamental scaling up for achieving the 2030 target
- 5.2 Strengthening, accelerating and improving the implementation of the GGW
- 5.3 A structured approach to mobilizing the required funding

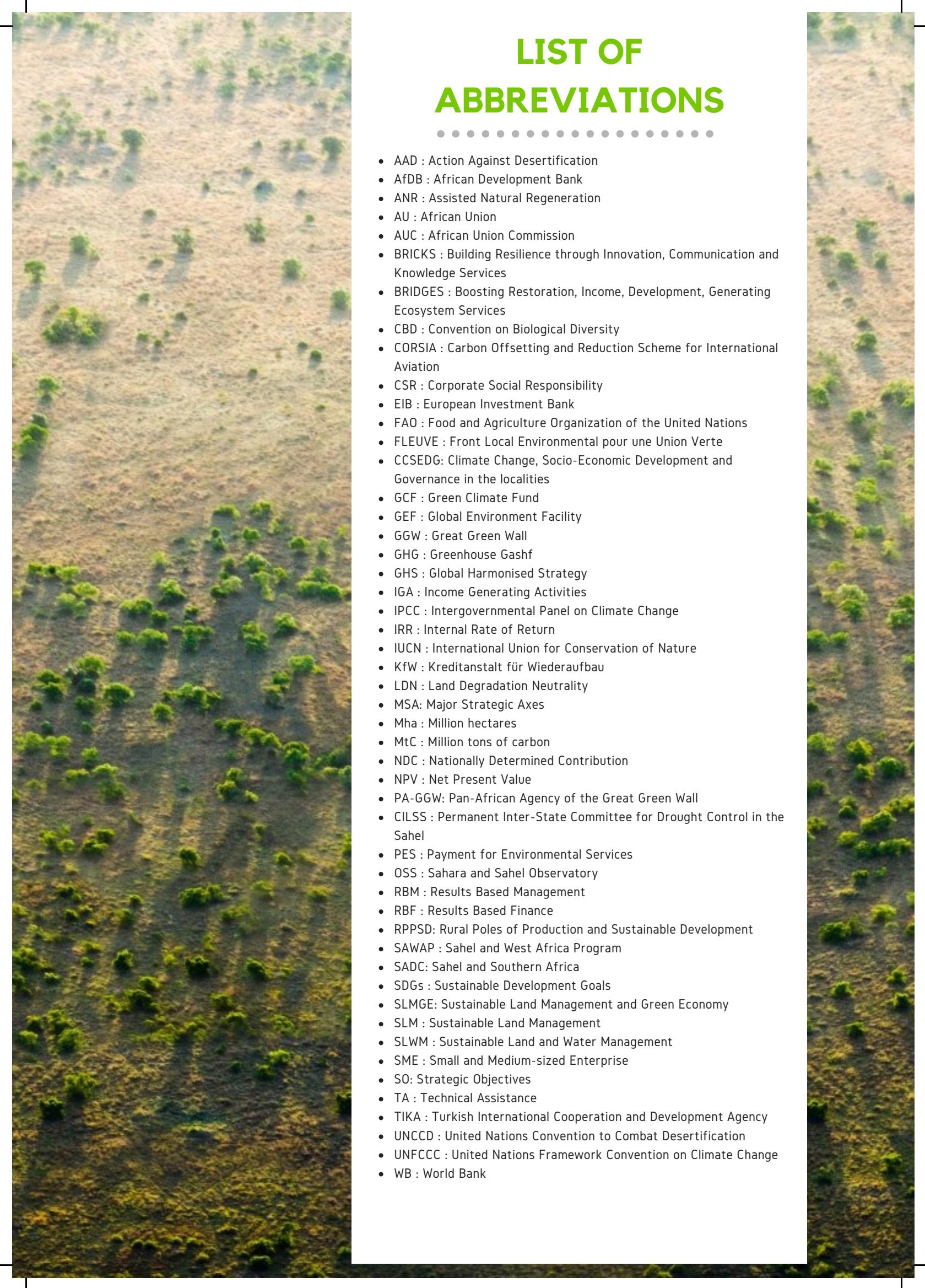
48

REFERENCES

50

ANNEX

- 6.1 Approach and methodology
- 6.2 Country data
- 6.3 Project list of land restoration activities in the eleven case countries



LIST OF ABBREVIATIONS

• • • • • • • • • • • • • • • • • •

- AAD : Action Against Desertification
- AfDB : African Development Bank
- ANR : Assisted Natural Regeneration
- AU : African Union
- AUC : African Union Commission
- BRICKS : Building Resilience through Innovation, Communication and Knowledge Services
- BRIDGES : Boosting Restoration, Income, Development, Generating Ecosystem Services
- CBD : Convention on Biological Diversity
- CORSIA : Carbon Offsetting and Reduction Scheme for International Aviation
- CSR : Corporate Social Responsibility
- EIB : European Investment Bank
- FAO : Food and Agriculture Organization of the United Nations
- FLEUVE : Front Local Environmental pour une Union Verte
- CCSEDG: Climate Change, Socio-Economic Development and Governance in the localities
- GCF : Green Climate Fund
- GEF : Global Environment Facility
- GGW : Great Green Wall
- GHG : Greenhouse Gashf
- GHS : Global Harmonised Strategy
- IGA : Income Generating Activities
- IPCC : Intergovernmental Panel on Climate Change
- IRR : Internal Rate of Return
- IUCN : International Union for Conservation of Nature
- KfW : Kreditanstalt für Wiederaufbau
- LDN : Land Degradation Neutrality
- MSA: Major Strategic Axes
- Mha : Million hectares
- MtC : Million tons of carbon
- NDC : Nationally Determined Contribution
- NPV : Net Present Value
- PA-GGW: Pan-African Agency of the Great Green Wall
- CILSS : Permanent Inter-State Committee for Drought Control in the Sahel
- PES : Payment for Environmental Services
- OSS : Sahara and Sahel Observatory
- RBM : Results Based Management
- RBF : Results Based Finance
- RPPSD: Rural Poles of Production and Sustainable Development
- SAWAP : Sahel and West Africa Program
- SADC: Sahel and Southern Africa
- SDGs : Sustainable Development Goals
- SLMGE: Sustainable Land Management and Green Economy
- SLM : Sustainable Land Management
- SLWM : Sustainable Land and Water Management
- SME : Small and Medium-sized Enterprise
- SO: Strategic Objectives
- TA : Technical Assistance
- TIKA : Turkish International Cooperation and Development Agency
- UNCCD : United Nations Convention to Combat Desertification
- UNFCCC : United Nations Framework Convention on Climate Change
- WB : World Bank

1. INTRODUCTION

1.1. THE GREAT GREEN WALL FOR THE SAHARA AND SAHEL INITIATIVE

The Great Green Wall is a Pan-African initiative to restore and sustainably manage land in the Sahel-Saharan region in order to address both land degradation and poverty. It was first envisioned in 2005 – during the seventh session of the Community of Sahel-Saharan States (CEN-SAD) heads of states conference held in Ouagadougou on the 1st and 2nd of June 2005 – by the former President of Nigeria, Chief Olusegun Obasanjo, and greatly advocated by President Abdoulaye Wade of Senegal. In 2007 the Initiative gained momentum when the African Union Declaration 137 VIII was adopted, approving the “Decision on the Implementation of the Great Green Wall for the Sahara and Sahel Initiative” (AU 2007) (from here on referred to as GGW).

The aim of the GGW was originally to create a long vegetation barrier between the 100 and 400 mm isohyets, including ramps, and over a length of at least 7000 km along the Sahel, being roughly 15 km wide. In recent years this vision has evolved into an integrated ecosystem management approach, striving for a mosaic of different land use and production systems, including sustainable dryland management and restoration, the regeneration of natural vegetation as well as water retention and conservation measures. On 17 June 2010 the 11 Sahel states south of the Sahara created the Pan-African Agency of the GGW to coordinate its implementation and support resources mobilisation. In 2012, there was a consensus through the harmonised regional strategy to consider the 100-400 mm rainfall/annum, i.e. the dry corridor but not all the countries as the official GWW intervention zone[1]. The broadening of the geographical area has been and is accompanied by varying views and expectations from the involved actors, the GGW countries as well as the international donors, with regard to what the GGW Initiative has achieved, so far, and would be able to achieve in the context of contributing to the implementation of the Rio Conventions[2] and the Sustainable Development Goals (SDGs) by 2030.

The Initiative involves a range of stakeholders, including national governments, international organizations, the private sector and civil society who all work together under Pan-African coordination to halt land degradation. International partners, such as the United Nations Convention to Combat Desertification (UNCCD), the Food and Agriculture Organization of the United Nations (FAO), the World Bank (WB), the Global Environment Facility (GEF), the European Union and the International Union for Conservation of Nature (IUCN) among others, have mobilised substantial investments to advance the implementation of the GGW Initiative.

As of 2020, the GGW Initiative is well into its second decade and is receiving growing international attention in the context of a new international focus on and commitments for land restoration. The GGW has evolved into an African-led pioneer initiative, which receives strong support from the international community as a flagship programme to combat land degradation, desertification, drought, climate change, biodiversity loss, poverty and food insecurity. In light of this heightened interest, time is now ripe for a stocktaking effort to assess what exactly has been achieved since the inception of the Initiative, where current member states stand in terms of implementation and which difficulties they experience. Some countries have achieved great progress in land restoration and the lessons learned here should be made available to others.

[1] African Union Commission/Panafrican Agency of the Great Green Wall (CUA/AP-GMV). (2012). Harmonised regional strategy for implementation of the Great Green Wall initiative for the Sahara and the Sahel. Document developed with the technical and financial support of FAO, EU and the Global Mechanism of UNCCD. FAO: Rome, Italy.

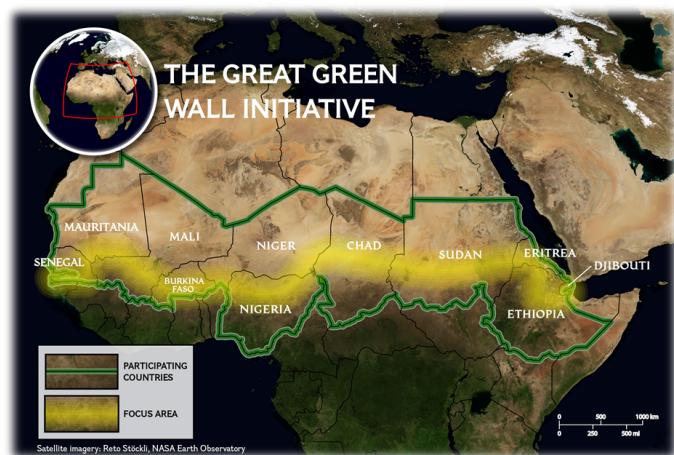
[2] In 1992, the Earth Summit in Rio established three Conventions: the Convention on Biological Diversity (CBD), the United Nations Framework Convention on Climate Change (UNFCCC) and the United Nations Convention to Combat Desertification (UNCCD).

Other countries have not been equally successful in the implementation of their GGW strategies and action plans. Investigating the reasons behind this and identifying common barriers and difficulties that need to be overcome in the process of reaching the 2030 vision of restoring 100 million hectares degraded land, are timely and needed. This landmark report was a collective instigation from the African Union Commission (AUC), the Pan-African Agency of the Great Green Wall (PA-GGW) and some major partners/contributors with the UNCCD taking the lead for its production, it is meant to serve as a reference point for the further development of the GGW Initiative in the coming decade, supporting countries to create synergies and effective coordination of activities and policies.

1.2. AIM AND SCOPE OF THE REPORT

The objective of this report is to provide an overview of the status and implementation progress of the GGW, accounting for land restoration progress made on the ground as well as for financial resources allocated to the Initiative. This stocktaking exercise captures the implementation status of the GGW in the eleven founding states: Senegal, Mauritania, Mali, Burkina Faso, Niger, Nigeria, Chad, Sudan, Eritrea, Ethiopia and Djibouti. The focus is on these eleven countries mainly due to data availability, since as Pan-African Agency founding states, they started implementing activities several years ago and have already undergone a first evaluation by PA-GGW. Therefore, the geographical scope of this report focuses on the Sahel zone (see map on the right side), which extends through northern Senegal, southern Mauritania, the central areas of Mali and Niger, northern Burkina Faso, northern Nigeria, the central strip of Chad and Sudan, virtually all Eritrea and northern Ethiopia to delineate and trace the impacts already achieved on the ground. Annual rainfall in the GGW intervention zones ranges from 100–400 mm, and the landscape is made up of grasslands and savannahs that form one of the largest dryland areas in the world.

This report provides a regional picture as opposed to individual national or project-level reports, synthesizing information and data collected from individual countries, NGOs, stakeholders and organizations that are contributing to the GGW implementation. This report is based on the analysis of results from existing public documentation (updated when possible), individual country contributions/interviews and the latest available data provided by countries, international partner organizations and NGOs.



The Great Green Wall Initiative in eleven sahelian countries. Source: PA-GWW

Chapter 2 provides background information on land degradation and restoration in the Sahel region, linking the GGW initiative to the main international conventions and initiatives on combating desertification, biodiversity loss and climate change. It also summarizes the structure and implementation arrangements of the GGW Initiative. Chapter 3 gives an overview of the GGW achievements between 2011 and 2019 in terms of area restored, activities implemented, and beneficiaries reached. Results are presented for the 11 case countries (3.1), and as far as information was available, at a regional level beyond the core GGW intervention areas (3.2). The findings are analysed for their environmental, social and economic impacts as well as the contribution to SDGs and the Rio Conventions. Chapter 4 identifies key challenges and lessons learned from success stories in individual countries.

Recommendations are drawn up in Chapter 5 for a roadmap – including a description of its main elements and a timeline for a phased implementation – toward reaching the 2030 vision of 100 million hectares (Mha) of land restored, land restored, 250 million tons of carbon (MtC) sequestered and 10 million jobs created.

By 2030, the Great Green Wall aims to restore 100 million hectares of degraded land, sequester 250 million tons of carbon in the soil and create 10 million green jobs in rural areas.

2. BACKGROUND ON LAND DEGRADATION AND RESTORATION

2.1. LAND DEGRADATION GLOBALLY AND IN THE SAHEL

Land provides the principal basis for human livelihoods and well-being including the supply of food, freshwater and multiple other ecosystem services, as well as biodiversity. Human use directly affects more than 70% (likely 69-76%) of the global, icefree land surface (high confidence). Land also plays an important role in the climate system. One of the main driving factors is unsustainable agriculture, with the loss of fertile topsoil due to tillage substantially exceeding the rate of new soil formation processes, up to 100 times (IPCC 2019). Land degradation causes direct economic costs, for instance in the form of higher food prices, as well as socio-economic impacts in terms of food and water security and malnutrition. The global economic loss of ecosystem services due to land degradation and desertification has been estimated at USD 6.3-10.6 trillion, which is equal to about 10 % of the global gross domestic product (ELD 2015a).

Land degradation means the “reduction or loss of the biological or economic productivity and complexity of land” (UNCCD 2016). It results in reduced food production and water storage, and the loss of fertile soils, biodiversity, carbon stock and other ecosystem services such as water purification and climate regulation.



Gender equality. UNDP

Africa is the continent most vulnerable to and most affected by land degradation and desertification, with around 45 % of Africa's land area impacted by desertification and 55 % of this area at high or very high risk of further degradation (ELD 2015b). Whereas land degradation can occur in all climatic zones, dryland regions are particularly vulnerable, as they face a combination of physical challenges, including water scarcity and irregular precipitation, and critical demographic issues such as poverty, food insecurity and over-exploitation of natural resources due to unsustainable land use practices. Consequently, the Sahel is among world's regions most severely affected by land degradation and desertification, having experienced recurrent severe droughts and deterioration of soil quality and vegetation cover in the last decades. Food, water and energy insecurity are major development barriers, and communities are frequently exposed to environmental hazards, particularly drought. The number of people in the Sahel whose livelihood depends on degraded lands has been estimated to be around 135 million. The major part of this population is very poor, and since the economy is closely linked with the agricultural production systems, the need for rehabilitating degraded lands is vital.

In this context, the Great Green Wall Initiative was designed in 2007 by an alliance of Saharo-Saharan states to strengthen the ecological and socio-economic resilience of the Sahel and Sahara countries and enable them to recover from the environmental, climatic and development challenges.

This establishes the GGW Initiative as an integrated approach to development and land restoration at the same time. Its unique features are the African ownership and the fact that the GGW was one of the early initiatives on land restoration, long before the SDGs were formulated in 2015, as well as preceding international and regional land restoration initiatives such as the Bonn Challenge in 2011 and the African Forest Landscape Restoration Initiative (AFR100) launched in 2015.

With its long history, the GGW is a pioneer of land restoration commitments and initiatives, offering an opportunity to generate lessons learned and facilitate South-South collaboration and knowledge sharing.

2.2. International policy context for land restoration

Despite increasing rates of land degradation, it is possible to avoid, reduce and even reverse these processes through restoration and improved land management to strengthen communities' resilience to climate change, reduce Greenhouse Gas (GHG) emissions and ensure food security for generations to come (FAO 2019; IPCC 2019). Avoiding, reducing and reversing land degradation can be achieved through a number of initiatives, including the achievement of UN SDGs, the Rio Conventions and the UN Decade on Ecosystem Restoration (2021 - 2030).

Sustainable Development Goals

Land degradation, both in the Sahel and worldwide, directly undermines societal development aspirations such as eliminating poverty and hunger, maintaining biodiversity and the ability of farmers and local communities to adapt to



the impacts of climate change. The restoration of degraded land contributes to all of the UN SDGs, with particular relevance for Goal 15, which aims 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." (Section 3.3). This makes the GGW Initiative a major force for rural development and improving the resilience of local people and ecosystems.

By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought, and floods, and strive to achieve a land degradation-neutral world (SDG target 15.3)

UN Rio Conventions and Land Degradation Neutrality

Land and its management also represent the inherent link between the Rio Conventions: the CBD, UNCCD and the UNFCCC. While land management and restoration are the primary focus of the UNCCD, they are also essential to the CBD, for instance through the Aichi Targets no. 5 (reduce habitat loss and degradation), no. 7 (sustainable farming and forestry) and no. 14 (ecosystem restoration). Equally, land restoration is a key element for reducing GHG emissions and strengthening climate change adaptation, directly addressing the objectives of the UNFCCC and the Nationally Determined Contribution (NDC) implementation.

One of the key objectives of the UNCCD is to reach Land Degradation Neutrality (LDN) by 2030, a target also included in the SDG 15. LDN aims to balance land degradation with land restoration, to eventually maintain or even increase ecosystem functions and services as well as food security from land resources.

This means achieving a zero-land degradation balance in the long run - similar to the concept of emissions neutrality, which aims at a zero-carbon balance. As of 2020, 123 countries have committed to the LDN target-setting process, including all GGW member states[4].



Multipurpose garden, Source: UNEP 2012

UN Decade on Ecosystem Restoration

LDN together with SDG 15 have greatly contributed to setting global land restoration efforts high on the agenda of international environmental policies. In 2019, the UN General Assembly declared the UN Decade on Ecosystem Restoration 2021-2030, which is expected to shine additional spotlight on land restoration and mobilise financial resources for the implementation of numerous national, regional and global initiatives such as the Bonn Challenge and the New York Declaration on Forests. The GGW is well positioned in this context to tap into new funding sources and attract the attention of investors and funding agencies. As one of the flagship programmes of the UN Decade on Ecosystem Restoration, which is co-led by FAO and UNEP, it also presents a unique upscaling opportunity for restoration finance and action. In comparison to other land restoration initiatives, the GGW has the advantage that the implementation is already underway, and that first evaluations of achievements are available in this report and through earlier assessments (e.g., PA-GGW 2018).

2.3. LAND RESTORATION AND INTERNATIONAL COMMITMENTS

Land restoration is the process of regaining ecological functionality of degraded land, thus reinstalling ecosystem goods and services.

To be effective and sustainable, land restoration should be approached at the landscape scale, which is referred to as landscape restoration.

A restored landscape may include a mosaic of naturally regenerated areas, agroforestry, on-farm trees, protected wildlife reserves, plantings of trees and shrubs, and soil management measures.

Key to long-term success is to involve local communities and other stakeholders in the identification and implementation of appropriate restoration activities (IUCN 2017).

Ecosystem restoration is not only focused on recovering the ecological functionalities of degraded ecosystems; it also involves changes in land management.

Land restoration efforts can be classified as active or passive. Active restoration includes tree planting, agroforestry, and soil conservation practices such as sand-dune stabilization or terracing. Passive restoration involves setting aside land by enclosing an area for a period of time to allow the soil and vegetation to recover naturally.

While passive restoration approaches are less costly than active restoration measures, and the cost of preventing land degradation is much lower than the cost of rehabilitating degraded lands (WRI 2017), implementing them is challenging when the land is critical to local livelihoods and the utilization pressure is high.

However, the need for land restoration is increasingly recognized by the international community. Many countries are taking steps to protect, sustainably manage natural ecosystems and restore their degraded lands, by committing to the LDN targets or through participating in national, regional, and global land restoration initiatives. As one of the first and most symbolic of these initiatives, the GGW has become a flagship programme due to its unique African ownership that reflects the strong political will to improve living conditions and maintain ecosystem services in the Sahel. In 2016, the AUC has expanded the GGW to southern Africa drylands. The GGW now covers the three dryland regions of the continent: North Africa (northern Sahara), the Sahel and Southern Africa (SADC countries). FAO is expected to assess the GGW complete biophysical baselines by the end of 2020. The total restoration potential could be over 600 Mha. Several other international and regional land restoration initiatives have been established in recent years (see Table 1 for details):

- International initiatives include the Bonn Challenge as the most prominent initiative at present, aiming to restore 150 Mha degraded land by 2020 and 350 Mha by 2030; and the New York Declaration on Forests, which extended the Bonn pledge in 2014.
- Regional initiatives in Africa include the African Forest Landscape Restoration Initiative AFR 100, which shows a high overlap with GGW objectives and member states (currently 30 countries committed pledges of 126 million ha under AFR100); the Kigali Declaration, a Pan-African commitment to support the Bonn Challenge; the African Resilient Landscapes Initiative (ARLI); and the Agadir Commitment in the Mediterranean.
- Other regional initiatives include the Latin American Initiative 20x20 as well as ECCA30, a regional restoration initiative in Europe, the Caucasus and Central Asia.
- The Pan-African Action Agenda on Ecosystem Restoration for increased resilience.

Table 1- Global and regional restoration initiatives and their commitments.

Initiative & Link



<https://www.bonnchallenge.org/>

Description

A global effort to restore 150 Mha of deforested and degraded land by 2020 launched by IUCN and Government of Germany in 2011

Objective

150 Mha degraded land restored globally by 2020; 57 governments and private sector entities have pledged to restore 170 Mha as of 2019

Status

n/a



New York Declaration on Forests
GLOBAL PLATFORM

<https://nydfglobalplatform.org/>

Voluntary international declaration to halt global deforestation, endorsed at the UN Climate Summit in 2014

10 goals, including restoration of 350 Mha degraded landscapes & forest land by 2030

200 endorsements as of 2019



<https://www.greatgreenwall.org>

<https://www.grandemurailleverte.org/>

One of the first land restoration initiatives in general, the only one under purely African leadership

100 Mha by 2030; 250 Mt; 10m jobs

17.8 Mha restored as of 2018



<p>AUDA-NEPAD AFRICAN UNION DEVELOPMENT AGENCY https://nepad.org/news/arli-environmental-economic-and-social-initiative</p>	<p>Regional, country-led land restoration effort in Africa to accelerate progress towards SDGs and the Paris Agreement; 30 African countries, 12 financial partners (including BMZ, WB, WRI, IUCN, FAO, etc.), 28 technical partners</p>	<p>100 Mha restored by 2030 in 28 African countries; So far, 30 countries committed to restore 126 Mha</p>	n/a
<p>IVCO RWANDA 2019 Déclaration de Kigali</p>	<p>Launched 2015 by NEPAD, WRI and WB, ARLI focuses on integrated landscape management for adaption & mitigation. It is implemented through the African Landscapes Action Plan</p>	<p>Supports AFR 100 (restore 100 Mha by 2030)</p>	n/a
<p>Initiative 20x20 https://initiative20x20.org/</p>	<p>A Pan-African commitment to accelerate FLR in support of the Bonn Challenge, Hosted by Government of Rwanda, supported by the East African Community and IUCN</p>	<p>n/a</p>	n/a
<p>ECCA30 https://infoflr.org/bonn-challenge/regional-initiatives/ecca30</p>	<p>Regional land restoration initiative in Latin America and the Caribbean</p>	<p>20 Mha restored in Latin America by 2020</p>	n/a
<p>CARFU The foundation of the people Caring for the Future https://www.carfu.org/?p=1294 http://www.fao.org/forestry/</p>	<p>Regional restoration initiative in Europe, the Caucasus and Central Asia; actors include IUCN, UNECE, FAO, WRI and WB</p> <p>Supports FLR, LDN and biodiversity conservation efforts of the Mediterranean countries Algeria, France, Iran, Lebanon, Morocco, Portugal, Spain, Tunisia and Turkey. Supported by FAO and the Collaborative Partnership on Mediterranean Forests</p>	<p>30 Mha of degraded and deforested land restored by 2030 8 Mha</p>	n/a

2.4. THE GGW INITIATIVE: CONTEXT AND BACKGROUND

African and international partners

Endorsed in 2007 by the African Union (AU), the GGW is one of the earliest international land restoration initiatives that brings together African countries and international partners, under the leadership of the AU and coordinated by PA-GGW. A broad set of African and international partners are involved in the initiative through project development and implementation, or through the funding of several ongoing and future projects in GGW countries. The major international partners are listed in Table 2. Other civil society partners such as Tree Aid and SOS Sahel and the role they play in the GGW Initiative are described in section 3.2.

Table 2 - List of major GGW implementation partners



The African Union oversees the political aspects of the GGW Initiative from Addis Ababa where the GGW regional coordination hub is. The PA-GGW was created under AUC by the 11 Sahel States to support its operational coordination and resources mobilisation for its implementation.



The FAO is a long-standing implementation partner, supported the AUC and member countries in the development and planning phase of the initiative. Its latest involvement in the GGW is through the Action Against Desertification project. The project, in collaboration with the AU, the EU, the OACPS, other donors and in partnership with Turkey, support the expansion of the GGW to 10 countries. with actions on the ground and through South-South cooperation.



The World Bank (WB) and the GEF designed the Sahel and West Africa Program in support of the GGW (SAWAP), which has a total budget of 1.1 billion US dollars.



The IUCN is executing a project titled "Closing the gaps in the Great Green Wall," which is funded by GEF and implemented by UNEP in the 11 countries.



Since 2007, the GEF has granted 500 million USD to the countries that are part of the GGW through a diversity of SLM projects[5].



The UNCCD through its Global Mechanism is a key implementation partner of the GGW. An example of recent initiatives is the FLEUVE project, a regional flagship initiative including 5 GGW countries: Burkina Faso, Chad, Mali, Niger and Senegal.



The EU has financed the FLEUVE project in the amount of 7 million Euros as well as other activities and projects within the scope of the GGW Initiative. The EU also equally funded the FAO's Action Against Desertification in 2014 to support the GGW implementation on the ground.



Kew is supporting the coordination and providing technical assistance to GGW partners in Mali, Burkina Faso and Niger.

[5] The GEF has also created for the first time a programmatic approach that brought the GGW countries together and has since then helped to bring the individual country investment and other donors into a common framework for the implementation of various activities related to SLM in the GGW countries

Table 2 - List of major GGW implementation partners



The OSS is one of the three executing entities of the Building Resilience through Innovation, Communication and Knowledge Services project (BRICKS) under the SAWAP.



The CILSS invests in research for food security and in the fight against the effects of desertification. Through Action Against Desertification project, CILSS supported biophysical data collections for the GGW.



The APEFE has been working since 2014 to build the capacity of national structures for the implementation of the GGW in Burkina Faso.



Birdlife International is taking part in the conservation and enhancement of continental and transboundary GGW wetlands.



The UNDP supports the GGW countries in strengthening their institutional, technical and logistical capacities.



The UNEP has been working with the AUC the PA-GGW and member countries to define their national strategies and action plans (2010-2013), a regional harmonized strategy (2012), and to support implementation activities on the ground (2014-2020).

As a key implementation partner, the UNCCD launched a public awareness campaign on the GGW, called "Growing a World Wonder" that engaged millions of people, to boost global awareness of the Initiative and attract long-term public and private investment. The UNCCD has also created the [GGW Initiative website](#) to present member countries, international partners, results achieved and the challenges that the GGW seeks to overcome in the Sahel.

Organizational and institutional structure of the GGW

The activities under the GGW are structured around five Major Strategic Axes (MSA):

1. Sustainable Land Management and Green Economy (SLMGE)
2. Climate Change, Socio-Economic Development and Governance in the localities (CCSEDG)
3. Support Research and Development (R&D)
4. Communication, Marketing and Advocacy (CMA)
5. Information System, Observatory, Early Warning and Response (ISOEWR)

These MSA are broken down into 26 Strategic Objectives (SO), including combating land desertification and the impacts of climate change, strengthening natural capital and exploiting value chains to boost momentum, and finally creating Rural Poles of Production and Sustainable Development (RPPSD) to ensure resilience, poverty eradication and fight food insecurity.



The operational approach in the implementation of the GGW Initiative is executed by the GGW operational and steering institutions at the regional, national and local levels. The PA-GGW (regional level) is relayed to each member state by a national GGW structure, and at the local level through a core community entity, the Integrated Sustainable Development Community Unit (ISDCU), administrated by the Local Sustainable Development Committees (LSDC).

The PA-GGW created in 2010 is responsible for the coordination and monitoring of the implementation of the GGW and for the mobilization of necessary resources in relation with the AU and the Member States. The 9 Regional Structural Programmes (RSP) coordinated by the PA-GGW are structured around the 5 major strategic axes of the GGWI. They should be implemented in all GGW countries and tailored to each country specific needs, with a common thread including the restoration of degraded land, economic development, increasing adaptation and resilience to climate change and the fight against food insecurity and migration. At the national level, Member States have created National GGW Agencies or focal points to supervise and coordinate the implementation of national GGW priority actions.

In 2012, the GGW Initiative adopted a Global Harmonized Strategy (GHS) (AU & PA-GGW 2012), which consolidated national strategies and action plans of the GGW member states (supported by FAO, EU and GM-UNCCD) and arrived at a coordinated strategy for implementation, structured into five-year planning steps. Drawing on the GHS, member countries have elaborated national action plans to develop clear steps for achieving the GGW national objectives.

The first cycle 2011-2015 aimed at the establishment of the institutional and organizational framework of the GGW structures, conceptualization, awareness and appropriation of the concept, as well as the establishment of pilot activities at the level of each country and the development of the national GGW strategies and action plans.

The second cycle 2014-2020 focused more on operational activities and aimed at accelerating concrete actions. The 2020 is a good point in time to look back and assess what has been achieved so far.

The third cycle 2021-2025 is expected to consolidate the implemented activities and measures and scale them up.

The fourth and final cycle 2026-2030 will focus on further upscaling the activities to ensure a substantial contribution of the GGW to the achievement of the Sustainable Development Goals and to international commitments of the member states under the Rio Conventions.

3. GREAT GREEN WALL IMPLEMENTATION AT THE REGIONAL AND COUNTRY LEVELS

This chapter presents the findings of the stocktaking exercise and impact assessment at several scales and focuses on activities in the GGW intervention zones of the 11 case countries, both at the individual national scale and in aggregated form in Section 3.1. A major part of these results is based on data reported by the 11 countries to the PA-GGW up to 2019[6] and the PA-GGW's regional aggregates of these reports. If available, the numbers reported to the PA-GGW were updated using recent data shared by individual countries and NGOs involved in the GGW implementation.

Section 3.2 presents the findings of an impact assessment from the country activities, providing estimates for environmental, socio-economic, and other impacts of land restoration under the GGW so far.

Section 3.3 presents additional information on GGW-related activities and actors in the wider region, reported by technical and financial partner organizations and NGOs either directly or through public project databases, such as from the GEF, the WB and FAO.

3.1 IMPLEMENTATION STATUS IN THE ELEVEN CASE COUNTRIES

As explained in Chapter 1, the official GGW Initiative intervention zone corresponds to the entire geographical fringe of the Circum-Sahara between the isohyet 100 and 400 mm of average rainfall (PA-GGW 2018). Combining the intervention zones reported by the 11 Sub-Saharan GGW member states covered in this report (Table 3), the total area of the GGW initiative extends to 154 Mha, with the largest intervention zones located in Niger, Mali, Ethiopia and Eritrea.

Table 3 - GGW intervention area per country

Country	GGW intervention area (Mha)
Burkina Faso**	13.3
Chad**	3.0
Djibouti**	0.34
Eritrea***	12.4
Ethiopia*	13.2
Mali*	44.4
Mauritania	1.65
Niger*	47.3
Nigeria*	17.4
Senegal**	0.8
Sudan**	2.3
TOTAL	156.1

Data collected during the steering committee meeting in Dakar in 2019 - Data from the PA-GGW evaluation report - Assuming entire country area

Within this intervention area, the land rehabilitation activities reported by GGW countries between 2007 and 2019 add up to 4 Mha. This is complemented by another 17.8 Mha of land under restoration within GGW countries, but outside the strict intervention zones. The achievements so far thus depend strongly on the delineation of the intervention zone, or what actually counts as land restoration under the Great Green Wall. This clearly shows the need for a consistent accounting approach with regard to what is actually part of and can be accounted toward commonly agreed, accepted and pursued objectives of the GGW[7] (Chapter 5).

Several achievements have been recorded in most of the GGW member states, with some countries being more successful than others. Several countries have started the implementation of the GGW activities as early as 2008, while others have started as late as 2014, when the GGW declaration was ratified. Disparities between the restoration achievements of different countries also arise from country-specific conditions, which sometimes slow down the implementation process of planned activities (Chapter 4). The total land areas that have been rehabilitated within the GGW intervention zones as per country reports are summarized in Figure 1.

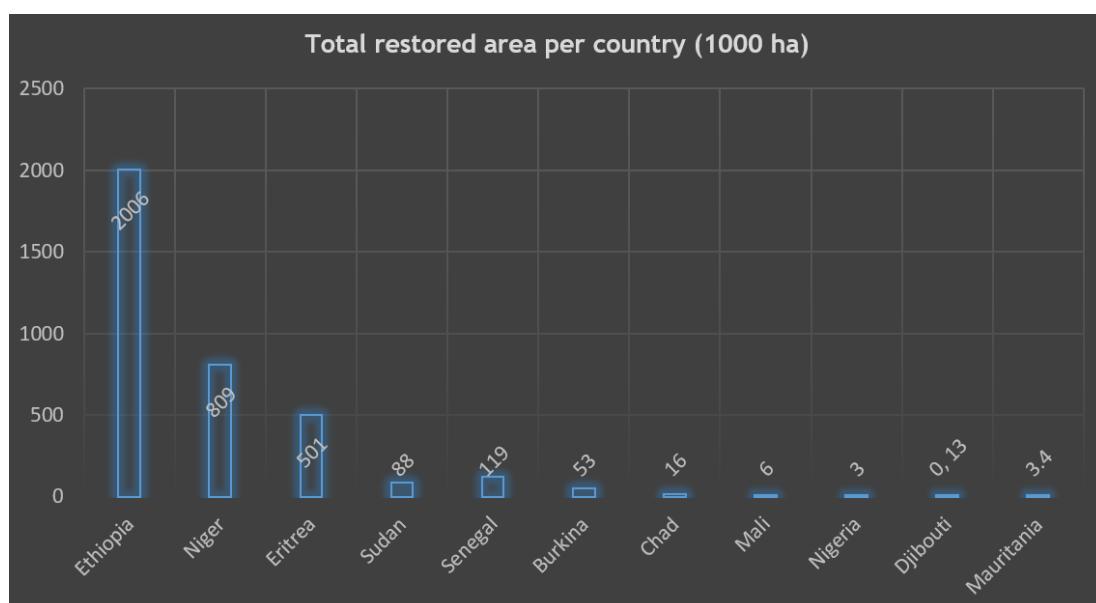


Figure 1 - Total restored area per country up to 2019 (1000 ha)

[7]Addressing the diverging views on progress of the GGW initiative, we tried to reflect divergent information throughout this Chapter, if and as data is available. Most data is available for a narrow scope (=within the official GGW intervention areas) due to the annual reporting by GGW national structures; however information from donors and NGO activities mostly relates to a wider scope and is used to complement the narrow definition.

3.1.1 Activities under the GGW

GGW member states have engaged in a variety of different Sustainable Land Management (SLM) activities, including components on water and soil conservation measures, as well as activities in the forestry and agriculture sectors. In this context, land restoration and conservation activities to increase climate change resilience and ensure sustainable food production have been realized, including agro-silviculture techniques, shelterbelts, and reforestation. Other measures included the establishment of fruit orchards as well as multipurpose gardens and community nurseries for plant production as well as the exploitation of non-timber products. Moreover, with drought and water scarcity being one of the main physical constraints in the Sahel region, most countries address this by engaging in water conservation measures, such as watershed management, drilling of bore holes and water harvesting techniques. The main activities reported under the GGW are presented in Table 4, with further details provided in Box 1.

Table 4- Different SLM activities reported by the eleven GGW countries

Forestry & Agriculture	Reforestation Land restoration Agroforestry & multipurpose gardens Assisted natural regeneration Seedlings & plants production Non-timber products Zai techniques (Box 1 below)
Water	Irrigation systems Watershed management Construction of boreholes
Soil	Terraces/soils measures Dune fixing Wind/fire breaks Land restoration

The most commonly reported SLM activities are forest and watershed management (0.9 Mha), and terracing and soil measures (0.89 Mha), followed by conservation/assisted natural regeneration (ANR) (0.73 Mha) and finally, reforestation (0.68 Mha). Land restoration in general was reported for 0.58 Mha. Windbreaks and shelter belts are common activities but only contribute small shares in terms of land area. Figure 2 illustrates the contribution of each individual activity in Mha.

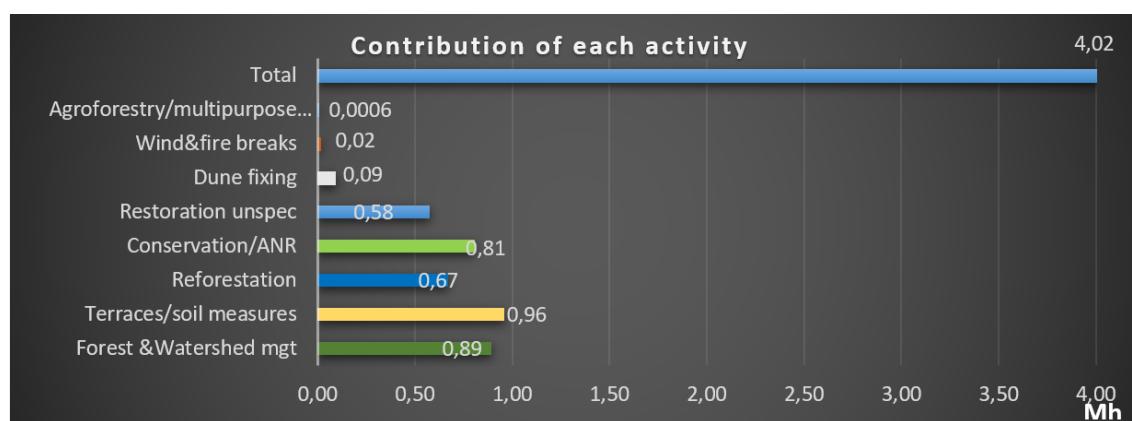


Figure 2 - Contribution of each activity (mha)

Table 5 - Key achievements reported by the eleven case countries up to 2019

Country	Key results	International and domestic finance allocated to the GGW activities in USD (domestic/international)
Burkina Faso	16.6 million of forest plants produced so far; 20 383 hectares of reforested lands; 250 hectares of dune fixing; 29 602 hectares of restored lands; 12 500 ha under ANR; approximately 2800 km of windbreaks; 26 869 people trained; 45 383 jobs created and 6.5 million USD from IGA, 51,633 improved households, 19,913 kg of seeds produced (30 woody and 13 herbaceous species), 585 ha under protection	1 424 000 31 539 611
Chad	1.1 million of plants and seedlings produced so far; 994 hectares of reforested lands; 12 755 hectares of dune fixing; 1819 hectares of ANR; 61 km of windbreaks; 900 m ² equipped with irrigation systems; 810 people trained; 307 jobs created and 8067 USD through IGA	4 785 101 770 969
Djibouti	90 hectares of reforested lands; 32 hectares of ANR; 6 hectares of restored land and 24 people trained	n/a
Eritrea	128.8 million tree seedlings planted; 52,930 hectares of degraded area terraced and afforested; 394,380 hectares enclosed/assisted natural regeneration; and 165,231 degraded farmlands terraced	n/a
Ethiopia	5.5 billion plants and seedlings produced; 151 448 hectares of reforested lands; 792 711 hectares of terraces; 240 hectares of multipurpose gardens; 91 km of windbreaks; 236 551 hectares of RNA; 96 774 hectares of restored lands; 893 706 hectares watershed management and forest; 62 759 people trained and 218 405 jobs created	482 975 1 666 667
Mali	135 472 of plants and seedlings produced; 6 297 hectares of reforested lands; 120 hectares of restored lands; 41 hectares of ANR; 18 hectares of dune fixing, and 891 people trained	3 305 085 23 476 931
Mauritania	2 272 million trees planted; 2 860 hectares of dune fixing; 550 hectares fenced (protected); 350 hectares under direct seeding and more than 2 000 000 plants/seedlings produced	9 151 746 1 486 667
Niger	146 million plants and seedlings produced; 364 615 hectares of reforested lands; 363 928 hectares of restored lands; 310 hectares of ANR; 80 040 hectares of dune fixing; 1 200 people trained, and 21 487 jobs created	7 796 610 70 271 630
Nigeria	7.6 million plants and seedlings produced; 2 801 hectares of reforested lands; 373 hectares of multipurpose gardens; 709 km windbreaks; 1 205 people trained, and 1 396 jobs created	8 470 451 26 040
Senegal	More than 18 million seedlings/plants produced; 72452 ha reforested area; 13 2050 km of windbreaks; 33 500 ha under ANR; 119 202 ha restored area and 2120 people trained	18 300 000
Sudan	1.9 million plants and seedlings produced; 85 000 hectares of restored lands; 2 500 hectares of ANR and 1 716 beneficiaries	0 19 730 000

Box 1: Sustainable Land management (SLM) measures

SLM encompasses soil and water conservation measures, natural resources management and integrated landscape management, with the main goal to contribute to sustainable and rural development. Descriptions of SLM activities implemented under the GGW Initiative include:

- Land restoration is acknowledged as a way of reversing degradation processes and increasing the contributions of ecosystems and landscapes to livelihoods, land productivity, environmental services and the resilience of human and natural systems. The term “restoration” covers a wide range of conservation, sustainable management and active restoration practices that increase the quality and diversity of land resources, enhancing ecological integrity and human well-being.
- Reforestation refers to the re-establishment of forest through planting and/or deliberate seeding on land classified as forests.
- Sustainable forest management in drylands aims to ensure that the goods and services derived from the forests meet today's needs while securing long-term development.
- Agroforestry is a combination of both traditional and modern land-use systems, where trees are managed together with crops and/or animal production in agricultural settings. It is a dynamic natural-resource management system that helps diversify and sustain production to increase social, economic and environmental benefits for land users at all levels. Agroforestry practices can also include multipurpose gardens and Farmer Managed Natural Regeneration (FMNR). The latter technique is based on the systematic regeneration of living and sprouting stumps of indigenous vegetation which used to be slashed and burned in traditional field preparation. Farmers in southern Niger in Maradi have restored more than five million hectares of land using this technique.



GGW - Senegal

- Assisted Natural Regeneration (ANG). The goal of ANR is to accelerate natural successional processes by “removing or reducing barriers to natural forest regeneration such as soil degradation, competition with weedy species, and recurring disturbances (e.g., fire, grazing and wood harvesting)”.
- Terrace cultivation is a method used when growing crops on hills and mountains, by planting crops on graduated terraces built into the slope to minimise soil erosion and water loss.
- Sand dune fixation is a technique designed to prevent the movement of sand long enough to enable either planted or natural vegetation to establish itself.
- Windbreaks are based on the linear planting of trees and shrubs to enhance crop production, control wind erosion, protect people and livestock, and improve soil and water conservation. Firebreaks are essential to wildfire management; they consist of gaps in vegetation that act as barrier to slow down or stop the progress of wildfires or bushfires.
- The Zaï technique involves digging pits (20-30 cm long and deep and 90 cm apart) in the soil during the pre-season to catch water and concentrate compost by adding manure to increase soil fertility. It is traditionally used in the western Sahel to restore degraded drylands and increase soil fertility. To date, more than three Mha of Burkinabe barren land have been rehabilitated. In Burkina Faso, Zaï allowed farmers to increase their income, slowdown rural exodus and strengthen the country's food self-sufficiency. Eight Sahel countries are now successfully replicating this technique.
- Seedling and plant production: The production of seedlings and plants in well-managed nurseries to produce better crop yields and profits.



GGW - Senegal

3.2 REGIONAL ACTIVITIES AND ACHIEVEMENTS RELATED TO GGW OBJECTIVES

Although not always strictly located within the GGW intervention zones, a number of transboundary programmes exist to support the implementation of the GGW Initiative at the regional level. These include major GEF/World Bank operations as well as FAO programmes and a project by the UNCCD. Moreover, Turkey is an active bilateral donor through the Turkish International Cooperation and Development Agency (TIKA) programme with FAO. In addition, international NGOs such as Tree Aid and SOS Sahel contribute to GGW objectives with activities on the ground. The following briefly summarizes major regional projects, activities and results that contribute to GGW objectives.

- FAO'S ACTION AGAINST DESERTIFICATION PROGRAM (AAD)[8] ; 2014 – 2019**

Box 2: Activities of the Action Against Desertification Program

- Capacity building of rural communities, government and NGO partners to create an enabling environment, large-scale restoration and SLM of degraded agro-silvo pastoral lands, landscapes and forests
- Dissemination of good practices on SLM
- Creation of income-generating activities (IGA) and employment opportunities in rural areas, through the sustainable production, processing and marketing of agricultural products and forest goods and services
- Farmer field schools and knowledge exchanges about the causes and the best ways to combat and prevent desertification

Established in 2014, the AAD program has addressed sustainable land management and dryland restoration in different locations of Africa, the Caribbean (Haiti) and the Pacific (Fiji). In Africa, the program supports the implementation of GGW on the ground and have operations currently in Burkina Faso, Eritrea, Ethiopia, Gambia, Mali, Mauritania, Niger, Nigeria, Sudan and Senegal, where it supports local communities, governments and civil society in the rehabilitation and the sustainable management of forests and rangelands. The initial budget amounted to EUR 41 million for a five-year period and was complemented by bilateral funds, such as Turkey's government commitment to expand its restoration operations.

BRIDGES - Boosting Restoration, Income, Development, Generating Ecosystem Services [9] (FAO & Turkey), 2017-2020

The BRIDGES project is a product of the FAO-Turkish Forestry Partnership programme, with Turkey providing the major part of funding and FAO serving as implementation partner. The idea is to stimulate South-South cooperation between Turkey and the GGW and across dryland regions worldwide. With a budget of USD 3.6 million, its main objective is to support Eritrea, Mauritania and Sudan in combatting land degradation and desertification through the sustainable management of their natural resources and restoration of degraded forests and landscapes. The main components are:

- Restoration of 5,000 hectares of dryland forests and landscapes
- Reinforcing value chains of non-wood forest products
- Building GGW information and monitoring systems
- Compiling, managing, sharing knowledge and good practices, promoting communications and visibility

Results achieved to date are summarised in Table 6 below.

[8] <http://www.fao.org/in-action/action-against-desertification/overview/en/>

[9] <http://www.fao.org/documents/card/en/c/b6967505-ebf8-4649-a683-47bf0ce5b8c8/>

Table 6- Achievements of the Action Against Desertification Program in Africa

Reforestation Using over 100 native species	Seeds/seedlings produced and used 5000 000 seedlings: 100 000 kg forest seeds	Land under restoration Over 50 000 ha
	Amount of people reached 500 000	

The Sahel and West Africa Program (SAWAP) [10] in support of the GGW, 2013–2019

Between 2012 and 2020 the World Bank has led the Sahel and West Africa Program in Support of the Great Green Wall(also known as SAWAP).The Program included \$70 million of GEF resources on top of \$1.25 billion IDA resources. The Program has brought 1.5 million hectares of land under sustainable land management and reached over 17 million beneficiaries across 9 member countries of the Pan-African Agency of the Great Green Wall (Burkina Faso; Chad; Ethiopia; Mali; Mauritania; Niger; Nigeria; Senegal; Sudan). The SAWAP contributed to the implementation of the GGW through the improvement of landscape resilience and livelihoods, and thus to poverty reduction, food security and water resource security.

Within SAWAP, a regional project named BRICKS for Building Resilient, Information, Communication, and Knowledge Services project (USD 4.6 million) was included, focusing on coordination, monitoring and knowledge issues. The BRICKS 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 Ouagadougou, Burkina Faso). The SAWAP was approved in 2012 “to expand sustainable land and water management (SLWM) in targeted landscapes and in climate-vulnerable areas in West African and Sahelian countries.” Six national projects and the BRICKS are now closed, and six national projects will be closing by 2022.

Altogether, the SAWAP projects are estimated to have a carbon sequestration potential of approximately 90 MtCO₂eq[11], an intervention area under SLWM practices of approximately 1.5 Mha with 17 million direct beneficiaries as well as more than 74 680 farmers who received trainings in SLM practices and improved agricultural technologies. Land conservation measures represent more than 70% of the SLWM activities, followed by land restoration and reforestation. Table 7 provides an overview of the main environmental achievements within the nine participating GGW countries. Beyond the SAWAP program, the World Bank Group has indicated to us that they invested about \$15 billion to increase resilience and expand economic opportunities in GGW countries.This includes i) \$3.5 billion investment in adaptation to climate change, land restoration, and land and water management and use; ii) \$4.5 billion in sustainable infrastructure, renewable energy and increased energy access; iii) \$1.7 billion in climate-smart agriculture and food and nutrition security; iv) \$4.6 billion in strengthening resilience and enhancing economic opportunities and integration and v) \$0.8 billion of IFC investment projects to expand private sector activity, including small and medium enterprises and women-owned firms. The Agroecology Initiative described above goes beyond land restoration and tree planting that the GGW originally focused on, because since it is also focused on infrastructure, energy, jobs, agriculture etc.

[10] <http://english.sawap.net/index.php/about-sawap-and-bricks/>

[11] Based on estimates for 4 GGW countries, including Ethiopia, Mali, Niger and Sudan for a total area 1.9 million hectares using the Ex-ACT (ex-Ante Carbon Balance Tool)

Table 7 - Overview of the environmental impacts achieved through SAWAP

Reforestation 120 547 ha	Plants/seedlings production 288 000 000	Land under restoration 221 551 ha
Water conservation measures 4 600 ha		Land under conservation 1 132 977 ha

FLEUVE Project — The Local Environmental Coalition for a Green Union[12], 2014–2018

With a budget of nearly USD 8 million, Front Local Environnement pour une Union Verte (FLEUVE) supported the implementation of the GGW through the integration of sustainable resource management in local development plans and their implementation through partnerships. Developed by the UNCCD's Global Mechanism and funded by the European Union, the project was implemented in partnership with FAO and aimed to improve the livelihoods of dryland populations and to strengthen their resilience to land degradation, drought and climate variability. Activities involved investments in micro-projects implemented in 23 communities in five countries (Mali, Niger, Burkina Faso, Chad, and Senegal). Regional-level capacity building activities on SLM and innovative financing complemented the projects on the ground.

Large-scale Assessment of Land Degradation to guide future investment in SLM in the GGW countries (GEF Trust Fund, NASA/USAID) 2019-2024

To improve the science-based evidence about SLM in the GGW region, the recently approved GEF project aims to assess available tools and methodologies for scientific measurement of the ecological impacts of land degradation and SLM practices in support of future investment decisions in the GGW region. The project brings together several scientific partners from Burkina Faso, Ethiopia, Niger and Senegal along with regional and international institutions such as OSS, the French National Research Institute for Sustainable Development (IRD), University of Lund/Sweden, National Aeronautics and Space Administration (NASA) and European Space Agency (ESA). The total budget is USD 5.6 million, with USD 1.6 m from the GEF and USD 5 million in co-funding from NASA and USAID, with UNEP as the implementation partner. Activities include a comprehensive analysis of land degradation processes, SLM practices and programmes, monitoring and knowledge management systems.

The Integrated Approach Pilot on Food Security (GEF, IFAD) 2017- 2022

This five-year program aims to foster sustainability and resilience to improve food security in Sub-Saharan Africa, focusing on four geographies in the region deeply affected by environmental degradation and loss of ecosystem services that result in decreased crop production and livestock productivity. The Food Security Integrated Approach Pilots (IAP) builds on existing efforts at the national and regional levels to address various policy, institutional and knowledge barriers. With a total budget of USD 96.1 million[12], the programme covers twelve African countries, including five GGW countries (Burkina Faso, Ethiopia, Niger, Nigeria and Senegal), to ensure the long-term sustainability and resilience of production systems, particularly in drylands.

Closing the Gaps in Great Green Wall: Linking Sectors and Stakeholders for Increased Synergy and Scaling-up (2016- 2019)

A GEF project developed by UNEP and executed by IUCN to improve the involvement of civil society organizations and vulnerable groups in the GGW Initiative and the national GGW agencies. Specifically, the project aims to ensure a greater implementation sustainable land management policy in all GGW countries through enhanced investment, inter-sectoral coordination and engagement of marginalised groups.

[12] <https://www.unccd.int/actions/great-green-wall-initiative>

[13] The GEF grant for the Food Security IAP amounts to approximately 11 million USD

Table 8- GGW country participation in large transboundary programmes

Country	AAD	SAWAP	FLEUVE	Large-scale Assessment of Land Degradation	The Integrated Approach Pilot on Food
Burkina Faso	x	x	x	x	x
Chad		x	x	x	
Djibouti				x	
Eritrea				x	
Ethiopia	x	x		x	x
Mali		x	x	x	
Mauritania		x		x	
Niger	x	x	x	x	x
Nigeria	x	x		x	x
Senegal	x	x	x	x	x
Sudan		x		x	

In addition, civil society activities relevant to GGW are described using the example of the NGOs Tree Aid and SOS Sahel International:

Tree Aid



Tree Aid is an international NGO involved in the implementation of 17 land restoration and reforestation projects in Sahelian countries, including four GGW states: Burkina Faso, Ethiopia, Mali and Niger. So far, Tree Aid interventions account for more than 1.2 million planted trees and more than 29 580 hectares of restored land and forests. More than 1.6 million vulnerable rural people including women and children have directly benefited from Tree Aid activities through improved legal access and management of forests, resilience to climate change and revenues from IGA. Moreover, approximately 126 000 farmers have been

trained in SLM techniques, including ANR and NRM, and successful practices in NTFP harvesting. The main environmental achievements are summarized in Table 9.

Table 9 - Environmental impacts of Tree Aid projects in four GGW countries (Burkina Faso, Ethiopia, Mali and Niger)

Reforestation 835 ha 1.2 million trees planted	Plants/seedlings production 60 000	Land under restoration 29 580 ha
Water conservation measures 2 000 ha	Multipurpose gardens 206	Land under conservation 2 336 292 trees under ANR 6457 ha

SOS Sahel



SOS Sahel is an international NGO that aims to improve the social, economic, and environmental conditions of populations in the heart of Africa. Activities are in line with the objectives of the GGW, contributing to reforestation, the promotion of sustainable agricultural practices, improving access to water and supporting countries in the fight against desertification. In this context, the NGO has been involved in six projects in four GGW countries: Burkina Faso, Chad, Mali and Senegal.

Altogether, SOS Sahel interventions contributed to the production of more than 2.9 million seedlings/plants, the reforestation often 845 ha and the restoration of 10 143 ha of land. Additionally, more than 100 000 people have directly benefited from SOS Sahel activities through the development of agro-silvo-pastoral production systems and the increase of productivity using SLM practices. The environmental and socio-economic impacts of the NGO projects are summarized in Table 10 below.

Improving the agro-silvo-pastoral productivity and degraded land recovery project (BEOG – PUUTO)

In addition to the projects listed Table 8, SOS Sahel is implementing, together with the GGW Green Earth association and the Directorate of irrigation, a project in Burkina Faso within the GGW intervention zone. Expected results include 30 000 ha of land restored, 2 300 ha of multipurpose gardens and 350 000 direct beneficiaries.

Table 10 - Environmental impacts of SOS Sahel projects in GGW countries (Burkina Faso, Chad, Mali and Senegal)

Reforestation 10 845 ha 2 000 000 trees planted	Plants/seedlings production 2 916 010	Land under restoration 10 143 ha
Water conservation measures 778 ha	Multipurpose gardens 553	Land under conservation 188 618 trees 94 sites under conservation measures

Aggregated impacts of wider GGW-related activities

Based on the available data, together the described initiatives provide a considerable contribution toward the objectives of the GGW and its implementation, with 10.2 million direct rural beneficiaries, including farmers and land users trained in SLWM practices. The joint effort of these initiatives to fight land degradation, restore and conserve forests resulted in the production of more than 293 million plants, reforestation of 132 227 ha and conservation of at least 1.13 million hectares of land and forests. The environmental impacts of all the projects included in the scope of impacts assessment are listed in Table 11.

Table 11- Aggregated environmental impacts of the regional projects and actors

Reforestation 132 227 ha 3 200 000 trees planted	Plants/seedlings production 293 716 010	Land under restoration 301 274 ha
Water conservation measures 7 378 ha	Multipurpose gardens 759	Land under conservation 1 139 434 ha 2 524 910 trees 94 sites under conservation measures

3.3 IMPACT ASSESSMENT

At UNFCCC COP 21, the GGW pledged to restore 100 Mha of currently degraded land by 2030. Whereas for now, the PA-GGW aims to restore 25 Mha by 2030. The preliminary results above show that accounting for measures strictly within the GGW intervention zones, only 4 Mha (4%) of this target has been reached by now. In contrast, when considering all lands restored in the wider GGW region the total area restored reaches nearly 17.8 Mha, which considers the 1.8 Mha identified in the four regional initiatives described above (Section 3.2), plus another 12 Mha reported by Ethiopia. The progress toward the UN commitment within the GGW intervention zone and the wider scope are illustrated in Figure 3 and Figure 4 (based on 4 Mha land restored as reported to the PA-GWW).

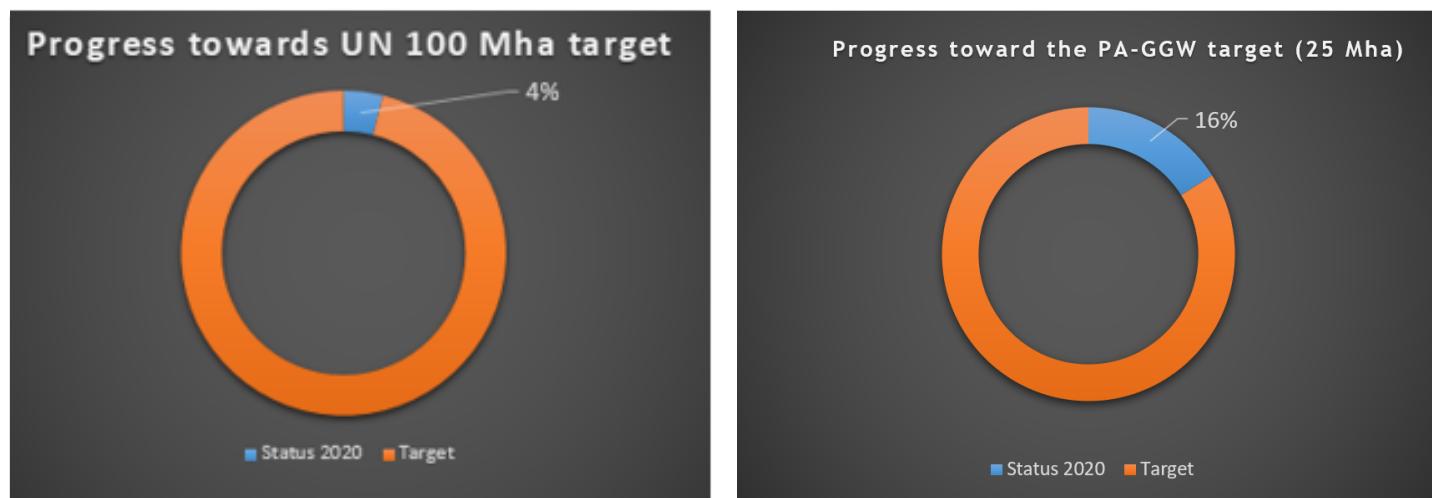


Figure 3 - Progress toward the UNCCD target

Figure 4 - Progress toward the PA-GWW target

By 2030, the ambition of the GGW Initiative is to restore 100 Mha of degraded land, sequester 250 MtC and create 10 million green jobs. The GGW activities brought a range of environmental and socio-economic co-benefits, including carbon sequestration and GHG emissions savings and revenue from income generating activities and job creation. The main findings of the impact assessment are presented below, differentiated by achievements within the GGW intervention areas (3.1) and activities in the wider region (3.2).

3.3.1 Environmental impacts: climate change mitigation

The assessment of the carbon sequestration potential covers the carbon stored in woody biomass and soils, based on the restoration impacts reported by countries up to 2019 for three activities: tree planting/reforestation, assisted natural regeneration in enclosures and agroforestry systems. Estimates assume that these reported measures are successful and continue over time to at least the year 2030 (such as survival of all planted trees and continued enclosure of ANR areas).

As biomass and carbon data for the Sahel zone is rather scarce, carbon sequestration rates were taken from a global review of Forest Landscape Restoration activities (Bernal et al. 2018). Estimates for soil carbon sequestration were based on figures by the IPCC (2019) and the FAO (2004)[14]. Due to inherent large uncertainties in soil carbon estimates in general, and the fact that the global average biomass values adopted are likely to overestimate actual growth performance in the drought restricted Sahel zone[15], the estimates presented below provide indications of potential carbon sequestration up to 2030.

[14] IPCC (2019) describes soil carbon sequestration rates following changes in agricultural practices to be around 0,22 tC/ha and year, whereas FAO (2004) states an average rate of 0,13 tC/ha and year. Whereas soil is a major reservoir of carbon with much higher stocks than those values, the sequestration potential refers only to the amount of additional carbon that can be stored due to land restoration activities, e.g., direct soil interventions or the establishment of vegetation cover.

[15] The global average values from Bernal et al. are used so as to the study provides a consistent framework with annual rates for all land use systems assessed here (reforestation: 23 tCO₂/ha, ANR: 14 tCO₂/ha, agroforestry: 13 tCO₂/ha). However, Luedeling et al. (2014) describe much lower carbon removal rates for woodlots (15 tCO₂/ha) and agroforestry (2 tCO₂/ha) in Africa.

Differentiating between the main activities to establish tree cover (tree planting – reforestation, establishment of agroforestry systems and ANR through fencing/enclosures), if all GGW countries keep their current land restoration pace, the total restored areas can sequester up to 256 MtCO₂eq in the woody biomass and up to 57 MtCO₂ through the soil by 2030 (Figure 5). It should be noted that the average carbon removal potential of agroforestry is almost equal to ANR; the estimates appear low due to the small area of agroforestry measures implemented within the GGW (only 613 ha reported so far).

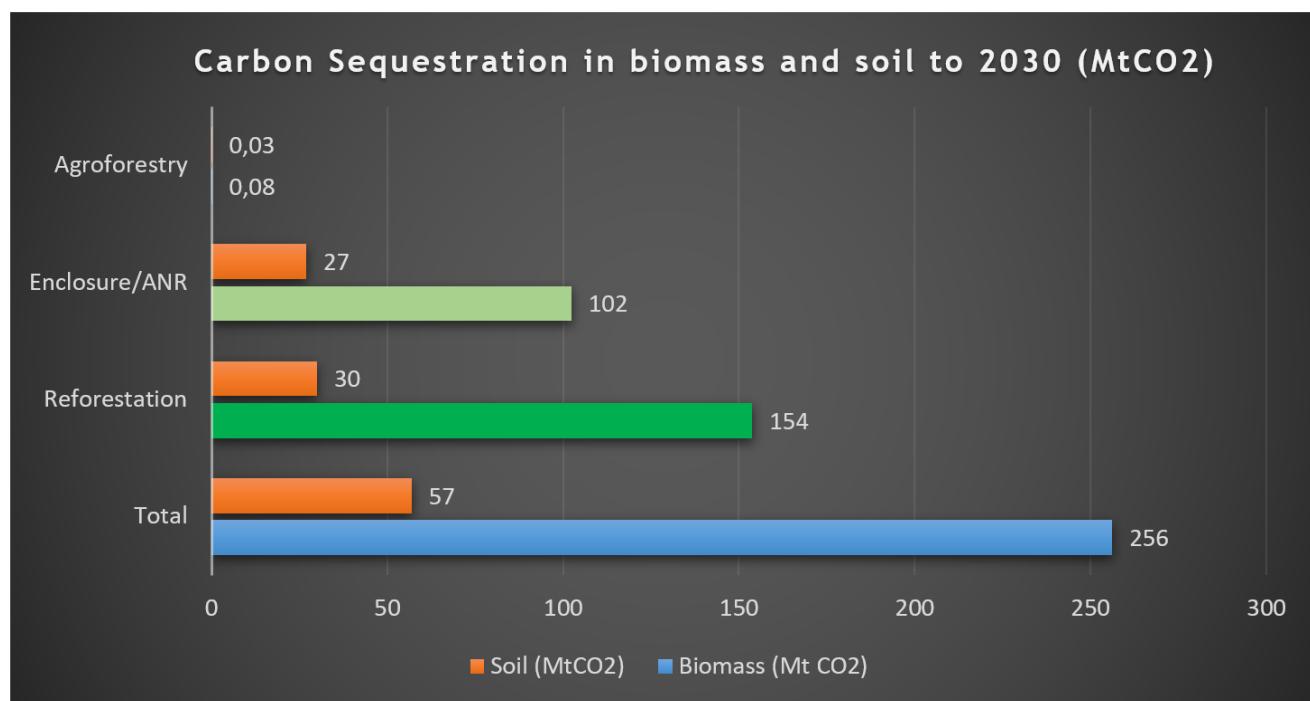


Figure 5 - Indication of carbon sequestration potential of biomass and soil of the existing GGW land rehabilitation measures, involving trees

Considering the additional restoration activities in the wider region (3.2), another 188 MtCO₂ could be sequestered in the biomass and 5 MtCO₂ in the soil by 2030. This is based on 132.227 ha reforestation and 1.1 Mha conservation/ANR measures identified, see Table 11.

When comparing these numbers with the overall targets of the GGW (250 million tons of carbon in the soil), it may be noted that indication results above are in tons CO₂ equivalents (tCO₂), whereas the official GGW targets are formulated in tons of carbon (tC), which is often the case in forest carbon. The 256 MtCO₂ as biomass sequestration to 2030 corresponds to 70 MtC, and the soil sequestration (57MtCO₂) would be 15.5 MtC (using the official IPCC conversion factor).

3.3.2 Socio-economic impacts: Income-generating activities and job creation

The activities implemented in the agroforestry and SLM sector have led to the creation of multiple job opportunities for rural people and helped reduce poverty through IGA such as the production and valorisation of different fruit and non-timber forest products, including honey, Arabic gum, baobab leaves as well as fodder and seedlings sales. Revenues from IGA since 2007 amounted to approximately USD 90 million across all 11 countries, with some countries being more successful in creating IGA opportunities than others. Table 12 below provides an overview of IGA revenues reported per country. A stable inflow of revenues from natural products and services is important in terms of exit strategies that contribute to the sustainability of restoration projects over time.

Table 12 - Revenues from income-generating activities since 2007, in USD

Country ¹⁶	Revenue (million USD)
Burkina Faso	6.8
Chad	0.01
Mali	0.05
Mauritania	1.5
Niger	81
Senegal	0.05
TOTAL	89.9

Based on each country's specific need, trainings were provided to local communities and/or government actors. The beneficiaries that have received training (Figure 6) included farmers, land users, local municipalities, and government as well as vulnerable groups such as youth and women. Depending on the project scope or initiative, trainings were conducted on a diverse range of topics, including land restoration, water harvesting, seed collection, plant production and nursery management, but also in fire control techniques and prevention. Moreover, trainings and capacity-building on anti-desertification measures were conducted by China in some of the GGW countries.

In addition, countries have reported that more than 335 000 jobs were created, mainly in the implementation of land restoration activities and the production and sales of non-timber forest products. Employment options as ranger or nature guards were also named regularly. In total, almost 500 000 beneficiaries have been affected by GGW activities to date[17]. The number of jobs created through the GGW (both permanent and temporary) so far, as well as the number of direct beneficiaries and those that received trainings are summarized in Figure 6 below. Another 10.2 million beneficiaries were reached by the wider regional activities (3.2 above), although no detailed information was available on IGA revenues or the amount of jobs created.

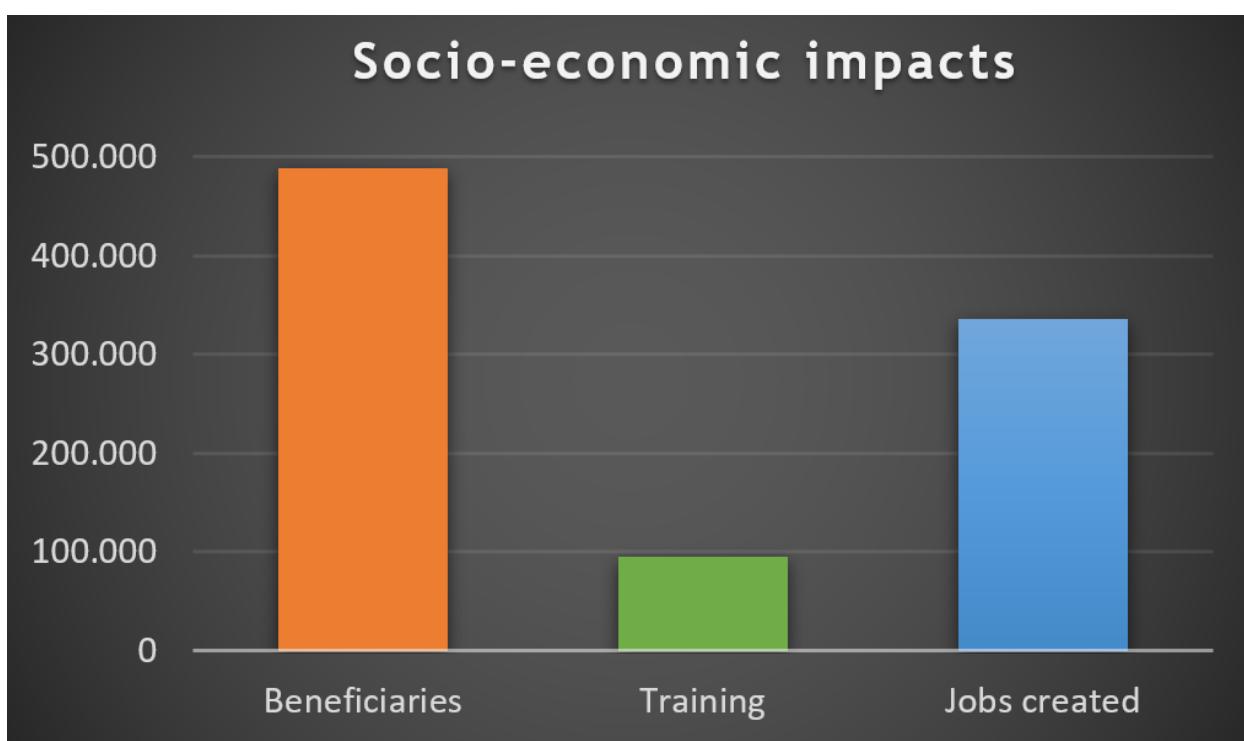


Figure 6 - Socio-economic impacts of GGW land restoration activities

[16] No information on revenues from IGA was available for Djibouti, Nigeria, Eritrea, Ethiopia and Sudan. Although revenues generated through GGW activities in Djibouti are estimated at 300\$ per beneficiary, no estimate can be presented for Djibouti since the exact number of beneficiaries and the number of working days was not provided.

[17] Based on data up to 2017 published in an evaluation report; see PA-GGW 2018; adding up the number of people trained, jobs created, and general beneficiaries reported by countries.

3.3.3 Contribution to UN Sustainable Development Goals

Land restoration in general plays a central role in achieving several global environmental objectives, among them the UN SDGs. The GGW Initiative benefits all 17 SDGs, with direct contributions to six, and indirect links to the other 11 goals. The 17 SDGs to which the GGW initiative contributes are highlighted in Figure 7.



Figure 7 - Contribution of the GGW activities to 17 SDGs

While there is an obvious link to SDG 15 Life on Land on the protection, restoration and sustainable use of ecosystems, the GGW activities also contribute to SDG 1, SDG 2 and SDG 8 on poverty alleviation, improving food security and decent economic growth through the creation of IGAs based on the sustainable production (SDG 12) of non-timber and agro-pastoral products. The GGW Initiative also has a strong climate action component (SDG 13), with the different SLM activities not only increasing countries' resilience and adaptability to extreme climate events, but also contributing to climate change mitigation through carbon sequestration. Table 13 below illustrates the direct link between the land restoration activities under the GGW initiative and the SDGs, citing countries' achievements and key results.

Table 13- Direct contribution of GGW activities to six UN Sustainable Development Goals, adding up the results from GGW country interventions in the narrow sense (3.3) and activities in the wider region (3.2)

<div style="text-align: center;"> 1 NO POVERTY  89.9 million USD generated Reduction of rural poverty: improving the resilience of local population to poverty through the creation of income-generating opportunities by the valorization of local products and activities </div>	<div style="text-align: center;"> 2 ZERO HUNGER  Improve food security: development of agro-pastoral perimeters for livestock farming and crops production, development of market gardening and fruit crops, implementation of sustainable land management practices </div>
--	---

<p>8 DECENT WORK AND ECONOMIC GROWTH</p>  <p>Approximately 11 million beneficiaries to improve the livelihoods of communities: since the beginning of the GGW, different activities in the agroforestry and SLM sector have led to the creation of several permanent and temporary jobs, mainly in rural areas</p>	<p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>  <p>Training of more than 221 000 people Sustainable production of agro-pastoral and non-timber products: training on sustainable production techniques in rural areas for vegetable and livestock farming, including manure composting and water harvesting techniques</p>
<p>13 CLIMATE ACTION</p>  <p>Approximately 500 million tons of sequestered CO₂ potential Mitigation and adaptation to climate change: combating desertification, adapting to the effects of climate change, and contributing to climate change mitigation through the adoption of sustainable land management practices.</p>	<p>15 LIFE ON LAND</p>  <p>17.8 million hectares of restored lands Land restoration and biodiversity conservation: implementation of landscape and biodiversity restoration activities through SLM practices, including agroforestry and soil conservation measures</p>

3.4 OVERVIEW OF EXTERNAL AND DOMESTIC FUNDING MOBILIZED

The funding reported by GGW member states to the PA-GGW and to national level activities or projects for the years 2011-2019 is depicted in the charts below. Figure 8 shows the domestic resources allocated from government budgets to the implementation of the GGW, including statutory contributions to the PA-GGW[18]. Figure 9 shows the external/international funds that were mobilized for GGW-related projects. While the reported individual member state contributions amount to around USD 53.4 million[19], countries reported receiving a total of USD 149 million in external funding.

The latter graph indicates a notable discrepancy between the amount of international support reported by several donors of the GGW Initiative and the amount reported by countries themselves. Most likely, this goes back to the geographical definition of the GGW intervention zone, with the amounts reported by the GGW agencies to the PA-GGW referring only to funds that are specifically allocated to GGW implementation in the intervention zone. While this might reflect the actual amounts mobilized by the GGW institutions themselves, it appears to be a considerable underestimate of the total amounts allocated by the international community to GGW implementation, which might not necessarily happen in the strict intervention areas.

[18] These numbers only relate to allocations from the national state budget, as there is no data on local/national private sector contributions
 [19] According to the Pan African Agency, statutory payments by member states amounted to USD 5.4 million, and voluntary contributions to USD 1.4 million, which means the PA-GGW has received a total of 6.8 million USD, which means that the remaining 50 million USD reported as national contributions should have gone to national implementation activities.

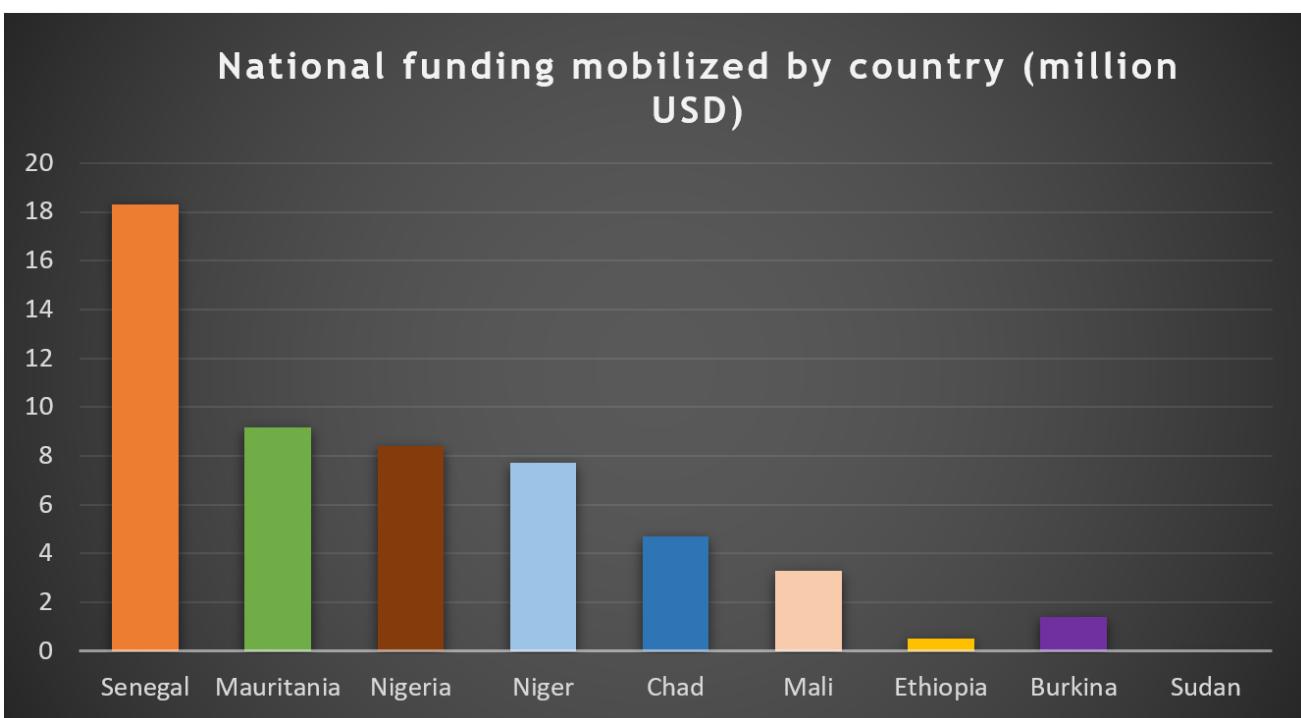


Figure 8 – Domestic / National (state) finance allocated to the GGW per country (in million USD)

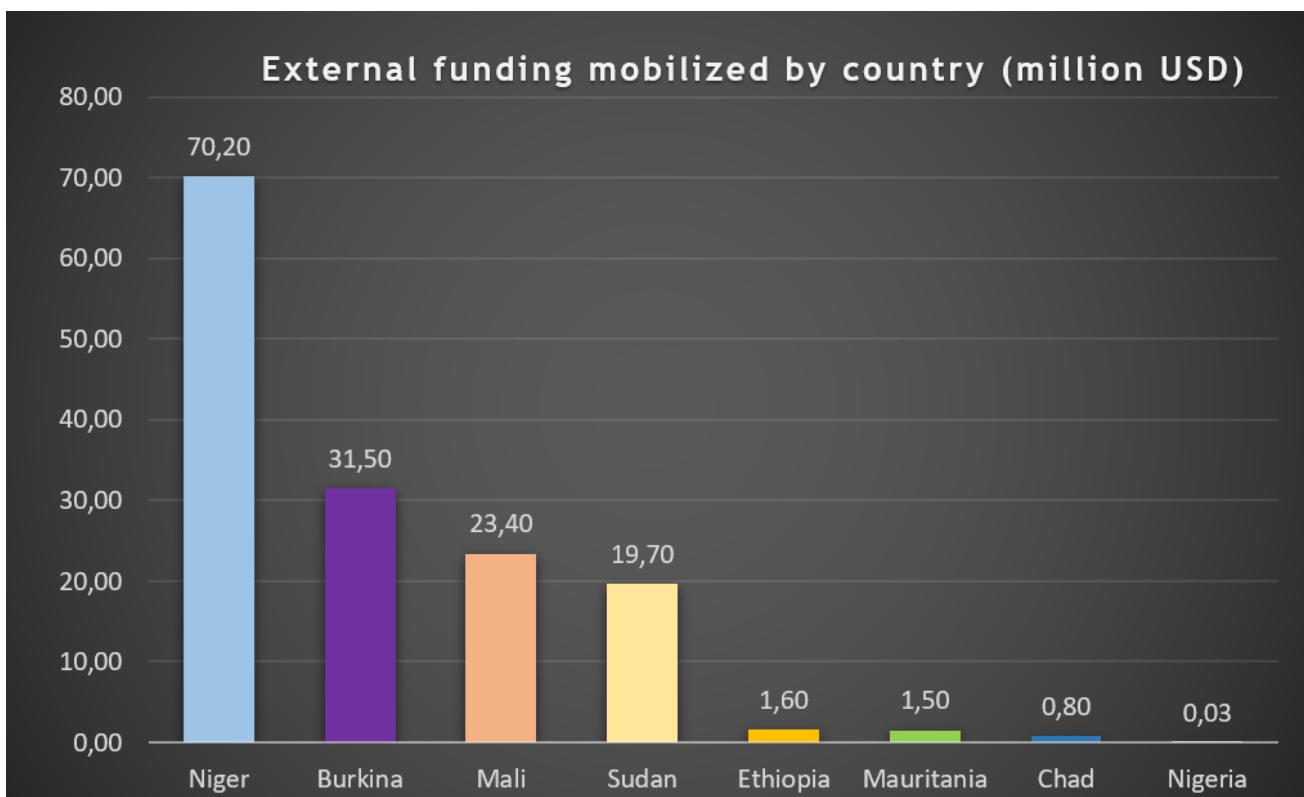


Figure 9: External / International finance allocated to the GGW per country (in million USD)

Considering only those transboundary international projects that explicitly state “support for the GGW” in their objectives or titles (described in section 3.2 above) results in total external funding of USD 870 million. The SAWAP provided the major share of this amount, having allocated a total budget of USD 786 million to implementation on the ground in selected GGW countries[20]. Without this project, large-scale programmes amount to a total funding volume of USD 85.2 million for the GGW, including USD 13.3 million for a newly approved GEF project.

[20] Out of the total budget of USD 1.2 billion, USD 786 million was allocated to the 9 involved GGW countries, whereas the rest went to 3 other countries as well as to the BRICKS sub-project.

Table 14 - Funding for multi-country projects reported by international donors

Project / Programme	Funding agency	Amount (USD million)
Action Against Desertification	FAO	41
FLEUVE	GM, EU	7,8
BRIDGES	Turkey, FAO	3,6
Large-scale Assessment	GEF; NASA/USAID; IUCN	13,3
Closing gaps in the GGW	GEF, IUCN	14
SAWAP	WB, GEF	786
BRICKS	WB, GEF	4,6
TOTAL		870,3

Again, the divergence in results with regard to funding flows to the GGW reveals the underlying lack of a common and shared accounting framework and related allocation of activities to the GGW Initiative. Donor funding flows reported by the PA-GGW differ significantly from what is considered as relevant and contributing to the GGW implementation by donors and the respective regional or cross-border programmes and projects.

This becomes particularly clear in a summary list of all land restoration activities in the 11 GGW countries, which has been compiled as part of this assessment and is provided as annex to this report. This list considers both activities in the official GGW intervention zones and all activities with land restoration objectives in 11 countries, regardless of whether they directly refer to the GGW Initiative, thus broadening the scope of activities considered. Consequently, this list of currently 11 regional projects and 54 national activities (the latter including 12 individual SAWAP projects and five AAD projects) amounts to much higher total funding of USD 1.9 billion for land restoration in the Sahel. How much of this funding can actually be considered relevant for the implementation of the GGW Initiative is a matter of perspective and definition and should be subject to a joint agreement between donors and recipient countries.

4. CHALLENGES AND INVESTMENT-RELATED FINANCING BARRIERS TO GGW IMPLEMENTATION

The GGW Initiative provides a showcase of SLM and drylands development in Sub Saharan Africa, representing a unique opportunity to reach both development and environmental goals at the same time. When working toward the vision of restoring 100 Mha degraded land, it is essential to assume an adaptive approach to incorporate lessons learned - addressing challenges identified by some and replicating success stories experienced by others.

A key point is that drylands do not respond to human interventions the way other zones do, and development efforts must be adjusted to the local conditions and the characteristics of dryland ecosystems. One example of successful adjustment to new realities is the redirection of the original vision for the GGW. The GGW was initially conceived as a green barrier to stop the Sahara Desert from advancing. The scientific evidence of the last two decades has shown that the southern border of the Sahara has retreated steadily, and parts of the Sahel have become greener (Leroux et al. 2017). In response, the GGW Initiative adjusted its vision to become a mosaic of resilient land use systems with the capacity to adapt to uncertainty and climatic extremes.



This shift in the vision of activities promoted and implemented under the GGW – from “simply” planting trees to broader, diversified land use and restoration systems – has been accompanied by influx of various projects and initiatives by donors to support this changing perspective of the GGW. It also led to divergent perspectives on the scope and scale of the GGW being reflected in varying targets, activities, and accounting for related funding flows.

This chapter summarizes the challenges and barriers reported by GGW countries in the implementation of restoration activities, puts them into context and categories (governance, monitoring and reporting, funding and technical aspects) to improve the understanding of the underlying issues, and outlines some of the key barriers and risks that investors are facing when funding land restoration in the Sahel.

4.1 GENERAL CHALLENGES TO THE IMPLEMENTATION OF THE GGW

Countries reported a range of challenges they encountered when implementing the GGW Strategy and Action Plans, both in direct relation to the Initiative as well as related to sustainable soil management and the restoration of degraded land in general. These challenges are mainly:

- Governance
- Monitoring and reporting
- Funding
- Technical (in relation to restoration projects)

These barriers and hurdles are described further in more detail, while Table 14 provides a simplified overview of the challenges per country as identified during the GGW implementation for the period 2011-2017.

4.1.1 Governance issues causing institutional challenges

An overarching issue appearing in most GGW countries is weak governance in the field of environmental management. This causes different institutional problems referred to, directly or indirectly, by all the countries in the region as a main barrier to success in the implementation of the GGW (Table 14). Overall, the following challenges are encountered and shared by many countries, occurring at different levels of severity, often one leading to another, and therefore interlinked to a large extent[21]:

- Lack of high level political support for the environmental policy agenda from the governments of the GGW member states, leading to a lack of needed underlying legislation, political mandates to establish and properly resource the required institutional structures and processes that the GGW would benefit from or is largely dependent on when it comes to government support.
- Weak organizational structures and processes for the implementation of environmental projects or larger environmental development initiatives or programmes, such as the GGW, which is linked to and is caused by a lack of related financial and human resources allocated to the respective government institutions. A flagship initiative such as the GGW suffers from the lack of the structures and processes for environmental matters and policy, resulting in national GGW agencies not having been established. Without necessary institutional structures and processes, the required capacities at the scale needed neither appear within the government institutions, nor their creation is promoted in the private, the non-governmental and research sectors.

[21] The current political instability in a number of GGW countries is a serious threat with regard to travel, communication and overall implementation of GGW projects in the region. Since the focus is on issues caused by the lack of governance the problem of overall political instability should not be neglected, but cannot be directly addressed here.

- Lack of coordination and engagement with other relevant sectors. The implementation of GGW activities should not only be done by the GGW agencies, but also by organizations and agencies from other relevant sectors. The GGW agencies should coordinate the implementation efforts of the different local, national, and regional/international partners contributing the GGW activities.
- Difficulty for GGW national agencies to endorse a “landscape approach” – an inter-sectoral approach that goes beyond jurisdictional borders and usual sectors (agriculture, environment, forests, energy, land-use planning and decentralization). Very often these national agencies are under the ministry of environment and do not have the institutional power to promote landscape approaches. In addition, some of these agencies are relatively new in the institutional landscape and do not always have the required capacities.
- Lack of mainstreaming environmental management practices into the respective sector strategies, policies and action plans and programmes to reach the local levels. An initiative like the GGW cannot receive the required support from the government without a proper integration of environmental policy and action into the strategies, policies and action plans and programmes in key sectors relevant to the GGW, including agriculture, land use, rural development and energy. Full mainstreaming is needed for the impact to reach the local level through local policies, planning and actions.
- Lack of coordination, exchange and flow of information and knowledge at the regional and national levels and between the respective GGW structures: there are no proper and managed knowledge/information sharing and coordination mechanisms at the national and regional levels, which results in insufficient coordination and collaboration between GGW countries as well as between project developers at the national level and cross-border. This is especially important for lessons learned and success stories, as the only way forward to a rapid and efficient expansion of the GGW initiative is through developing pilot projects that can replicated in many locations after they have been successfully implemented.

4.1.2 Measurement reporting and verification (MRV) challenges

A fundamental barrier to efficiently pursuing restoration plans is the lack of a system to identify, monitor and report the activities on the ground. The shortcomings and problems identified during the implementation of the GGW between 2011 and 2017 (Table 8) highlight the need for a better overall follow-up and monitoring of the GGW:

- Monitoring and evaluation expertise is absent in general, which hampers the abilities of establishing proper MRV systems at the project and the national levels as well as at the level of the GGW Initiative as a whole - being connected and adhering to the same internationally established standards. Such expertise is necessary to regularly document positive and negative developments and allow the project management structures to implement countermeasures needed to correct negative developments. This affects the accurate documentation and sharing of lessons learned (see above on information and knowledge sharing mechanisms) to avoid negative developments as well as capitalize on positive results achieved by the projects under the GGW at the national and regional or cross-border levels,
- Environmental finance and related project monitoring and reporting standards have become quite demanding over the last couple of decades, often overwhelming the countries and the respective government institutions and project developers/managers in the GGW region.

- This includes a rigorous demand for results-based management/finance (RBM/RBF) approaches and further standards and protocols to document environmental and socio-economic impacts. Insufficient reporting to the bilateral and multilateral donors and financiers leads to a lack of credibility and reduced funding, with finance flows steered elsewhere, making a better MRV capacity a necessary condition to compete successfully for funding. In some cases, the reporting only relies on statistical data produced by relevant ministries to present realistic annual reports that show the efforts of the government in the implementation of the GGW Initiative. Reporting on the use of funding and related evaluation and learning mechanisms should demonstrate how the use of financial resources allocated to GGW projects is optimized, so that emerging GGW projects can benefit from related experiences.
- The lack of finance available for developing the related MRV capacities or the insufficient allocation of past or current funding for these capacities hinders the establishment of the required monitoring and evaluation as well as MRV systems at the local, national and GGW/regional levels. The lack of proper project and GGW program management structures at all levels (local, national and regional/GGW) in many cases lead to insufficiencies in implementation as well as raising and allocating financial means for implementation and monitoring activities. Furthermore, there are reports of difficulties in mobilizing or receiving funds allocated to a National GGW Agency for carrying out monitoring and supervision of local GGW projects and activities in the field.

4.1.3 Funding challenges

When discussing funding challenges, it is important to keep in mind that according to the Harmonised Strategy (AU & PA-GGW 2012), domestic financial resources from the Member States and the local private sector are meant to lead in the implementation of the GGW[22]. External resources from development agencies, international institutions and the financing mechanisms of the Rio Conventions, instead, should complement this funding. The Resource Mobilization Strategy (PA-GGW n.d.) estimates the total financial requirements of implementing the GGW programmes 2016-2020 at the national level to about USD 2.3 billion. Cost estimates are divided into operating and equipment budgets of national agencies and the GGW system and the program budgets for implementation in the field.

The specific funding challenges mentioned by the countries (see also Table 14) show:

- An overall insufficient, unpredictable, and insecure funding situation as reported by many GGW countries. This perception or view will stem from the different views on how much funding has been mobilized or allocated externally by the international donor community and the changed or broadened scope of the GGW Initiative over the last decade. Furthermore, the difficulties of most GGW countries in establishing the required governance and project structures (see also above) for attracting and accessing, managing and reporting on finance flows (see also below on climate finance), basically their inability to absorb large(r) amounts of funding come into play here as well. First, what can be observed here is a reflection of the additionality debates seen in the development and climate finance domains with very divergent views between donor and recipient countries on which resources can be allocated to an initiative and which ones not, or only partly or to a certain extent, here in the case of the GGW.
- Second, the wider scope and scale of activities considered as contributions or part of the GGW will come into play here with the GGW countries struggling with (fully) identifying all opportunities and preparing the related funding proposal.

[22] Whereas the mobilization of sufficient and sustainable domestic resources from the GGW governments for the implementation for the GGW is already challenging, mobilizing private sector finance for land use and land restoration activities in the Sahel region under the GGW Initiative at scale is a very challenging undertaking. There are various issues related to developing bankable projects in such an extreme environment and when 'only' looking at the land use sector, not considering (rural) energy projects, for example. These bankability problems include scale issues, land rights/ownership questions, community involvement, lower(er) profitability expectations, amongst other. Private sector finance, the challenges and what may be the way forwards in the context of the further implementation of the GGW are important aspects but cannot be further investigated and elaborated on as part of this stocktaking report.

- Third, and this point is related to the preceding one, making the case for accessing and, in the end, absorbing environmental finance requires the existence of respective structures, processes and capabilities at the level of the national governments as well as at the local levels and the level of the project developers/managers. The last two points are also reflected in the discrepancy between expectations on mobilizing domestic resources and complementarity of international funding and what has actually been mobilized to date, even when only comparing what is reported by the GGW countries themselves.
- The mastery of environmental finance – going beyond ‘traditional’ grant-based and short-term development interventions - is challenging for the GGW countries. The above mentioned increased or increasing scope and scale, including (the consideration of) project types beyond land restoration projects and furthering the need for understanding and using environmental finance, create hurdles for many of the GGW countries. There are the requirements for putting together respective funding proposals to international donors, applying respective rules and standards reflected in such applications (e.g. see above on RBM/RBF etc.), demanding co-finance or even blending of different financial instruments and mechanisms (e.g. grants, debt & innovative finance) as well as the requirements of project cycles with regard to project development and implementation linked to payments made based on results or delivery of (environmental) services, including third party validation/verification, such as in the case of carbon finance. Related to the issues of co-finance and blending is the use and integration of domestic public and international and national private finance, which is another barrier for many of the GGW actors at the national and local levels, being rather ‘traditional donor aid clientele’. The GGW Evaluation report (PA-GGW 2018) clearly indicates that one of the major constraints lies in the mobilization, sustainability and mode of use of both domestic and foreign funding.

4.1.4 Technical challenges and survival rates of tree planting projects

Since several restoration projects involve a tree planting component, it is particularly important to closely follow the survival rates in the five to 10 years following the planting. A plantation with a low survival rate is likely to disappear completely, with the project efforts and funding wasted. Complementary to monitoring survival rates, maintaining the plantation in the initial stages is important to ensure a sufficient vegetation cover that can become sustainable in the long term. It is important to set up a follow-up or monitoring system for GGW projects that lasts at least five to 10 years and includes an exit and sustainability strategy, taking into account project lifetimes and related crediting periods for the delivery of environmental services such as carbon sequestration for up to several decades and to ensure the real viability of the projects beyond the implementation period.

To ensure that local populations and governments have the full ownership of projects over a long period of time, appropriate technologies and mechanisms that support the survival of these projects need to be in place, and can sometimes require decades to become self-sufficient.

4.2 BARRIERS AND RISKS TO FINANCING LAND RESTORATION UNDER THE GGW

Closely linked to the challenges in securing external funding for the implementation of the GGW objectives is the fact that land restoration activities in general, and in drylands such as the Sahel in particular, pose specific risks to investors:

- Scale issues: on the one hand, the GGW is an ambitious undertaking within an extremely vast geography that requires coordination between 11 countries, involves multiple levels of governance and covers millions of hectares. Without addressing and constantly improving the governance and institutional issues as well as the MRV challenges, an increase in new finance sources (including innovative and private sources) and financial instruments and mechanisms at scale beyond the traditional, grant-based finance will be seriously hampered. On the other hand, the projects that require financing are mostly small, challenging to implement in practice, and also too small to attract institutional investors. These projects, if looked at individually, may require considerably less capital than common minimum investment sizes of at least USD 50-100 million (WRI 2017) required by investors.
- Inherent investment risks of land use projects: many of the projects are not profitable, at least from a strictly financial point of view. Outside of concerns of social impact investors and public finance, nature and social benefits usually have no market value, not counting the markets for environmental services, such as for GHG mitigation and carbon sequestration that evolved over the last two decades. There are also differences among the public finance sources: some pay more attention to bankability than others. Evaluated strictly in terms of financial gains, most restoration projects generate returns that are too low to attract private investors (WRI 2017), apart from larger, commercial forestry operations. Furthermore, the continuity, long-term sustainability and replication of these projects can be challenging, in particular in the context of the GGW and the Sahel, which makes them a higher risk compared to other investments because land restoration activities are implemented in an adverse environment, constantly evolving mostly due to climate change. The challenge is that project implementation/land restoration needs outpace land degradation (see also below on country risks).
- GHG mitigation/offsetting projects in the land use sector and related risks: there are several risks related to developing and implementing carbon sequestration projects, compliance, or voluntary projects. Reaching a critical size of carbon stored and related credits requires a certain number of participants from community-based smallholder structures, unless large publicly or privately owned areas are available for planting. Unless fast-growing, often exotic species on large(r) areas of land are planted, a long time-lag between investment and break-even can be expected, which limits the number of the potential investors. The motivation of farmers and sense of ownership in communities depends on revenues, which may be contrary to the objectives of a carbon project: there is the risk that farmers may cut and sell the trees they planted as part of the project. Furthermore, growth and increments may be smaller than expected due to climate variability, or the plantations might fail due to drought. Another issue that often creates additional complexities or even prevents the development of projects is the unclear land tenure and land rights, because the ownership of the resulting carbon credits may be disputed. At the national level this is related to governance and policy issues, such as a) control over land and b) the use of emissions reductions for the NDC and related national commitments vs offsetting projects for the voluntary markets. There is also the risk of false expectations and promises about potential income from carbon sequestration revenues when products and services for the development of viable projects are not considered from the onset.
- Community ownership and involvement require more sophisticated engagement strategies to be understood, accepted, supported, and carried by local communities who will benefit from the projects. Training and empowering communities to implement and maintain land restoration activities is therefore as essential as creating a sense of community ownership of a project.

- Country risks: In addition, all serious investors consider political and country risks, including social, political, and economic conditions and events that pose a threat to the performance of investments and the profitability. Investors may shy away from opportunities overseas, such as the GGW Initiative and the Sahel, when they consider the risks that can result from the actions of the host government or other political events taking place in a country. Currently, the majority of the GGW countries show high to severe country risks (EEX Africa 2020).

Table 14: Summary table of key challenges encountered & reported by GGW countries

Country	Governance / Institutional	Monitoring & reporting	Financial	Technical / Capacities
Burkina Faso	X		X	
Chad	X		X	
Djibouti	X		X	
Ethiopia			X	X
Eritrea			X	X
Mali	X	X	X	X
Mauritania	X	X	X	
Niger	X	X	X	X
Nigeria	X		X	
Senegal			X	
Sudan	X		X	

5. A ROADMAP AND OUTLOOK FOR THE NEXT DECADE: WHAT IS NEEDED TO REACH THE 2030 OBJECTIVE?

This chapter provides a roadmap for the remaining decade to 2030 and key recommendations on the way forward. The first part introduces fundamental needs and considerations with regard to the implementation and financing of the GGW for achieving the 2030 target. This is followed by a second part on strengthening, accelerating, and improving the implementation of the GGW, which presents a roadmap on governance, MRV, access to finance, project development and management support. Finally, a dedicated fund and a facilitation mechanism are introduced, operationalizing two of the elements of the roadmap (access to finance and project development and management support) to achieve the GGW acceleration.

5.1 FUNDAMENTAL SCALING UP AND SCALING OUT THE NEEDS AND CONSIDERATIONS FOR ACHIEVING THE 2030 TARGET

5.1.1 Scaling up rehabilitation and restoration activities over the coming decade with a view of reaching the Sustainable Development Goals (SDGs): Restoration of 100 million hectares of degraded land by 2030.

As of early 2020 - considering all activities that may be contributing to the GGW Initiative, applying the wider scope and definition of the GGW, and accounting for the regional and cross-border projects and programmes (see also Chapters 1 and 3) - a total of 17.8 Mha land is under restoration or has been rehabilitated in the GGW member states. To reach a total area of 100 Mha by 2030, it would be necessary to substantially increase the current pace of land restoration from 1.9 Mha/year on average to 8.2 Mha annually (Figure 10).

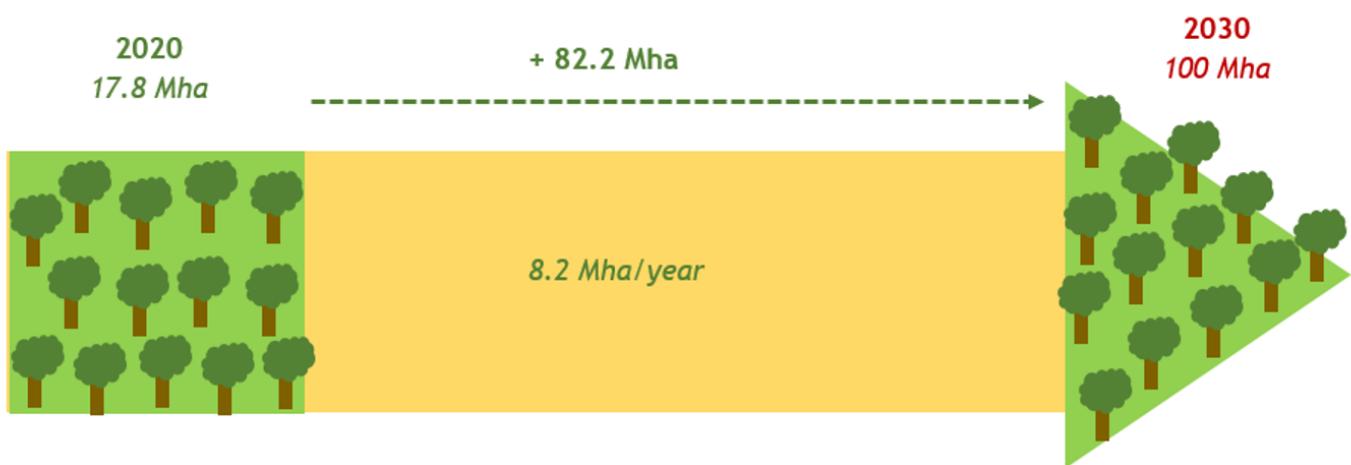


Figure 10: Progress towards 2030 and remaining land restoration

5.1.2 How much would it cost? Estimated financing needs for the implementation of the required and remaining rehabilitation and restoration activities until 2030

Based on data from WRI (2017), land restoration in Africa incurs an average cost of USD 440/ha across all activities and countries, although such costs are likely to be higher within countries of the Sahel region. Land restoration costs for existing projects in the region such as the SAWAP reach an average cost of 530/ha. Applying these basic estimates to the remaining land area in need for restoration to reach the 2030 vision would mean that land rehabilitation measures alone would cost between USD 3.6 and 4.3 billion per year, or a total that varies between USD 36 and 43 billion up to 2030[23]. Creating conditions through capacity building and training of farmers to allow them to carry out and maintain land restoration measures, as well as the adjustment of land use policies and governance structures must be added to this basic cost. For comparison, the total amount of combined external and domestic funding allocated to the GGW in the first decade (2011-2017) equals USD 206 million, as reported by the GGW member states, and to USD 1.8 billion between 2010-2019 based on pipeline information published by international donors[24]. Comparing these figures with the above estimations on the required overall and annual finance for land restoration under the GGW without taking into account potential revisions in the GGW's strategic orientation, overall vision and related ambitions, clearly demonstrates that a quantum leap in mobilizing the required investments is needed. Next to a raise in the national contributions and increased donor funding, in particular from the private sector is required to complement the funding mobilized so far.

[23]Based on land restoration costs for Africa (WRI 2017) and land restoration costs for the SAWAP project, assuming the shares of the different activities in reaching the 2030 vision to be constant (compare Figure 4 above)

[24] The USD 206 million refers to "future projects" envisioned in the GGW country reports, without additional information on implementation status or securing of funds. The USD 1.8 billion refers to projects identified in donor databases as proposed/submitted but without a funding decision so far.



Comparing these figures with the above estimations on the required overall and annual finance for land restoration under the GGW without taking into account potential revisions in the GGW's strategic orientation, overall vision and related ambitions, clearly demonstrates that a quantum leap in mobilizing the required investments is needed. Next to a raise in the national contributions and increased donor funding, the access to new sources and instruments, such as innovative or environmental/carbon finance, debt and equity finance, in particular from the private sector is required to complement the funding mobilized so far.

First, more detailed analysis is needed to make more realistic estimates of the actual costs for the further implementation of the GGW over the next decade – as a whole region, in the individual countries and at the local level. In particular, looking more at the local, project development level will help to further determine the prerequisites when it comes to the actual activities, those involved in the development and implementation activities, and expected costs (taking establishment, maintenance, transaction and opportunity costs into account). There are differences between community-driven projects and commercial, profitable operations at scale. Some of these costs may be significantly reduced through in-kind contributions or shared among many actors through bundling several activities under one umbrella or working with community-based projects and related organizations and civil society groups. The establishment, transaction and opportunity costs may be assessed differently, with opportunity costs not playing a significant role in many of the current GGW projects, while compensations, fees or payments for environmental services should not be neglected. Then there are rather commercial, more profitable individual operations that involve respective expert organizations and private operators and incur such costs.

Second, one needs to distinguish between the kinds of contributions expected from different sources and instruments, which have, partly or in some cases not at all, not been taken into account or received yet. So far, this assessment only looks at reported public finance from international and domestic sources, mostly grant-based from “traditional” sources for land use projects, without looking at other instruments and sources or using existing funding streams to leverage and blend other sources and instruments of finance. For example, the debt finance, that initially starts with international finance institutions, will usually link to commercially promising operations with a private sector angle. This will lead to further (co)finance options, including equity as well as innovative finance, such as environmental or carbon. The latter offers a promising private sector investment potential with an interest in purchasing carbon offsets from projects that deliver high sustainable development co-benefits – for example, in the air transportation sector through the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) to meet the CO₂ reduction targets and the general Corporate Social Responsibility (CSR) ambitions requested by shareholders (see also above on the issues around carbon sequestration projects).

Third, land use and restoration projects are very different investments compared to other investment projects, such as in the energy sector. Returns on investment take much longer to materialize and related investment risks are high, making such projects less attractive to investors. These type of projects in the Sahel that involve community and smallholder engagement are likely to be rejected when compared to commercial, private sector operations and measured with conventional profitability indices (Internal Rate of Return, Net Present Value). However, other economic analysis and valuations take into consideration at all the associated costs and benefits beyond short-term gains, with a long-term perspective toward gains in productivity, employment, health, environment, avoided costs of migration, civil conflict and war (WRI 2017).



Well-designed projects, with supportive institutional governance structures and processes in place, would provide the required framework conditions, a conducive investment environment and (economic) incentive mechanisms, establishing a foundation for further investments from international public as well as domestic and international private investors. This will require addressing the above-mentioned barriers to governance, MRV and finance as well as paying attention to the specifics of carbon sequestration and other GHG mitigation projects and providing technical support on the ground. These requirements can be targeted through the proposed package of a dedicated fund and a related facility, using the GGW Initiative as the umbrella and focus area.

5.1.3 Revisiting the scope and the scale of the GGW: a (re)new(ed) shared vision and joint understanding of the GGW Initiative

Since its inception in 2007, the GGW has undergone changes and developed beyond the initial scope, including different perceptions of the various actors and direct stakeholders of what the GGW entails or covers. Looking at the initiative from the outside, the observer is left with some uncertainties with regards to the actual scale and scope of the GGW. This should not come as a surprise, bearing in mind the developments in international environmental policies and increasing pressure for transformational change, together with the interlinkages between environmental matters and other pressing development problems in Africa and the Sahel, among them economic development, migration and political instabilities. Flagship projects such as the GGW are predestined to show how environment and development matters can be addressed and solved, which may lead to overloading them with expectations and losing sight of what an initiative set out to achieve. The divergent perceptions on how much funding has been mobilized and for which activities, as well as the broadened geographical scope reflect these developments in the context of the GGW over the years.

Achieving the 2030 target and mobilizing the required funding over the coming decade requires a (re)new(ed) vision and joint understanding of what the GGW is, what the initiative can do and support, and what means exist for achieving the GGW goals at the regional, national and local levels. This process should also consider to which extent other sustainable development activities carried out in the GGW intervention areas are relevant to this (re)new(ed) GGW vision, such as rural energy projects – for example, improved cookstoves, biogas or solar PV. The PA-GGW, in collaboration with the GGW donors, national and local stakeholders should launch this process to create this shared vision. Giving a new momentum to the GGW efforts should build on the current, continued GGW implementation and requires sound structures and processes to strengthen, accelerate and improve the implementation of the GGW[25].

5.2 STRENGTHENING, ACCELERATING AND IMPROVING THE IMPLEMENTATION OF THE GGW: CORE ELEMENTS OF THE ROAD MAP

Getting organized at several levels is key to upscaling activities and enhancing implementation of the GGW. The required main improvements are in governance and institutional structures, proper MRV systems, absorption of financial flows and project or programme development and management on the ground.

5.2.1 Improve GGW governance and institutional aspects

High level political support at the national levels is required to strengthen and revamp the GGW at national and implementation levels, so that necessary mandates and resources are available to establish and maintain functioning structures and processes for the GGW implementation. The GGW may not be able to establish every governance structure and process for all environmental matters on its own, but it may set up the initial core elements, using decrees and similar means instead of lengthy and complex legislative processes, unless they are already underway.



The above-mentioned push for a renewed vision at the PA-GGW level should include the demonstration of related financial flows and development benefits as well as targeted interventions at the national levels. The PA-GGW may be instrumental in providing the forum for the national and international leaders and decision makers to create the momentum for further action and commitments for this renewed the renewed vision.

If the high-level political support and willingness are secured and the respective mandates are issued, the required resources need to be made available or strengthened to enable relevant government institutions to fulfill their role and provide the necessary support and create the framework for improved and accelerated GGW implementation at the country and local levels. Together with the creation or strengthening of the National GGW Agencies, the ministries and agencies in charge of environment, agriculture and land use, rural development and energy, as well as finance, need to be involved. The GGW will not solve the governance issues of all environmental affairs on its own, but it can create examples of successful engagement, helping the GGW move forwards and pave the way for others to follow. The respective departments or divisions in the ministries and/or national agencies need to be mandated under clearly defined terms of references and staffed with skilled focal personnel under national budget to fulfill their roles in GGW implementation. The functions of the ministries, subordinate agencies and the national GGW agencies need to be coordinated. More detailed gaps and needs assessments are required to prepare targeted actions.

The teams or focal personnel in the ministries and agencies need to work on mainstreaming GGW actions and finance into the relevant sector strategies, policies and action plans and programmes. They should review and improve the level of mainstreaming, aligning it with related environmental matters, such as climate change, biodiversity and SLM. In particular, the integration of the existing and future GGW programmes and projects into the respective action plans and programmes, including tracking of relevant international and national financial flows, will usually show trickle-down effects in planning and implementation at the local level and on the ground.

At least two levels of coordination and knowledge management are needed at the regional/GGW and at the national levels, based on clearly established terms of reference and respective roles. At the national levels a GGW Coordinator or Coordination Unit needs to be assigned – either within the National GGW Agency where it already exists or on one of the teams at the respective ministry, allocating relevant mandates and resources. Using a clear process, criteria and further guidance, the coordinator should be able to address GGW matters of actions and finance, brought to their attention on the national and local, as well as the regional/GGW and international levels.

Facilitating communication and understanding of GGW issues in the context of national and local action, should leverage existing coordination mechanisms and partnerships to enhance the outreach and integration of GGW matters. This includes engaging the private sector, NGOs and other relevant organizations to take action together with facilitating greater national coordination for GGW implementation. Cohesive partnership messages and tools on GGW matters and impacts are also needed to explore the opportunities for collaboration among government agencies, the private sector and NGOs to strengthen GGW implementation at the national levels.

Regional and international coordination should involve working with the PA-GWW that could act as a GGW Regional Coordinator, prioritizing and addressing GGW actions and finance at the regional and international level to ensure



coordination on cross-border matters and working with donors when addressing the GGW as a whole beyond the scope of an individual country.

Improving GGW project and programme development and implementation should include increased exchange between countries and project developers/managers to share knowledge, experiences and good practices and benefit from each other's experience. The same applies to exchange among government entities in the establishment and maintenance of the required framework conditions, related structures, and processes.

The development and establishment of a facilitation mechanism or platform can provide assistance at the regional level, fostering cross-border information and knowledge exchange, while providing hands-on and targeted assistance at the national level. This includes replicating successful cases and adopting best practices that have achieved results elsewhere (for example, farmer managed natural regeneration,) (see the map below)[26]. Rooting the knowledge management and information sharing measures in the PA-GGW at the regional and the national levels requires a certain level of institutionalization. These knowledge managers should engage with the coordinators at the initial stage, with necessary financial and human resources be allocated for this purpose without over-complicating the administrative structure or compromising the efficiency.

Resources should include a dedicated online GGW facilitation platform as part of the existing GGW web presence, GGW/regional and national online and targeted in-person technical assistance, capacity development and related good practice and lessons learned events, on-the-job trainings, related materials and media activities. The facilitation platform can be used by the newly created facility and its team to conduct more targeted interventions, build the GGW network and create the project portfolio at the PA-GGW and the country level. The PA-GGW and the national level GGW offices would also conduct regular, annual GGW information and knowledge-sharing activities, prepare an annual State of the GGW publication, foster dialogue between state and local community leaders, scientists, resource managers and policymakers and develop integrated international partnerships to further the GGW implementation.

5.2.2 Continue advocacy and global awareness raising

Continued global awareness raising needs to accompany the technical and financial elements of accelerating GGW implementation over the coming decade to help the international community better understand the GGW issues and their consequences, generating the will to act and contribute to the GGW success.

An example of successful outreach is the film "The Great Green Wall," directed by Jared P Scott, and produced in association with the UNCCD with the Malian singer Inna Modja as the central actor. The film takes the viewers on a musical journey through countries of the GGW, explaining the issues, their impact on local populations and the environment, as well as the GGW achievements to date.

Successful communication products can have a great impact on the political will to address the highlighted issues, mobilizing the international community to provide finance and prompting national institutions and individual contributors to act for GGW. Increasing the outreach of the GGW through media can create a momentum for global solidarity to make GGW a reality.

[26] This requires a range of basic assessments and strategies, such as the identification of common success factors and challenges, the careful assessment of baseline situations, as done for some of the GGW countries in the AAD project (Sacande et al. 2018), as well as the identification of suitable locations in need of restoration. The latter could be guided or inspired by a recent map of the restoration potential in Sub-Saharan Africa, including the GGW countries.

5.2.3 Accelerate and scale up project generation[27]

The generation of new, bankable projects that can contribute to advancing the GGW at the required speed is another crucial element that necessitates dedicated, professional, and targeted support via a facilitation mechanism (see Chapter 5). Several projects of varying size, technology and success have been implemented along the GGW. However, a rather limited number of projects are ready for investments. This indicates the need to increase the number of projects on the ground, exploring ways to initiate new programmes or projects and supporting the development of larger and longer-term programmes next to individual, larger projects. Specifically, the following activities are already part of the GGW scope but need to be better funded and scaled up:

- Analysis of the potential for environmental development projects in the GGW region to deliver saleable services to the environmental markets
- Analysis of the potential to improve the inception of projects in the GGW region by looking at past/ongoing project preparation facilities and relevant programmes and mechanisms (GCF, GEF, FAO, etc.)
- Review of relevant types of projects or programmes, which have been successful in the arid areas in Africa and elsewhere; in particular, review international and regional land restoration initiatives as well as initiatives that support other successful SDG relevant projects (for example, land use, forestry or agriculture projects) and evaluate how these may be replicated in the GGW countries
- Creating a catalogue of relevant project types and descriptions of key elements to initiate and implement projects successfully
- Inclusion of other relevant project types, such as rural energy projects (cookstoves, biogas, solar PV) that directly complement land restoration activities by contributing to the achievement of SDGs as part of the GGW implementation.

Box 3: Private sector finance example: ADUNA project

Private sector engagement in GGW: demand-based and business-driven approach to focus on the market potential of under-utilized natural products in the region, including Moringa, Fonio and Baobab. To illustrate the potential of such types of enterprise, the ADUNA founders state that “more than 25% of the world's botanical species originate from Africa yet less than 1% find their way onto the shelves of health and beauty retailers” and more specifically about the potential of their product “Baobab could be worth as much as USD 1 billion to rural Africa every year, providing sustainable incomes for 10 million households.”

Through the establishment of local cooperatives, these products can be developed to a suitably high standard for the international market, with underwritten agreements by committed international buyers such as ADUNA to ensure long-term sustainability.

The map below provides an overview of the land restoration potential in Sub-Saharan Africa without considering other SDG-relevant projects.

[27] This includes also replicating successful cases and adopting best practices that have achieved results elsewhere (e.g. farmer managed natural regeneration). This requires a range of basic assessments and strategies, such as the identification of common success factors and challenges, the careful assessment of baseline situations, as done for some of the GGW countries in the AAD project (Sacande et al. 2018), as well as the identification of suitable locations in need of restoration. The latter could be guided or inspired by a recent map of the restoration potential in Sub-Saharan Africa, including the GGW countries.



Map of lands with restoration potential across Sub-Saharan Africa, from FAO 2019

5.2.4 Strengthen MRV and establish an integrated MRV system

The above-mentioned national coordination and knowledge management/information sharing units will support the identification of available monitoring and evaluation (M&E) expertise that can be brought to the GGW projects on the ground. This may include assistance with identifying such expertise for individual projects and working with existing rosters (see above on tapping into relevant existing networks and partnerships), while looking for synergies and efficiencies in organizing specific M&E aspects. In particular, the collection and aggregation of data for reporting and evaluation purposes at the national levels, making use of relevant government organizations and structures at the national and local levels and/or looking for (private sector) expert organizations that can be charged with such tasks. In case a country has severe capability gaps, cross-border support should include regional/GGW coordination and knowledge management/information sharing. MRV of GGW actions and financial flows is the area where the facilitation mechanism can provide assistance, supporting the establishment of a shared and integrated GGW-wide system.

The integration of cutting-edge international monitoring and reporting standards will be important for each country and the region. It is necessary to design and establish a monitoring system for GGW projects and the entire GGW to improve the success rate and tracking of land restoration and other GGW activities, including rural energy projects. This MRV system should cover technical, environmental, and socio-economic as well as the financial aspects of these projects or programmes and should be as comprehensive as possible while also ensuring usability. A pragmatic approach would mean building upon existing monitoring guidelines and standardized approaches, for example from sources such as the FAO [28].

[28] Relevant resources for land restoration include a recent FAO guidebook on how to determine relevant indicators to be monitored (FAO 2019a: 'The road to restoration: A guide to identifying priorities and indicators for monitoring forest and landscape restoration', as well as the 'Monitoring and Reporting Tool for Forest and Landscape Restoration' developed as part of the AAD project (FAO 2019b).



Through the AAD, the FAO is supporting the GGW programme (AUC/PA-GGW/NA-GGW) to establish monitoring and best practices tools with trainings and continuous field data collections. A monitoring and reporting system must be easily usable on the ground while including all relevant indicators. The implementation of this system can be enhanced with remote monitoring and satellite imaging, for instance in form of the Open Foris Collect Earth tool [29] that uses high-resolution satellite images available from Google Earth and Bing maps to assess tree-cover density and land use.

The use of RBM/RBF approaches that have become the international standard for the development and management of environmental finance projects and programmes at the local, national and GGW levels needs to be ensured. Tracking and MRV of financial flows at all levels will need to become an integral part of setting up the integrated MRV system at the local and regional level. This system would fulfill a double purpose: 1) regular monitoring and reporting at the local, national, and regional levels at the required intervals; 2) learning and good-practice materials, tailored to the needs of the GGW. The first can be used for internal and external reporting purposes, including to the investors and promoters, while the latter will support learning and improvements, accelerating the implementation of the GGW.

Addressing financial aspects of the required MRV capacities will be partly possible through the expected and dedicated support for the development of such expertise. Furthermore, the proposed GGW fund and facilitation mechanism may be able to fill the remaining financial gaps not covered by domestic resources.

5.2.5 Create a structured approach to mobilizing finance

A structured approach to mobilize the required funding for meeting the 2030 GGW target should both reinforce member states' allocations and attract external funds. Several aspects linked to the financing of the GGW to enhance the mobilization and improve the planning and absorption of financial resources are important and need to be tackled:

- Strengthening follow-up and monitoring of projects and the costs associated with their implementation as part of a dedicated MRV system
- Optimizing financial resources allocated in a transparent manner, building the capacity of government actors to manage the project finances and access the international funding, as well as mobilize additional national resources from the public and private sector
- Building the capacity of national actors to access existing funding at the international level from public and private sources
- Assess existing funding options such as the African Risk Facility under the Africa Union, as well as continental, sub-regional and national banks (AfDB, BOAD, BEEAC, the Agriculture Bank, etc.). Involving these financing institutions to implement Payment for Environmental Services (PES) mechanisms has a lot of potential, possibly in association with micro financing networks
- Alternatively, establish an organized and structured option for greater mobilization of financial resources and improved planning to successfully implement the GGW through a GGW financing facility or a GGW trust fund. This recommendation is further elaborated in the next section to present strategy and actions that can accelerate the implementation of the GGW and mobilize the required investments, making the establishment of a fund and facilitation mechanism essential

5.3 A STRUCTURED APPROACH TO MOBILIZING THE REQUIRED FUNDING

The main challenge in the implementation of the GGW at the required scale and pace is accessing funding, especially for financing projects on the ground, but also for the institutional framework required to support the GGW as well as the initiatives that improve the effectiveness of finance use and allocation. This is also the case for financing an exchange platform mechanism between countries and project developers.

Before mapping the ways forward, it is important to understand the funding sources available and the most efficient way to access them. Securing adequate financing for the implementation of the GGW can be difficult and should be done using a carefully designed approach.

An ambitious initiative such as the GGW can galvanise the interest of a great number of financial sources as it falls within the mandate of several agencies, with land restoration high on the international agenda (see Chapter 2) and instrumental to the development of the African continent. With its relevance to multiple environmental and development objectives (see Chapter 3.2 on the GGW's contribution to the SDGs), the initiative can tap into additional climate finance and innovative financing mechanisms – for example, valorisation of environmental services such as carbon sequestration and further PES[30]. Through such mechanisms, financial incentives can be offered to farmers or communities in exchange for ecological services. The importance of adaptation and related funding to create more resilient production and supply chains plays a role in the land use sector as well. In addition to conventional public sector and multilateral funding for such activities, there are many examples of private investors engaged, including international corporations (for CSR or marketing purposes) or social investors.

5.3.1 Characterisation of available funding sources

Available funding sources can be divided into:

- Public and private sources which expect substantial environmental and social returns rather than financial gains,
- Sources which expect financial returns in addition to environmental and social returns.

These include many sub-sources with varying characteristics that may be tapped into depending on the timing, size, level of risk and overall conditions of projects or programmes. The following actors and groups can be assigned to the categories defined above:

- Public sources which do not expect financial returns include local funding sources (national and regional), international multilateral sources, such as the World Bank, the GEF, African Development Bank and the Green Climate Fund, and bilateral funding that originates from specific country governments, for example Germany, France and Japan. Such sources are commonly coupled with Technical Assistance (TA).
- A number of private and non-governmental sources that do not expect financial returns:
 - Philanthropic organisations (e.g. Bill & Melinda Gates Foundation)
 - NGOs
 - Donation via impact investing
 - Donation via crowdfunding
- Sources that expect financial return: a large number of such sources are available, mostly private:
 - Large international public financial institutions (World Bank, AfDB, EIB and KfW)
 - The GEF blended or non-grant instrument[31]

[30] The concept of payment for environmental services (PES) goes obviously beyond carbon sequestration and GHG mitigation, covering biodiversity protection or protection and management of water resources, for example. However, apart from the more prominent and already in the GGW concept integrated carbon sequestration component this report cannot further elaborate on such other environmental services.

[31] Under GEF7, USD 136 million have been agreed during the replenishment to increase the role of the private sector. In GEF6, a particular effort was done to find ways to generate global environment benefits beyond the usual climate change mitigation focal area. Several initiatives, as the Moringa Fund or “&Green”, have been supported to generate new business models in agriculture and food production.

- Local financial institutions (banks and other financial services providers)
- Small businesses facilitators (business angels, private equity/venture capital)
- Large multinational companies (who have vested interest in local production)
- Carbon asset buyers
- Impact investments
- Crowdfunding
- Climate bonds and green bonds, in case of large projects or a number of aggregated projects the issuance of bonds could be contemplated, and
- Insurance and mitigation of long-term risk schemes

Depending on the programmes or projects, the sources can be combined, for instance blending grants and private debt with public financial guarantees. This can be also achieved through investments in projects via taking direct equities in return for access to local agricultural production. However, the most appropriate blend of finance sources should be designed for each programme or project. An appropriate combination of financial sources may help achieve long-lasting and replicable impact of a programme. A different source of finance might be available to finance different stages of a project and may be replicated for similar projects that have access to comparable sources of finance.

5.3.2 Accessing, managing and delivering funding for the GGW implementation

Individual conditions of a programme or project will dictate the type of funding sources and related financial instruments and mechanisms to be approached. A pilot project, even when offering potential financial benefits, may have to be financed by a grant, while a similar project that builds on a pilot, may opt for a partial subsidised loan or even benefit from small and medium-sized enterprise (SME) venture capital mechanisms. Likewise, philanthropic, or social impact investors may only grant funds to activities with proven concepts to avoid the risk of failure. When a project type is still untested it may best approach conventional bilateral and multilateral grant sources despite the administrative efforts and deadlines. However, properly structured initial projects with the right expertise on board, may qualify for other instruments, such as soft loans.

Size of a project is also important. Often one large project is easier to finance than several small ones from the administrative point of view of the funding provider, as it allows to achieve substantial environmental and social impacts all at once. Therefore, aggregation of smaller projects is an important tool to attract larger investments.

Two complementary vehicles may be considered to assist in the provision of finance for projects on the ground:

- the establishment of a “Great Green Wall Trust Fund” and
- the creation of a related investment facility

A trust fund will gather firm commitments on a certain level of funding for a predefined investment purpose, while a facility can match available funding sources with projects on the ground. Although the two vehicles are different in nature, they both depended on the same conditions for success:

- Access to sources of funding
- Ability to populate a pipeline of bankable projects in the GGW countries, and
- A reliable management of funds gathered and invested, mostly in terms of efficiency, transparency, and governance



A fund is capitalized for defined investment purposes and goals by public sources and, possibly, private sources. These would originate from the nature of the GGW and organizations currently driving the Initiative, assessed from the development and environmental finance point of view (sources may include individual countries as well as international organizations such as the Global Mechanism of UNCCD, GCF or the FAO).

A fund provides grants and offer other instruments or mechanisms (soft loans or innovative finance via the purchase of carbon).

Finally, a fund will have the power to disburse funds more promptly and efficiently but will only have access to limited finance. A facility instead has access to very substantial funding but needs to comply with requirements and processes of existing sources of funding. Therefore, the fund may be able to disburse finances promptly to initiate projects while the facility will finance the full implementation.

Box 4: The Land Degradation Neutrality (LDN) Fund

The Global Mechanism spearheaded the creation of the LDN Fund, which was co-financed by various partners, including GEF. It is an impact investment fund, blending resources from the public, private and philanthropic sectors to support the achievement of LDN through sustainable land management and land restoration projects implemented by the private sector. The LDN Fund provides long-term financing (debt/equity) for sustainable land use projects that will reduce or reverse land degradation. It operates according to robust environmental and social standards. The Fund uses a layered structure, leveraging public money to increase private sector investment in sustainable development. Technical assistance may be provided by an associated donor-funded technical assistance facility.

The LDN fund has gathered over USD 170 million. As an innovative financing mechanism, it aims to leverage public money to raise private capital for sustainable land management projects. The LDN Fund backed by large institutional de-risking partners, including the European Investment Bank and the French Development Agency (as anchor investors).

Source: <https://www.unccd.int/actions/impact-investment-fund-land-degradation-neutrality>)

A facility assists with the development and implementation of projects or programmes by providing relevant support in the form of direct technical assistance (support for studies and documents) to develop and implement projects. This ensures a reliable pipeline to feed into a fund's portfolio. The facility also assists with targeted capacity building related to the development and implementation of projects and programmes under the GGW Initiative, which is different to general capacity building efforts of donors. Such financial vehicle requires a small team to manage the facility and its activities.

Nonetheless, the two vehicles are complementary in many ways, bringing additional investors, increasing the pipeline of projects, and potentially lowering the administration costs by sharing some functionalities. They address the necessity to create a central funding support organization at the core of a fund or a facility, which can:

- Help projects and programmatic projects understand what sources of funding are appropriate
- Assist projects/programmes in the application for funding
- Operate on a pre-funding basis, contacting and meeting potential funding sources to provide information about the GGW

- Handle and organize fundraising via crowdfunding and other granular sources
- Convince funding sources of the feasibility/viability of a programme or project
- Explore the most appropriate funding structure for a programme or project, including the sources of funding. This may include a combination of various sources of finance and financial instruments
- Keep abreast of funding priorities of the various funding sources, both already engaged by the GGW and the perspective donors explore new funding sources and verify the proper utilisation of funds on the ground

In addition to funding on-the-ground land restoration measures, finance will also be needed to support an enabling institutional framework and governance structure. The regional cooperation and transboundary projects are also important to facilitate the exchange of experiences and information between the various projects along the GGW, such as the recent initiative by SOS Sahel. This cooperative approach could also involve developing a platform to aggregate farming products, so that they become accessible to remote buyers.

5.3.3 Creating a central mechanism/platform for the GGW

The presented analysis supports the idea of creating an IT-based central platform with several tasks to improve access to additional funding and to develop a larger number of projects. It would act as a mediator between GGW project developers and funding sources, and also provide technical support in the development of projects at the country level, including project facilitation, appraisal and structuring. This IT-based mechanism would need a team to develop and manage the platform that will support the work of the fund and the facility.

The platform would have two main streams:

- Continued fundraising, research on investors and assistance in identifying and matching various sources, finance mechanisms and Instruments to co-finance individual projects developed as part of the GGW Initiative; and
- Knowledge management and sharing as part of capacity building for GGW actors and stakeholders

In its first role, the platform would be a central source of information on funding projects for GGW project developers. It would assist project developers in:

- Understanding what sources of funding are available
- Exploring the most appropriate sources of funding for funding a programme or project
- Convincing funding sources of the qualities and potential success of a programme or project
- Understanding the application process for funding
- Organising fund arising for the GGW via crowdfunding and other granular sources

The platform would maintain links to the funding sources by engaging with potential and existing donors to keep them informed on the GGW progress and initiatives, laying the groundwork and staying abreast of funding priorities of various funding sources, while also exploring new sources of finance. The engagement with the funding sources and donors would help promote the GGW programmes and projects that will apply for funding, while coordinating the funding of projects and programmes when multiple sources of funding are involved. Finally, the platform could also assist in verification of proper disbursement and utilization of funds on the ground.

In its second role, the platform would support the GGW countries in identifying suitable activities to raise external funding and support the development of the documentation required as part of the application process.

This financing mechanism could be established in the form of an investment facility with the mission to identify potential sources of funding, assist in applying for funding and in its efficient use and distribution. It should be independent while working closely with GGW organizations such the PA-GGW.

REFERENCES

- African Union 2007. Declaration 137 VIII- Decision on the Implementation of the Great Green Wall for the Sahara and the Sahel Initiative.
- African Union Commission and PA-GGW 2012. Harmonised Regional Strategy (HRS) for implementation of the “Great Green Wall Initiative of the Sahara and the Sahel”. Document produced with support of the European Union, FAO, and the Global Mechanism.
- Bernal B, Murray LT, Pearson TRH 2018. Global carbon dioxide removal rates from forest landscape restoration activities. Carbon Balance and Management 13:22. <https://doi.org/10.1186/s13021-018-0110-8>
- EEX Africa 2020.
- ELD Initiative & UNEP 2015a. Report for policy and decision makers: Reaping economic and environmental benefits from sustainable land management. Bonn, Germany: Economics of Land Degradation Initiative.
- ELD Initiative & UNEP 2015b.
- The Economics of Land Degradation in Africa. Benefits of Action Outweigh the Costs. Authors: Gelaye M. T., Mungatana E., Singh A., Apindi E., Barr J., Zommers Z., Lund G. Bonn, Germany: Economics of Land Degradation Initiative.
- FAO 2004. Carbon sequestration in dryland soils. World Soil Resources Report 102.
- FAO 2019. Building Africa's Great Green Wall. Restoring Degraded Drylands for Stronger and More Resilient Communities. Authors: Nora Berrahmouni, Lars Laestadius, Antonio Martucci, Danilo Mollicone, Chiara Patriarca and Moctar Sacande.
- FAO 2019a. ‘The road to restoration: A guide to identifying priorities and indicators for monitoring forest and landscape restoration’. <http://www.fao.org/documents/card/en/c/ca6927en>
- AO 2019 b. FAO Monitoring and Reporting Tool for Forest and Landscape Restoration. Presentation by Nora Berramouni
- IPCC 2019. Summary for Policymakers. In: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems [P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.- O. Pörtner, D. C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, J. Malley, (eds.)].
- IUCN 2017. Africa & the Bonn Challenge: A demonstration of leadership. Forest Brief No 13.
- IUCN 2019. Gichuki, L., Brouwer, R., Davies, J., Vidal, A., Kuzee, M., Magero, C., Walter, S., Lara, P., Oragbade,C. and Gilbey, B. (2019). Reviving land and restoring landscapes: Policy convergence between forest landscape restoration and land degradation neutrality. Gland, Switzerland: IUCN. viii + 34pp.
- Leroux L, Bégué A, Seen DL, Jolivot A, Kayitakire F 2017. Driving forces of recent vegetation changes in the Sahel: lessons learned from regional and local level analyses. Remote Sensing of Environment, Elsevier, 2017, 191, pp.38-54. 10.1016/j.rse.2017.01.014. cirad-01952858
- Luedeling E, Sileshi G, Beedy T, Dietz J. 2011. Carbon sequestration potential of agroforestry in Africa. In: Kumar BM, Nair PK: Carbon Sequestration Potential of Agroforestry Systems: Opportunities and Challenges. Dordrecht: Springer. p 61-84.
- PA-GGW nd. Initiative de la Grande Muraille Verte: Stratégie de Mobilisation des Ressources. DOCUMENT CADRE DE STRATEGIE DE MOBILISATION DES RESSOURCES
- PA-GWW 2018. The Great Green Wall Status Report 2011-2017. Les échos de la grande muraille verte No.1.
- Sacande, M., Parfondry, M. & Martucci, A., eds. 2018. Biophysical and socio-economic baselines: the starting point for Action Against Desertification. Rome, FAO. 72 pp.

Stavi I. and Lal R, 2015. Achieving zero net land degradation: Challenges and opportunities. Journal of Arid Environments 112:44-51.

UNCCD 2016. Land degradation neutrality target setting: A technical guide. Bonn Germany: UNCCD

UNEP 2012. Sahel Atlas of Changing Landscapes: Tracing trends and variations in vegetation cover and soil condition. United Nations Environment Programme. Nairobi

WRI 2017. Roots of Prosperity: The Economics and Finance of Restoring Land. ISBN 978-1-56973-925-9.



6. ANNEX

6.1 APPROACH AND METHODOLOGY

The approach to this assignment was built around four distinct phases or activities, as specified in Figure 11 and briefly described below.

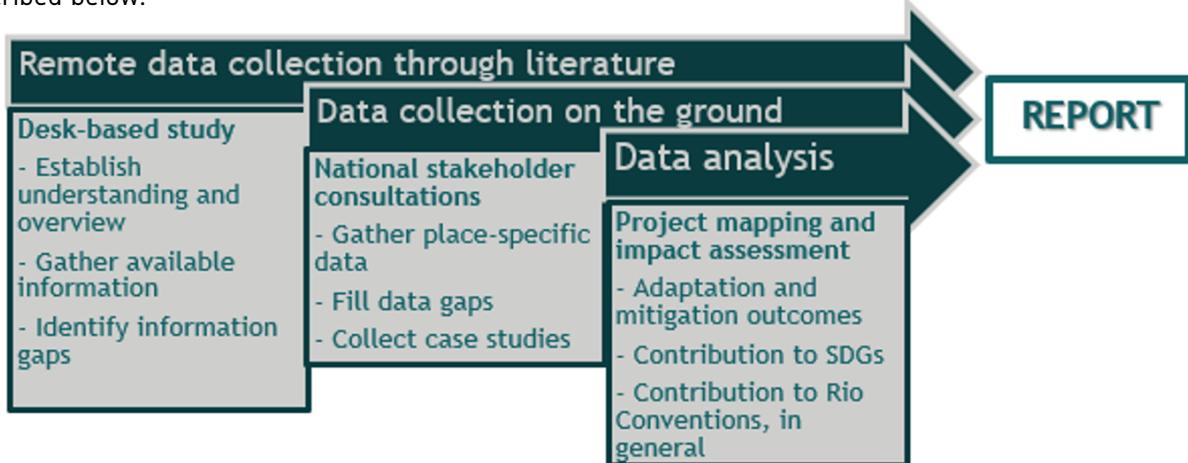


Figure 11 - Key elements of the adopted approach

- The first phase of the assessment consisted in orientation and the establishment of a sound background understanding of the GGWSI. Work was implemented remotely, through a desk-based assessment of existing evaluation reports, project descriptions and programme documents as well as underlying policy documents. The desk-based research helped to obtain a first understanding of the implementation status of the Great Green Wall in general and in individual countries, of progress and barriers experienced by the members, as well as of the amounts of funding pledged, disbursed and still required for further implementation of the initiative. Individual projects for each country were captured and collected in a database, to be complemented in subsequent activities.
- Country-specific information was collected in a second step for the eleven case countries. The data collection process was supported by the PA-GGW, funded by the Global Mechanism. In order to make data collection as efficient as possible, ClimateKos participated in a preparatory kick-off meeting alongside the 5th regional Steering Committee Meeting in Dakar, Senegal in November 2019. The aim was to define the scope and underlying definitions of the data to be included together with the GGW country representatives. In addition, the meeting was used to inform country representatives about the planned assessment, and the type of data to be collected. Discussions were held with local, national and international implementation partners of on-the-ground land restoration activities. After the meeting, targeted questionnaires were sent out to the country agencies and the PA-GGW for the collection of data.
- The third step was the compilation and analysis of existing data at national and regional level. The information contributed by the GGW focal points and agencies as well as the PA-GGW was distilled to provide a comprehensive overview picture of the current status of the GGW Initiative, in terms of project implementation status and impacts achieved, both at regional and national levels. An impact assessment was conducted in relation to the three Rio Conventions (UNCCD, UNFCCC & CBD) and the UN Sustainable Development Goals (SDGs). The criteria to measure impact drew on quantitative indicators for mitigation (carbon sequestration) and to some degree adaptation (increased resilience), as well as socio-economic aspects such as income generation and job creation.

- The results from Tasks 1, 2 and 3 above were then synthesized in a detailed landmark report which targets global decision makers and the general public. The report provides an up-to-date overview picture of the Great Green Wall Initiative, as well as a discussion section that reflects on the findings of the stocktaking exercise and provides recommendations for further implementation of the Initiative until 2030, outlining a roadmap and suggestions of how the identified barriers could be overcome.

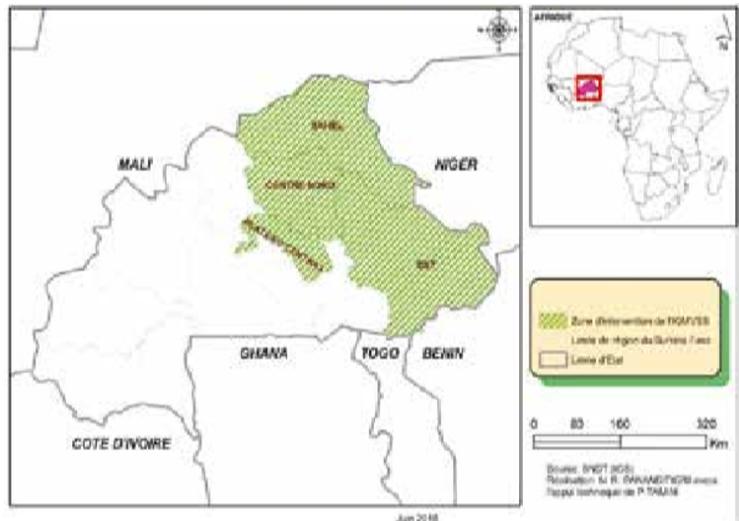
6.2 COUNTRY DATA

Burkina Faso

Burkina Faso is facing major environmental challenges, the degradation of land and water resources, biodiversity loss and the effects of climate change, which are aggravated by poor management of natural resources and increasing demographic pressure. Through the GGW Initiative, Burkina Faso aims to increase its resilience to climate change and land restoration. The emphasis is on activities that will minimize erosion and maintain soil fertility while increasing the sustainable use of non-timber products, as well as promote revenue-generating activities for women to ensure food security for households

GGW intervention area:

The priority intervention zone of the GGW in Burkina Faso encompasses four regions: Central Plateau, North Central, Sahel and East. These regions have been chosen because of their high level of land degradation and connectivity with neighbouring countries who are also part of the GGW. These four regions include 15 provinces and 101 municipalities for an area of 92,709 km².



Institutional & policy aspects:

Signature/ratification of the GGW Initiative: 2010/2010

National GGW institution: National Agency created in 2012.

Latest GGW National Strategy and Action Plan: 2018-2022

Finance allocated to GGW activities (in USD):

Domestic finance: 1 424 000

External finance: 31 539 611

Key results:

- 16.6 million of plants and seedlings produced
- 20 383 hectares of reforested lands
- 250 hectares of dune fixing
- 29 602 hectares of restored lands
- 12 500 ha under ANR
- Approximately 2800 km of windbreaks
- 26 869 people trained
- 45 383 jobs created
- 6.5 million USD from IGA
- 51,633 improved households
- 19,913 kg of seeds produced (30 woody and 13 herbaceous species)
- 585 ha under protection

Case study: Forest Landscape Restoration and Sustainable Land Management in the Sahel Region

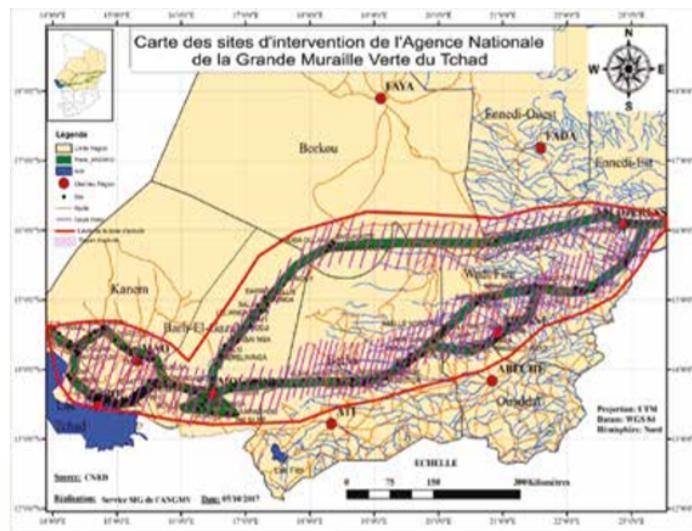
Donors	FAO, GEF, EU (through FFEM)
	 <p>FONDS FRANÇAIS POUR L'ENVIRONNEMENT MONDIAL</p>
Objectives	<ul style="list-style-type: none"> Restoration of landscapes Development of income-generating activities
Activities	<p>The project combines aspects of international governance or aspects which result from national commitments with local restoration actions. Three municipalities in Burkina Faso and three municipalities in Niger are assisted with the restoration of the landscapes of their territory and the development of income-generating activities, by setting up municipal financial services and a participatory decentralized management of natural resources.</p> <p>Intervention zone: Sahel and Eastern region (Burkina Faso), Tillabéry region (Niger)</p>
Funding in million USD	8.8
Start year	2017
End year	2021

Chad

Chad has been facing the harmful effects of climate change for nearly 50 years, which lead to accelerated degradation of land and biodiversity. This causes a decline in agricultural and fodder production, increasing food insecurity, famine, malnutrition as well as human and animal migration. To reverse this trend, several initiatives have been undertaken at a country level. The GGW Initiative is part of a complementary array of interventions to achieve the objectives of natural resource development, environmental protection, and stronger basic social infrastructure to reduce poverty.

GGW intervention area:

The layout of the Great Green Wall in Chad is located in the national territory portion between the isohyet 100 mm and 400 mm. The length of this route is about 2000 km, consisting of two braces on an average width of 15 km. The area of intervention of the GMV covers eight administrative regions, plus an additional one that was added later



Institutional & policy aspects:

Signature/ratification of the GGW initiative:
2010/2010

National GGW institution: The National Agency of the Great Green Wall created in 2012.

Latest GGW National Strategy and Action Plan:
Five-year national strategy document (2013-2017)

Key results:

- 1.1 million of plants and seedlings produced
- 994 hectares of reforested lands
- 12 755 hectares of dune fixing
- 1819 hectares of ANR
- 61 km of windbreaks
- 900 m² equipped with irrigation systems
- 810 people trained
- 307 jobs created
- 8067 USD through IGA

Finance allocated to GGW activities (in USD):

Domestic finance: 4 785 101

External finance: 770 969

Case study: Sahel alliance / Improving food security and healthcare access – RESTE

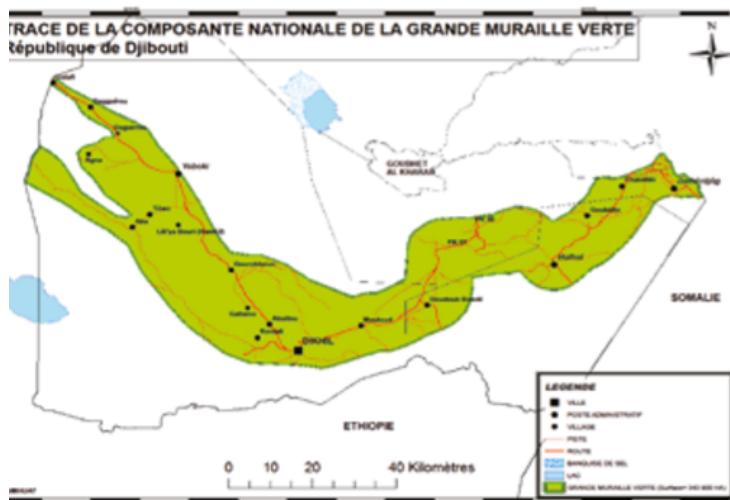
Donors	
Objectives	<ul style="list-style-type: none"> Help maintain social and economic stability in the region of Lake Chad and the Sahelian strip to the West of the country Targets young people and women, to improve their chances of access to a job or a lasting economic activity
Activities	n/a
Funding in million USD	27
Start year	2017
End year	2021
Status	Ongoing
Impacts achieved	<ul style="list-style-type: none"> 96.2 hectares of land benefitted from improved agricultural management 7939 people received food-security related assistance 3220 jobs have been created and 5000 people were assisted to developed income-generating activities

Djibouti

Due to difficult climatic conditions, oasis-type agriculture and extensive livestock farming are the only activities possible in Djibouti. The objective of the GGW Initiative in Djibouti is to ensure a secure, profitable, and sustainable agro-forestry-pastoral development, with GGW activities focusing on extending livestock farming to increase food security and avoid rural exodus.

GGW intervention area:

The GGW intervention zone covers 3 regions: Dikhil, Ali-Sabieh and Arta, and is split between 5 geographical units. The GGW corridor in Djibouti is approx. 209 km long and 15 km wide, occupying a total area of 342,826 ha. The population of this area is estimated at 120 000 inhabitants, 65% of which is rural (44% nomadic and 21% sedentary) and 35% is urban.



Institutional & policy aspects:

Signature/ratification of the GGW initiative:

2010/2011

National GGW institution: Implementation

Agency established 2011

Latest GGW National Strategy and Action Plan:

2016-2020

Alignment of the GGW with National policies:

The National Component of the GGW obtained status of a sub-directorate within the

Department of Environment and Sustainable Development

Key results:

- 90 hectares of reforested lands
- 32 hectares of ANR
- 6 hectares of restored land
- 24 people trained

Finance allocated to GGW activities (in

USD):

Domestic finance: 4 785 101

External finance: 770 969

Eritrea

The major part of Eritrea's territory is semi-desert and arid areas, so that nearly the whole country qualifies as GGW intervention zone. Policies and activities aim to promote soil and water conservation in catchment areas, farmland and along the rivers and streams. Community mobilization practices are key in the implementation of the GGW.

GGW intervention area:

The entire country is within the GGW intervention area

Institutional & policy aspects:

Signature/ratification of the GGW initiative:

2010

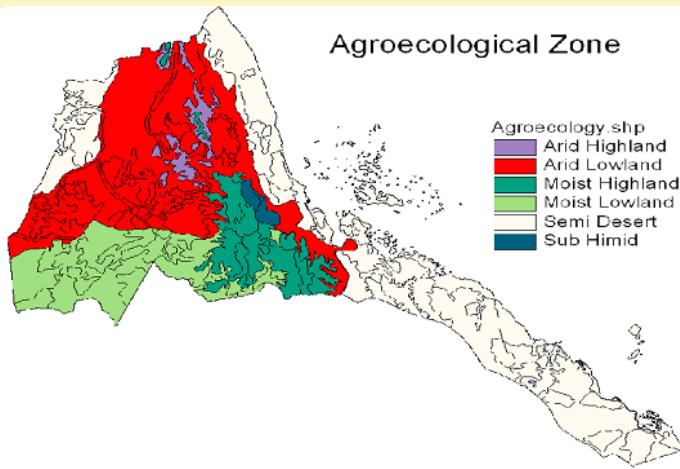
National GGW institution: National Focal Point – Ministry of Land Water and Environment

Latest GGW National Strategy and Action Plan:

There is no specific GGW action plan, other than the 2011-2015 plan. However, the Ministry of Land Water and Environment has a latest strategic plan for the 2020 to 2025 period

Alignment of the GGW with National policies:

- Eritrean Macro policy: 1994
- National Environmental Management Plan: 1995
- Interim Poverty Reduction strategy Paper: 2004
- Land Degradation Neutrality: 2017



Key results:

- 128.8 million tree seedlings planted
- 52,930 hectares of degraded area terraced and afforested
- 394,380 hectares enclosed/assisted natural regeneration
- 65,231 degraded farmlands terraced

Finance allocated to GGW activities (in USD):

Domestic finance: n/a

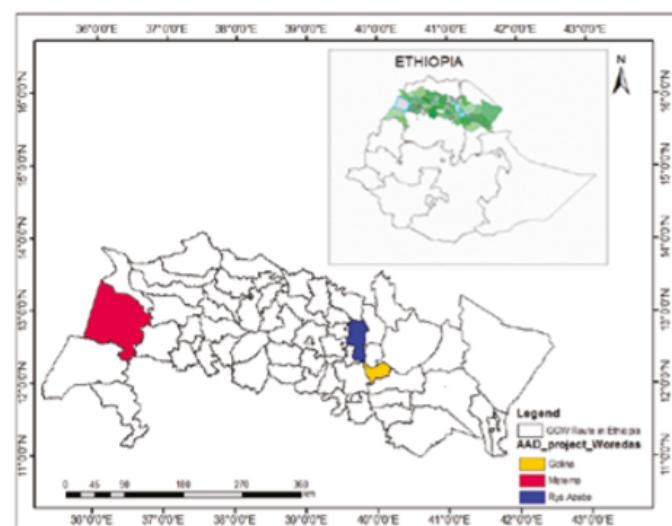
External finance: n/a

Ethiopia

Forests and vegetated areas in Ethiopia have been subjected to intense deforestation and degradation, with an estimated annual deforestation rate of approximately 91,000 ha per year. The Ethiopian government has pledged to restore 15 million hectares of degraded and deforested land by 2030. Activities under the GGW Initiative aim to conserve and restore land while creating income-generating activities to reverse migration flows to the restored areas. Thus, the GGW is fully aligned with national development and land restoration priorities

GGW intervention area:

The Ethiopian GGW extends from Sudan in the north-west to Djibouti crossing the lowlands of the north-east of the country and covers 58 woredas (equivalent administrative units of districts) in three national regional states. The GGW activities were implemented in 58 woredas as part of the government's regular natural resource management program.



Institutional & policy aspects:

Signature/ratification of the GGW initiative:

2010/2014

National GGW institution: A national focal point is located at the Land Rehabilitation Branch of the Ministry of Environment, Forests and Climate Change.

Latest GGW National Strategy and Action Plan:

2016-2020

Finance allocated to GGW activities (in USD):

Domestic finance: 482 975

External finance: 1 666 667

Key results:

- 5.5 billion plants and seedlings produced
- 151 448 hectares of reforested lands
- 792 711 hectares of terraces
- 240 hectares of multipurpose gardens
- 91 km of windbreaks
- 236 551 hectares of RNA
- 96 774 hectares of restored lands
- 893 706 hectares watershed management and forest
- 62 759 people trained and 218 405 jobs created

Case study: Sahel alliance / Improving food security and healthcare access – RESTE

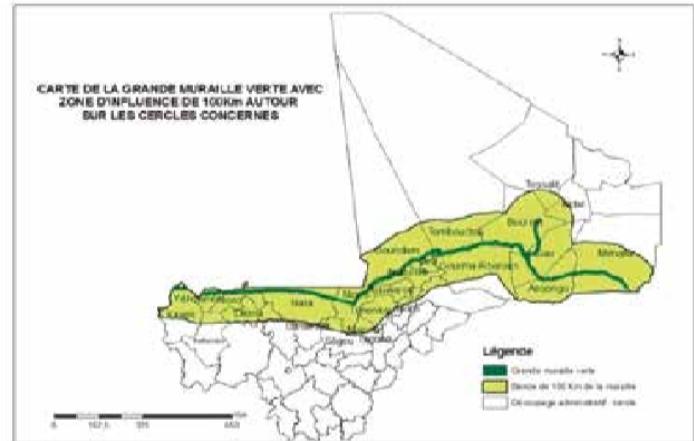
Donors	 <p>GREEN CLIMATE FUND</p>
Objectives	<ul style="list-style-type: none"> Providing rural communities with critical water supply for year-round drinking water and small-scale irrigation to address risks of drought and other climate impacts
Activities	<ul style="list-style-type: none"> Introducing solar-powered water pumping and small-scale irrigation The rehabilitation and management of degraded lands around water sources Creating an enabling environment by raising awareness and improving local capacity
Funding in million USD	50
Duration	2018-2023

Mali

Mali pursues an innovative and inclusive approach of synergizing actions to combat desertification, restore land and conserve biodiversity. In the context of the GGW Initiative, Mali focuses on the development of agricultural, forestry and pastoral production systems, the improvement of basic socio-economic infrastructures and the creation of wealth through the development of income-generating activities that contribute to stable food security and the revival of sustainable economic growth.

GGW intervention area:

In Mali, the intervention zone of the Great Green Wall covers all the localities between the isohyets 100 mm in the North and 500 mm in the South. The zone includes seven administrative regions (Kayes, Koulikoro, Segou, Mopti, Gao, Timbuktu, Menaka), 14 circles, 204 rural communities and 2,622 villages..



Institutional & policy aspects:

Signature/ratification of the GGW initiative:
2010/2011

National GGW institution: National GGW Agency
since September 2019, placed at the Ministry
of the Environment, for Sanitation and
Sustainable Development.

Latest GGW National Strategy and Action
Plan: 2011-2015

Key results:

- 135 472 of plants and seedlings produced
- 6 297 hectares of reforested lands
- 120 hectares of restored lands
- 41 hectares of ANR
- 18 hectares of dune fixing
- 891 people were trained/created

Finance allocated to GGW activities (in USD):

Domestic finance: 3 305 085

External finance: 23 476 931

Case study: Natural Resources Management in a Changing Climate in Mali

Donors	WB, GEF, LDCF, Government of Mali
	 GLOBAL ENVIRONMENT FACILITY <small>INVESTING IN OUR PLANET</small>
Objectives	<p>The objective of the project is to amplify the adoption of sustainable land and water management practices in the targeted communities of Mali to <u>improve</u> long-term resilience to climate variability and climate change of ecosystems and populations.</p> <p>The project has four components:</p> <ul style="list-style-type: none"> • Knowledge management and communication • Amplification of sustainable management practices • Coordination and monitoring • Evaluation of project activities
Activities	<ul style="list-style-type: none"> • Strengthen knowledge sharing mechanisms in SLM and climate change • Strengthen the institutional and technical capacities of the actors concerned for the integration of SLM in municipal development plans • Amplify good land management practices • Increase income and resilience of vulnerable communities
Funding in million USD	21.5
Duration	2014 - 2019
Status	Completed
Impacts achieved	<ul style="list-style-type: none"> • This project funded 658 income-generating micro-projects with 16,249 beneficiaries • 940 ha of forest and 1815 ha of land developed • The training of 176 members of eighty-eight village brigades around the forests on bush firefighting techniques

Mauritania

So far, the implementation of the GGW in Mauritania focused on the realization of a baseline situation of the intervention zone in 2014. In the near future, the National GGW Agency wants to establish a GGW National Alliance, implement the Continental Wetlands Program in the GGW corridor, accelerate the implementation of the GGW Initiative in the municipalities of Trarza and Brakna, and focus on the development of regional plans and cross-border projects.

GGW intervention area:

The GGW intervention zone covers six wilayas: Trarza, Brakna, Tagant, Assaba, Hodh El Gharbi and Hodh Charghi. The GGW corridor crosses 15 Moughataas, 45 municipalities, populated by 481,260 inhabitants, in addition to the department Chami, Chinguitti and the green belt of Nouakchott.



Institutional & policy aspects:

Signature/ratification of the GGW initiative:

2010/2013

National GGW institution: National GGW Agency since 2013; in 2017 establishment of 4 functional regional offices: in Trarza, Brakna, Chami and Chinguitti.

Finance allocated to GGW activities (in USD):

Domestic finance: 9 151 746

External finance: 1 486 667

Key results:

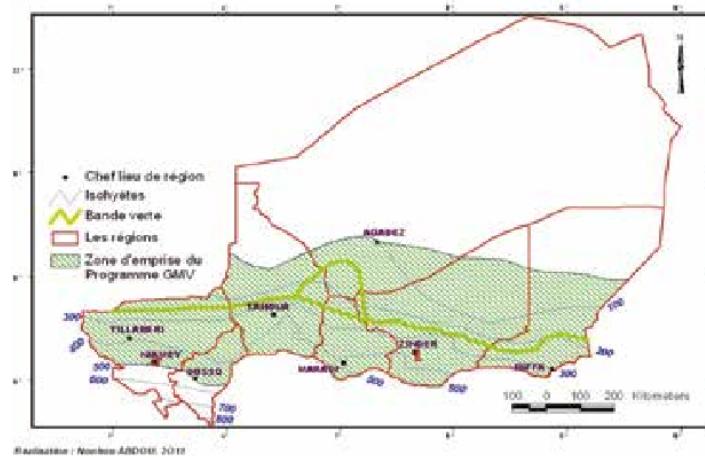
- 2 272 million trees planted
- 2 860 hectares of dune fixing
- 550 hectares fenced (protected)
- 350 hectares under direct seeding
- Over 2 000 000 plants/seedlings produced

Niger

The initiatives included in the Niger GGW implementation plan fall within various environmental and socio-economic domains and include activities such as the adoption of good practices in sustainable land and water management and improved farming techniques. The GGW Initiative should contribute to greening Niger and ensuring sustainable food security for people and livestock as well as increasing carbon sequestration.

GGW intervention area:

The intervention zone of the Great Green Wall in Niger is between the isohyets 100 mm in the North and 500 mm in the South and spreads over three climate zones from North to South: the Saharan zone, the Sahel-Saharan zone and the Sahelian zone. It covers the regions of Diffa, Zinder, Maradi, Tahoua, Agadez, Dosso, Tillaberi and Niamey and 228 municipalities.



Institutional & policy aspects:

Signature/ratification of the GGW initiative:

2010/2011

National GGW institution: National Agency of the Great Green Wall since 2012

Latest GGW National strategy and Action Plan:
2011-2015

Finance allocated to GGW activities (in USD):

Domestic finance: 7 796 610

External finance: 70 271 630

Key results:

- 146 million plants and seedlings produced
- 364 615 hectares of reforested lands
- 363 928 hectares of restored lands
- 310 hectares of ANR
- 80 040 hectares of dune fixing
- 1 200 people trained
- 21 487 jobs created

Case study: The Climate Smart Agriculture Support Project.

Donors	 <p>THE WORLD BANK</p>
Objectives	<ul style="list-style-type: none"> • Enhance adaptation to climate risks • Improve agricultural productivity among the targeted communities • In the event of a crisis or emergency, provide immediate and effective response
Activities	<p>Promoting SLM with coordinated interventions to:</p> <ul style="list-style-type: none"> • Optimize the management of different NRM activities (agriculture, livestock, forestry) • Take into account the external environment (decentralization context, policies, regulations, markets, etc.) that might alter the relationship between the stakeholders • Encourage inclusive stakeholder consultations
Funding in million USD	111
Duration	2016 - 2021

Nigeria

In Nigeria, the economies and livelihoods of communities living in dry region depend largely on soil, water, and vegetation cover. As these are increasingly threatened by desertification and recurrent droughts, the socio-economic development of the country's dry region is jeopardized. The GGW will prevent or reverse the degradation of ecosystems while improving the living conditions of affected communities by enhancing the provision of ecosystem services. One of the key components of the Nigerian GGW program is the establishment of a 1,359 km contiguous shelterbelt from Kebbi State in northwest to Borno State in the northeast, serving as a windbreak.

GGW intervention area:

The Nigerian GGW program is implemented in the eleven states of Adamawa, Bauchi, Borno, Gombe, Jigawa, Kano, Katsina, Kebbi, Sokoto, Yobe from Zamfara. These states, covering 43% of the Nigerian territory account for more than 40 million inhabitants and are most at risk from recurring droughts, land degradation and desertification.



Institutional & policy aspects:

Signature/ratification of the GGW initiative:
2010/in progress

National GGW institution: The National Council on the Great Green Wall (NCGGW) and an administrative structure of the GGW

Latest GGW National Strategy and Action Plan:
2016-2020

Key results:

- 7.6 million plants and seedlings produced
- 2 801 hectares of reforested lands
- 373 hectares of multipurpose gardens
- 709 km windbreaks
- 1 205 people trained
- 1 396 jobs created

Finance allocated to GGW activities (in USD):

Domestic finance: 482 975
External finance: 1 666 667

Sudan

Sudan faces many environmental and political challenges, including desertification and land degradation, water pollution, deforestation, soil erosion and biodiversity loss, as well as governance and security issues. Priority projects include sustainable management of natural resources with components on forestry, agriculture, livestock, and rangeland restoration, in addition to improved water harvesting.

GGW intervention area:

The configuration of the GGW in Sudan is located above latitude 14 degrees north, covering an area of 22,800 km². A 1520 km stretch from west to east, and 15 km wide, as adopted by the African Union.

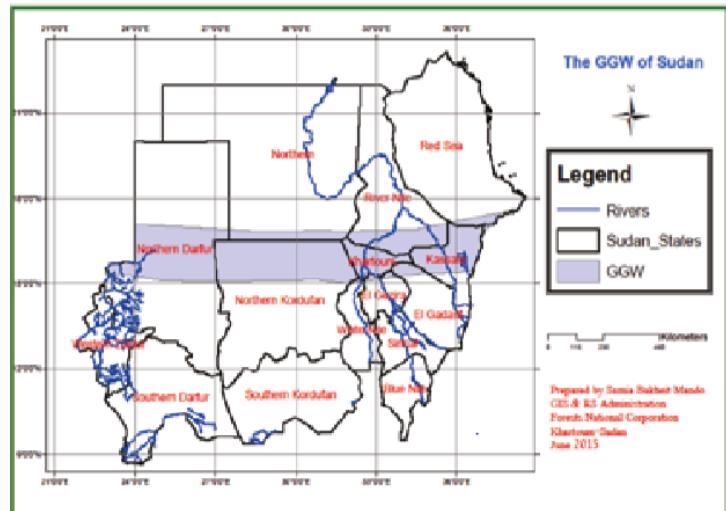
Institutional & policy aspects:

Signature/ratification of the GGW initiative:
2010/2011

National GGW institution: the National Agency of the Great Green Wall created in October 2010 and renewed in 2014 (decree)

Finance allocated to GGW activities (in USD):

Domestic finance: 0
External finance: 19 730 000



Key results:

- 1.9 million plants and seedlings produced
- 85 000 hectares of restored lands
- 2 500 hectares of ANR
- 1 716 beneficiaries

Case study: Sudan Sustainable Natural Resource Management Project (SSNRMP)

Donors	GEF & SAWAP  GLOBAL ENVIRONMENT FACILITY <small>INVESTING IN OUR PLANET</small>	 THE WORLD BANK
Objectives	<ul style="list-style-type: none"> • Increase the uptake of SLM practices in targeted landscapes (Kassala, Gezira and White Nile) 	
Activities	<ul style="list-style-type: none"> • Adoption of improved soil and water management practices • Forested ecosystem rehabilitation and rangeland management • Creation of sustainable, alternative livelihood activities related to natural resource management • Strengthened capacity to implement SLWM and biodiversity conservation 	
Funding in million USD	7.73	
Duration	2014 - 2018	
Status	Completed	
Impacts achieved	<ul style="list-style-type: none"> • Total land rehabilitated 21 747 ha: of which 15 448 forest restoration, 6 300 rangeland restoration • Soil rehabilitation: 210 ha • 650,000 seedlings produced • 170 women trained 	

Senegal

The operational activities of the GGW have been carried out since 2008 and are mainly focused on the restoration and development of agroforestry initiatives. In Senegal, activities under the GGW intervention zone aims to create enabling conditions to restore the foundations of food and energy security and maintain biodiversity while creating green job..

GGW intervention area:

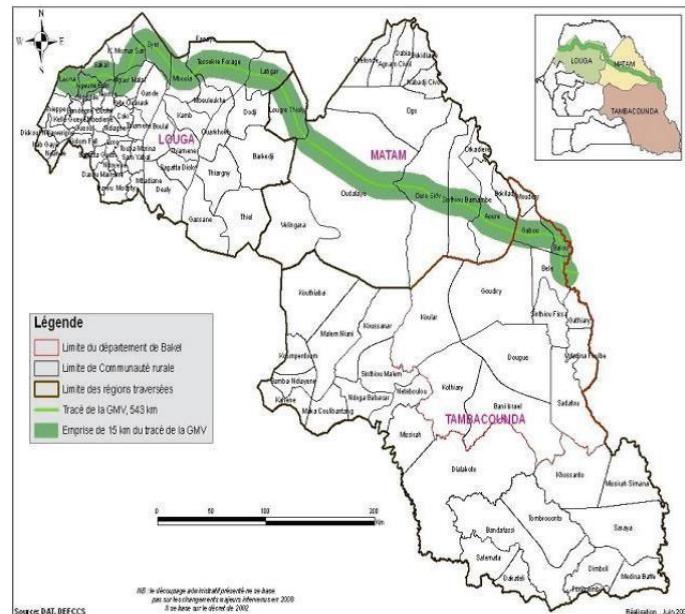
The length of the route is 545 km for an area of 817 500 ha. The area of intervention is dominated by pastoral activity with extensive breeding and agricultural activity. The intervention zone covers three administrative regions (Tambacounda, Matam and Louga), five departments and 16 municipalities. The population affected by this project is 322,221 inhabitants.

Institutional & policy aspects:

Signature/ratification of the GGW initiative:
2010/2014

National GGW institution: existence of a National GGW Agency since September 2019 placed under the supervision of the Minister of the Environment for Sanitation and Sustainable Development.

National strategy of the GGW and its Action Plan: the National Strategy and the Five-Year Action Plan of the GGW-Mali was elaborated and validated through in November 2012



Key results:

- More than 18 million seedlings/plants produced
- 72452 ha reforested area
- 13 2050 km of windbreaks
- 33 500 ha under ANR
- 119 202 ha restored area
- 2120 people trained

Finance allocated to GGW activities (in USD):

Domestic finance: 18 300 000

External finance: n/a

6.3 PROJECT LIST OF LAND RESTORATION ACTIVITIES IN THE ELEVEN CASE COUNTRIES

An excel sheet containing a list of activities identified so far is available upon request.



GREAT GREEN WALL

The Great Green Wall Implementation Status and Way Ahead to 2030 Climatekos gGmbH © UNCCD 2020. All rights reserved.

ISBN: 978-92-95118-26-3 (English e-version)

Produced in English and French

Disclaimer

This report was prepared by Climatekos gGmbH (www.climatekos.com) with the financial support by the Government of Ireland. The report constitutes an advanced version of a landmark report on the “State of the Great Green Wall”. Current issues linked to the COVID19 pandemic have prevented a proper data collection and meant that this report does not include most recent data. It does, nonetheless, represent an important collection of information and is able to provide the reader with an adequate picture of this very large scale and ambitious initiative of the Great Green Wall. A final complete version of this report will be made available in the second half of 2020.

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the United Nations Convention to Combat Desertification (UNCCD) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by the UNCCD in preference to others of a similar nature that are not mentioned.

The views expressed in this report are purely those of the writers and may not in any circumstances be regarded as stating an official position of the Global Mechanism to the United Nations Convention to Combat Desertification (UNCCD).



United Nations
Convention to Combat
Desertification