Les ECHOS de la GMV

AGENCE PANAFRICAINE DE LA GRANDE MURAILLE VERTE

PAN-AFRICAN AGENCY OF THE GREAT GREEN WALL

الوكالة الإفريقية للسور الأخضر الكبير

MAGAZINE D'INFORMATION - NEWS MAGAZINE - JUIN/JUNE 2018 N° 001

THE GREAT GREEN WALL INITIATIVE:

2011-2017 ACHIEVEMENTS AND CHALLENGES TO THE 2030 PATH

SPECIAL EDITION

GESTION DURABLE DES TERRES ET ECONOMIE VERTE • CHANGEMENT CLIMATIQUE, DEVELOPPEMENT SOCIO-ECONOMIQUE & GOUVERNANCE DANS LES TERROIRS • SYSTÈME D'INFORMATION, OBSERVATOIRE , ALERTE PRECOCE & REPONSE • RECHERCHE D'ACCOMPAGNEMENT & DEVELOPPEMENT COMMUNICATION, MARKETING & PLAIDOYER

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2016-2020 Strategy

Programs and projects portfolio

BP: 5059 Nouakchott - Mauritanie Tel: +222 45 25 56 88
Site Web: www.grandemurailleverte.org

Les ECHOS de la GMV

Published by :

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Dépôt légal 021/2018 - Tiré en 500 exemplaires/Printed in 500 copies

TABLE OF CONTENTS

FOREWORD

The current context in the Sahel-Saharan Band is clearly dominated by recurrent issues of desertification, land degradation and climate change. The acuteness and the importance of these challenges and their impacts on ecosystems, communities, and local populations in terms of sustainable management of natural resources, adaptation and resilience to climate change, socio-economic development of soils, as well as management of migratory flows and securing Sahelian lands remain at the heart of the concerns of Sahel-Saharan states and particularly those south of the Sahara. This difficult and persistent situation in the Sahel amply justifies the priority that African leaders and the entire international community attach to the effective and efficient management of these challenges in the Sahel-Saharan band (SSB).

By creating the Great Green Wall Initiative (GGWI), the Heads of State and Government of the South Sahara countries, who are among the hardest hit by this situation, have echoed the distress call of the Sahelian band population and their local communities' soils and the international community call. It is a matter of creating and implementing a strong and united African alliance through the Great Green Wall Initiative to tackle climate and environmental challenges together. The GGWI is the demonstration of leadership, change in basic assumptions and strategies of approach of the Sahel-Saharan band states to face the environmental and climatic and socio-economic development issues. It is also the result of a new concept and an innovative instrument for the sustainable management of natural capital, adaptation, and resilience to climate change of communities and local populations through regional cooperation built on the principles of solidarity and cooperation of actions. It is also a model for integrated development and local governance of Sahel soils. To seal and strengthen this alliance and to demonstrate their commitment to the proper implementation of the GGW Initiative, the Heads of State and Government of the Sahelo-Saharan States, based on the GGWI created on June 17th, 2010, under the auspices of the African Union, the Pan African Agency of the Great Green Wall to ensure the coordination and monitoring of achievements as well as the mobilization of necessary resources.

The GGWI draws its substance and vision from the major international issues of the United Nations Framework Conventions on Desertification, Climate Change, Biodiversity, and the Sustainable Development Goals (SDGs) and the 2063 African Union Agenda. It is consistent with regional, sub-regional, national, and local initiatives and policies in this area and integrates the sociological and anthropological realities, the basic socio-economic needs of communities and local populations as well as the economic potential of the soils.

The GGW Initiative concerns the entire geographical fringe of the Circum-Sahara which ranges between the 100 and 400 mm isohyets of average rainfall. It is currently implemented in eleven (11) Sahel-Saharan countries of the Sahel band

from the South of the Sahara in the Atlantic Ocean to the Red Sea.

The Global Harmonized Strategy (GHS) for its implementation is the result of the consolidation of the National Strategies of the States participating to the GGW Initiative and included in the coherence frameworks of national sectoral policies and strategies. The sequential approach of the technical itinerary is based on a five-year plan established since 2011, through the 2011-2015 and 2016-2020 strategies.

This book entitled **«Great Green Wall Initiative: Achievements from 2011 to 2017 and Challenges to the 2030 path»**, follows the two books published on the GGWI by Dia and Duponnois in 2011 and 2013 on the Great Green Wall. Its objective is to be a reference to better understand the Initiative, including the GGW concept and its relevance, the African vision, the multisectoral, holistic and ecosystem aspects and sequential approach. It also allows us to better understand the important steps taken towards the translation of the GGWI vision into tangible realities and positive impacts on ecosystems, communities, and local populations of the soils. It outlines the institutional achievements of the PAGGW and the main achievements in terms of key operational activities of SLM and Community Development and the analysis of their ecological impacts and economic development in the areas of the GGW route.

The book describes and analyzes country by country on the one hand, the main achievements with socio-economic impacts in terms of the fight against poverty and malnutrition, job creation, wealth generation and strengthening of social cohesion and on the other hand, the planned constraints, and solutions.

The international calendar of the year 2030 is a historic date, the meeting point of the international community for the achievements of international goals and commitments in the trilogy Climate / Environment / Sustainable Development. Thus, beyond the 2011-2017 report on the implementation of the GGWI, the book identifies relevant lessons to be learned and recorded in strategic approaches to issues on climate, desertification, and land degradation socio-economic development in Sahel-Saharan arid and semi-arid zones. The book displays also a «prospective» stamp on staking towards the triple point 2030, and draws up and assesses the GGW Initiative's Expected Possible Contribution (EPC) to the international and national commitments of the Member States in order to promote globally the achievement of the Sustainable Development Goals (SDGs), and in particular SDO target 15.3, to eradicate poverty, hunger and malnutrition and promote prosperity and well-being for people, while protecting the environment in a secure space. More specifically, the GGWI expected contributions on the 2030 path should focus mainly on issues such as (i) climate change management through the adaptation and resilience of communities and local populations as well as mitigation and transition to the green economy through national defined contributions (CDNs/NDCs), (ii) combating desertification through restoration and land reclamation for achieving land degradation neutrality and capitalizing on best SLM technologies ; iii) preservation and enhancement of biological diversity through restoration and conservation of

ecosystems, strengthening and enhancement of ecosystem services and (iv) Green Economic Transition (GET) and Sustainable Development through good governance and inclusive social and economic development and (v) over time, the management of migratory flows and the securing of the Sahel in the Corridor. Great Wall Green space and its areas of expropriation.

Finally this book on the **Initiative of the Great Green Wall issued in a special publication of the Magazine '' The Echos of the GGW "of the PAGGW is structured in three parts :**

- **the first part** *focuses on the elements of the conceptual and institutional framework and the Operational Implementation Strategy. It provides a better understanding of shared foundations, vision and goals, and conceptual and operational approaches. It is subdivided into two chapters devoted respectively to insights on the Sahel-Saharan Band (SSB) concept and the climatic and socio-economic environmental profile and to the conceptual, institutional and implementation strategy framework.*

-**the second party** *is related to the achievements and challenges recorded in the implementation of the 2011-2017 Initiative by the Pan African Agency of Great Green Wall Agency (PAGGW), in charge of the coordination and follow-up for the implementation of the GGWI and by the Great Green Wall member states,*

-**the third part entitled**: *Contributions to the GGW Initiative 2030 path in the international commitments of the Member States in terms of combating Desertification, Climate Change, Biological Diversity, and the Sustainable Development Goals (SDGs) and Management of Migration Flows. It is prospective and programmatic.*

Prof Abdoulaye DIA, PAGGW Executive Secretary

GENERAL INTRODUCTION

Desertification, climate change and land degradation have a major impact on the main levers of economic growth, social cohesion, stability, and security of the Sahelo-Saharan States. Despite various plans of action of struggle, the recurrence and recrudescence of the impacts recalled the urgency of a regional approach based on a common commitment and concerted actions. The Heads of State and Government of Burkina Faso, Djibouti, Eritrea, Ethiopia, Mali, Mauritania, Niger, Nigeria, Senegal, Sudan and Chad, referring to the decision of the 7th Summit of CEN-SAD of June 1st and 2nd, 2005 in Ouagadougou (Burkina Faso), have set up the Great Green Wall Initiative (GGWI), endorsed in 2007 by the African Union in Africa Initiative of the Great Green Wall for the Sahara and the Sahel.

For the implementation of this initiative, the Pan African Agency of the Great Green Wall (PAGGW), an intergovernmental organization with international legal status, was created on June 17th, 2010 in N'Djamena (Chad) under the auspices of the African Union. (UA), the Community of Sahel-Saharan States (CEN-SAD) and the Member States. The PAGGW is governed by a Convention ratified by ten (10) of the eleven member states (Burkina Faso, Djibouti, Eritrea, Ethiopia, Mali, Mauritania, Niger, Nigeria , Senegal , Sudan , Chad) . The PAGGW Convention was registered at the United Nations (UN) on May 29, 2015, under No. LA41TR / 26082014 / I-52372B and at the African Union (AU) in 2016. Its headquarters have been transferred from N'Djamena to Nouakchott, Islamic Republic of Mauritania in 2013.

The PAGGW is the regional structure, in charge of the Coordination and Monitoring of the implementation of the Great Green Wall (GGW) as well as the mobilization of the necessary resources in relation with the African Union and the Member States. At the national level, it is represented in each of the Member States by a National GGW Structure, responsible for the implementation of Flagship Actions Priority Programs (FAPP) of the national GGW component. At the regional level, governance is ensured by a Local Committee for Sustainable Development (LCSD) at the level of Integrated Community Units for Sustainable Development (ICUSD) which constitute the entities at the base of the Local Economic Development (LED) architecture.

The operationalization of the implementation of the Great Green Wall Initiative (GGWI) is based on the Global Harmonized Strategy (GHS) at Five-Year Operational Planning. The GHS is based on (i) a Shared Vision and Goals, (ii) a Local Development and Governance Model, (iii) Sustainable Land Management Tools and Mechanisms, (iv) a Logical Framework for Intervention, (v) Program Portfolios; and (vi) a Funding Mobilization Strategy. Its planning is divided into two-year roadmaps based on the major orientations of the Summits of Heads of State and Government (SCEG).

The first five-year 2011-2015 GHS implementation cycle enabled the establishment of institutional and management bases and the installation of pilot activities in most of the GGW's high value-added lands on development socio-economic, adaptation and resilience of populations to climate change.

The second five-year 2016-2020 implementation cycle drawn up and adopted in 2016, is part of a logic of operationalization of the strategic objectives **of the five (5) Major Strategic Axes (MSA) translated into fifteen (15) Flagship Actions Priority Programs (FAPP) of the 2016-2020 Action Plan.** It capitalizes on the results acquired during the first cycle and develops a soil approach oriented towards concrete activities with results and tangible impacts on the ground falling within the trajectory of creation of Economic Emergence Rural Poles (EERP) in 2020 and Production and Sustainable Development Rural Poles (PSDRP) in 2025.

This book entitled «**Great Green Wall Initiative'': 2011-2017 Achievements in the Member States and Challenges to the 2030 path**», reviews the status of the implementation of the initiative during the first operational phase (2011-2015) and the first two years (2016-2017) of the second five-year cycle (2016-2020) of the GHS. It consists of four (3) main parts:

- the first part draws a Focus on the Implementation Approach and Strategy to better understand the Great Green Wall Initiative;
- The second part deals with the achievements from 2011 to 2017 and the Challenges on the 2030 path both at the PAGGW level and in the Member States;
- The third part is a summary of the GGWI's contributions to member states' international commitments to UN Conventions (CC, LCD, DB), the SDGs and the management of migration flows and analyzes the GGWI Challenges to the 2030 SDG path.

PART ONE

GGW INITIATIVE: CONTEXT, CONCEPTUAL AND INSTITUTIONAL FRAMEWORK AND OPERATIONALSTRATEGY

KEY MESSAGES

1. *The vulnerability of Sahelian states to the hazards of climate change and the impacts of desertification correlated with population growth, is without doubt one of the most important threats of the 21stcentury in the Sahelian zone and beyond,*
2. *In assessing the various initiatives implemented in the past, forty years later, results are still very mixed. Not only are the challenges and impacts still present and more pressing, but unexpected consequences of radicalization, insecurity and centripetal migration flows to the African continent have emerged in the Sahel-Saharan region,*

3.The Great Green Wall Initiative, an integrated approach to developing and securing the Sahel-Saharan band soils,

4. *The GGW Initiative translates a Vision, Leadership and Political Commitment of the States of the Sahel-Saharan Band to provide an appropriate and integrated response to desertification, land degradation, climate change, socio-economic development, and green economic transition on the 2030 path and towards 2063 Africa's Agenda,*
5. *Conscious of the vulnerability of food production systems to the effects of climate change, 195 countries decided to act under the Paris Agreement reached at the 21stConference of the Parties (COP21) in December 2015,*
6. *Seventeen (17)Sustainable Development Goals (SDG/ODD) to ensure peace and prosperity for the People and the planet by 2030,*
7. *Eliminate hunger, ensure food security, improve nutrition, and promote sustainable agriculture SDG2, agriculture and the food chain will have to adapt to climate change and contribute to mitigation efforts,*
8. *Preserving and restoring terrestrial ecosystems, ensuring sustainable use, sustainably managing forests, combating desertification, halting, and reversing the land degradation process and halting the loss of biodiversity (SDG15),*
9. *Sustainable Development Goal SDG15.3 is based on five (05) strategic objectives: improving the condition of affected ecosystems; the improvement of the living conditions of the affected populations; mitigation, adaptation, and management of the effects of drought, generation of global environmental benefits and Land Degradation Neutrality (LDN),*
10. *LND by 2030 will be achieved when the quantity and quality of terrestrial natural capital is stable or increasing despite the impacts of global environmental change. It relies mainly on the prevention and / or reduction of land degradation, the rehabilitation of partially degraded lands and the restoration of desertified lands.*

INTRODUCTION

Desertification, climate change and land degradation have a major impact on the main levers of economic growth, social cohesion, stability, and security of the Sahelo-Saharan States. Despite various plans of action of struggle, the recurrence and recrudescence of the impacts recalled the urgency of a regional approach based on a common commitment and concerted actions. The Heads of State and Government of Burkina Faso, Djibouti, Eritrea, Ethiopia, Mali, Mauritania, Niger, Nigeria, Senegal, Sudan and Chad, referring to the decision of the 7th Summit of CEN-SAD of June 1st and 2nd, 2005 in Ouagadougou (Burkina Faso), have set up the Great Green Wall Initiative (GGWI), endorsed in 2007 by the African Union in Africa Initiative of the Great Green Wall for the Sahara and the Sahel. For implementation, the Initiative relies on political and diplomatic governance at the level of the African Union and CEN-SAD and operational governance at the regional, national and local levels. Thus, the Pan African Agency of the Great Green Wall (PAGGW), intergovernmental organization with international legal status was created on June 17th, 2010 in Ndjamena (Chad) under the auspices of the African Union (AU), the Community of Sahel-Saharan States (CEN-SAD) and the Member States, is the regional structure responsible for coordinating and monitoring the implementation of the Great Green Wall (GGW) and mobilizing the necessary resources in relation with the Member States.

At the national level, the Pan African Agency of the Great Green Wall is represented in each of the Member States by a National GGW Structure, in charge of the implementation of Flagship Actions Priority Programs (FAPP) of the national GGW component.

At the regional level, governance is ensured by a Local Committee for Sustainable Development (LCSD) at the level of Integrated Community Units for Sustainable Development (ICUSD) which constitute the entities at the base of the Local Economic Development (LED) architecture.

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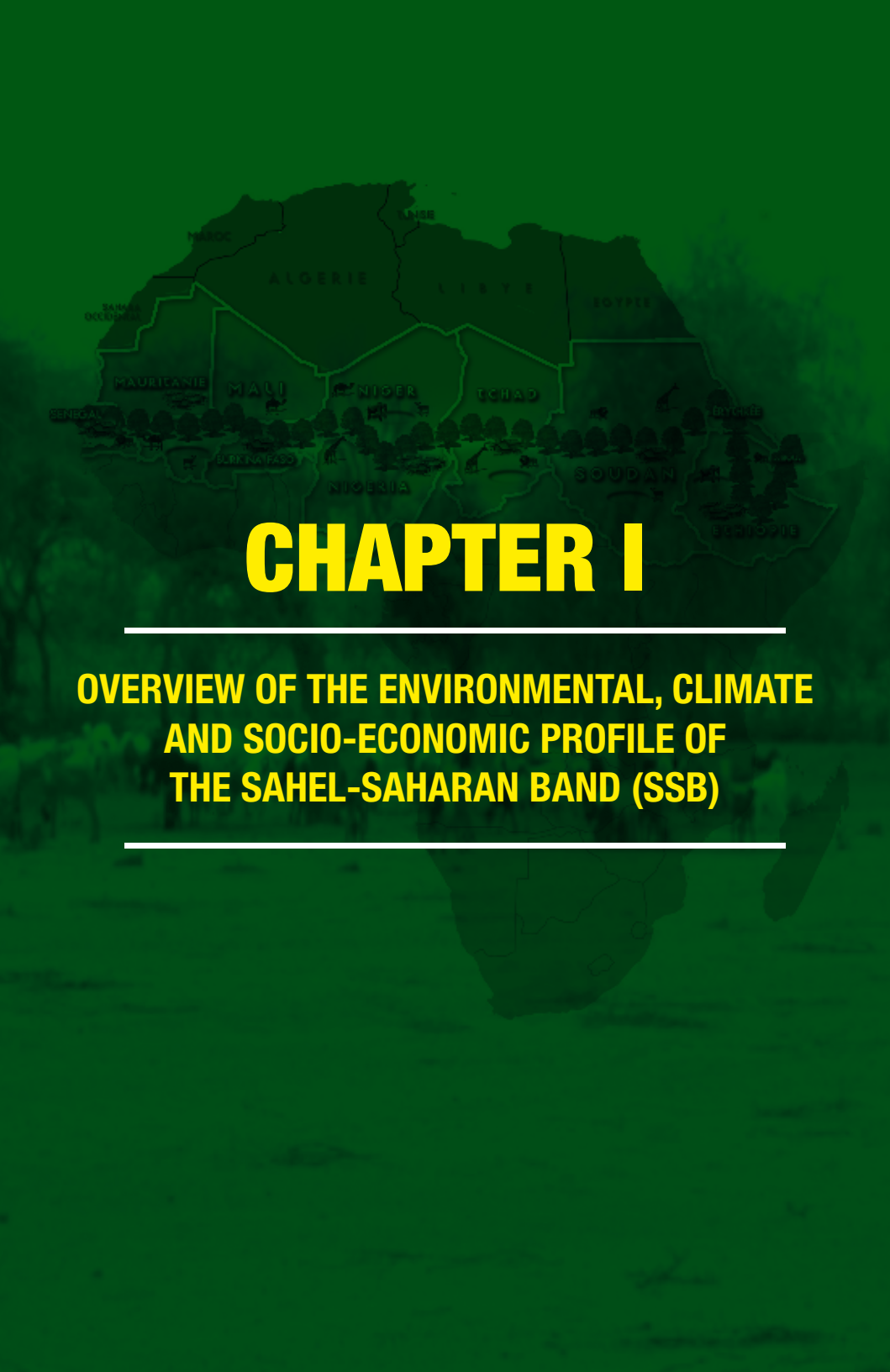
The part of the book entitled the “Initiative’s Context, Conceptual and Institutional Framework” and Operational Strategy focuses on the fundamentals, principles, and

strategy of the GGW Initiative. It is structured in chapters giving successively (i) an overview of the Sahel-Saharan Band (SSB), including the environmental, climatic and socio-economic profile (ii) the context and the conceptual and institutional framework, (iii) the approaches and the Operational Strategy, describing the strategic and operational approaches , tools and mechanisms for implementation, including local governance, tools and instruments of operations, five-year operational planning indicating the various projects and programs, funding and mobilization strategies.



CHAPTER I

OVERVIEW OF THE ENVIRONMENTAL, CLIMATE AND SOCIO-ECONOMIC PROFILE OF THE SAHEL-SAHARAN BAND (SSB)

1.1. SAHEL -SAHARAN BAND CONCEPT (SSB)

The definition and geographical delimitation of the currently widely used concept of the Sahel-Saharan Band (SSB) varies and diverges according to the target vision and context, including sociological, economic, political, eco-geographical, security and military. This polysemic expression (Chareun, 2016) is used according to the framework, the context, and the targets.

The SSB, locating the 30-member states of the Sahelo-Saharan States Community (CENSAD) created in 1998 in Tripoli, on an economic vision and Africa's economic and political integration, included in its northern part most of North African countries apart from Algeria and in its southern part, the sub-Saharan States on the line of the Atlantic Ocean to the Red Sea and down to Kenya (Fig.1). Some viewed this band as the natural interface between the North of Maghreb and the South of the Sub-Saharan Africa.

Eco-geographically and considering the physical, hydro-geographical and climatic parameters as in 2008 in the specification of the corridor and the Great Green Wall Initiative implementation, the name of Sahel-Saharan Band (SSB) instead of Sahelo-Saharan appeared in the framework documents of Strategy and Planning.

This new name is mainly due to the importance given to the physical and climatic parameters in the delineation of the corridor of the GGW Initiative. The Sahel-Saharan Band includes, on one hand, a portion of the southern part of the Sahara Desert and on the other hand, the Sahelian fringe known as the arid and semi-arid Circum Sahara in the North and South of the Sahara Desert.

Since 2012, with the upsurge of insecurity, instability and the patchwork of tensions related to the emergence of jihadism and more recently migration issues in Sahelian countries south of the Sahara, a military approach has replaced the vision of integration and socio-economic development and strategic military issues in the delimitation of the Sahelo-Saharan space. From military operations and strategies, the Sahel-Saharan band seems to be reduced to the Barkhane military operation zones and more recently in 2014 to the target zone of the interstate group of the five (5) countries of the Sahel (G5 Sahel, Mauritania, Mali, Burkina Faso, Niger, and Chad).

Beyond the considerations and opinions of delimitation and understanding of the concept of the Sahel-Saharan band, it remains clear that this region which gathers parts of the Sahara and the Sahel, constitutes one of the most complex geographical areas of Africa. A strong demographic, sociological, religious, cultural, and linguistic diversity, and a strong economic potential characterize it. It is a multifaceted diversity that gives it considerable wealth, remarkable cultural and biological heritage, and natural capital, which should be conserved, restored, and enhanced to ensure the coherence and viability of development and development strategies and the security of Sahel-Saharan zones. Confronted with a range of problems, diverse exogenous

flows, and the acceleration of socio-demographic dynamics, the SSB has become a structurally very fragile, very vulnerable, and very unstable zone, even volatile where, many challenges overlap.

The concentration of endogenous challenges, greatly amplified by exogenous factors not controlled in the SSB, is mainly defined in terms of social cohesion, social and economic development, environmental and climate management as well as security and management of migratory flows.

The Circum-Sahara part of the SSB and in particular the southern part of the Sahara Desert and primarily the corridor axis of the Great Green Wall, which extends from Senegal to the West to Djibouti in the East and which encompasses the G5 Sahel concerned area (figs.1 & 2), appears in all respects as the neuralgic zone, but very representative for establishing an environmental, climatic and socio-economic profile configuration of the Sahel-Saharan band.

Fig.1.Member States of the GGW Corridor in the Sahel-Saharan Band
Source : APGMV

Fig.2. Member States of G5 Sahel
Source : G5 Sahel

1.2 ENVIRONMENTAL, CLIMATIC AND SOCIO-ECONOMIC PROFILE OF THE SSB

The Great Green Wall Concept is also relevant in the analysis of the environmental, climatic, and socio-economic profile of the SSB and the southern part of the Circum Sahara, reference framework of the GGW Initiative.

Africa and, the Sahel-Saharan Band (SSB) is particularly confronted with the problems of desertification, land degradation and climate change. According to UNCCD statistics, about 45% of Africa's land area is affected, of which 55% is at a very high level of risk.

Hydro-climatic constraints such as rainfall and temperature have strongly shaped the natural environments of the Sahel-Saharan band (BSS). These natural environments have been cyclically subjected to the combined and persistent effects of recurrent rainfall deficits, drought and desertification which have particularly modified the environmental and eco-geographical profile of the BSS. Thus, these SSB environments are divided into eco-geographic and agro-climatic zones ranging from arid to semi-arid hyper-arid zones in the peripheral parts of the Sahara Desert.

Desertification, climate change and land degradation have major impacts on the main levers of socio-economic development and therefore those of the viability of agricultural and food systems, social cohesion, stability, and security in the States. In fact, the degradation of natural resources, basic production and agro-silvo-pastoral systems productivity, which constitute an important means of subsistence for local populations of Africa's arid and semi-arid zones and particularly those of Sahel soils, threatens strongly the access to domestic and nutritional needs. This recurrent situation in the Sahel has exacerbated the risks of tension and social conflict due to the strong competition for relics and the lack of alternative solutions.

In the Sahel-Saharan band, the arid to semi-arid zones occupy an average of more than one third (1/3) of the area in each territory. On these predominantly agro-sylvo-pastoral vocation soils, live essentially Communities nourishing and developing by the land and its natural resources. Their development and food security remain dependent on rain-fed agriculture, good land productivity and biodiversity. The natural potential of the Sahel is currently exposed to various forms of degradation, particularly over-exploitation, desertification, climate variability and anthropogenic pressure. These multiple aggressions, installed in the Sahel for decades have strongly affected, even destroyed, the immense natural heritage of the Sahel.

This context, amplified by the effects of climate change and inappropriate cultural practices, has led to a serious degradation of ecosystems, land, production systems and potential for rural development. All these hydro-climatic, climatic, and environmental impacts and their corollaries have strongly affected the biological natural capital, the lands, the ecosystem services, the bases of production and overall the socio-economic profile and the living environment of the populations of the soils of the Sahel-Saharan zone. The decline in production potential, particularly agricultural and pastoral productivity, and their value chains, resulted in a sharp loss of income and the situation of food and energy security and access to basic social services and installed the population living in these areas in a highly precarious situation. It is in this part of the African continent that the countries with the lowest Human Development Index (HDI) are located.

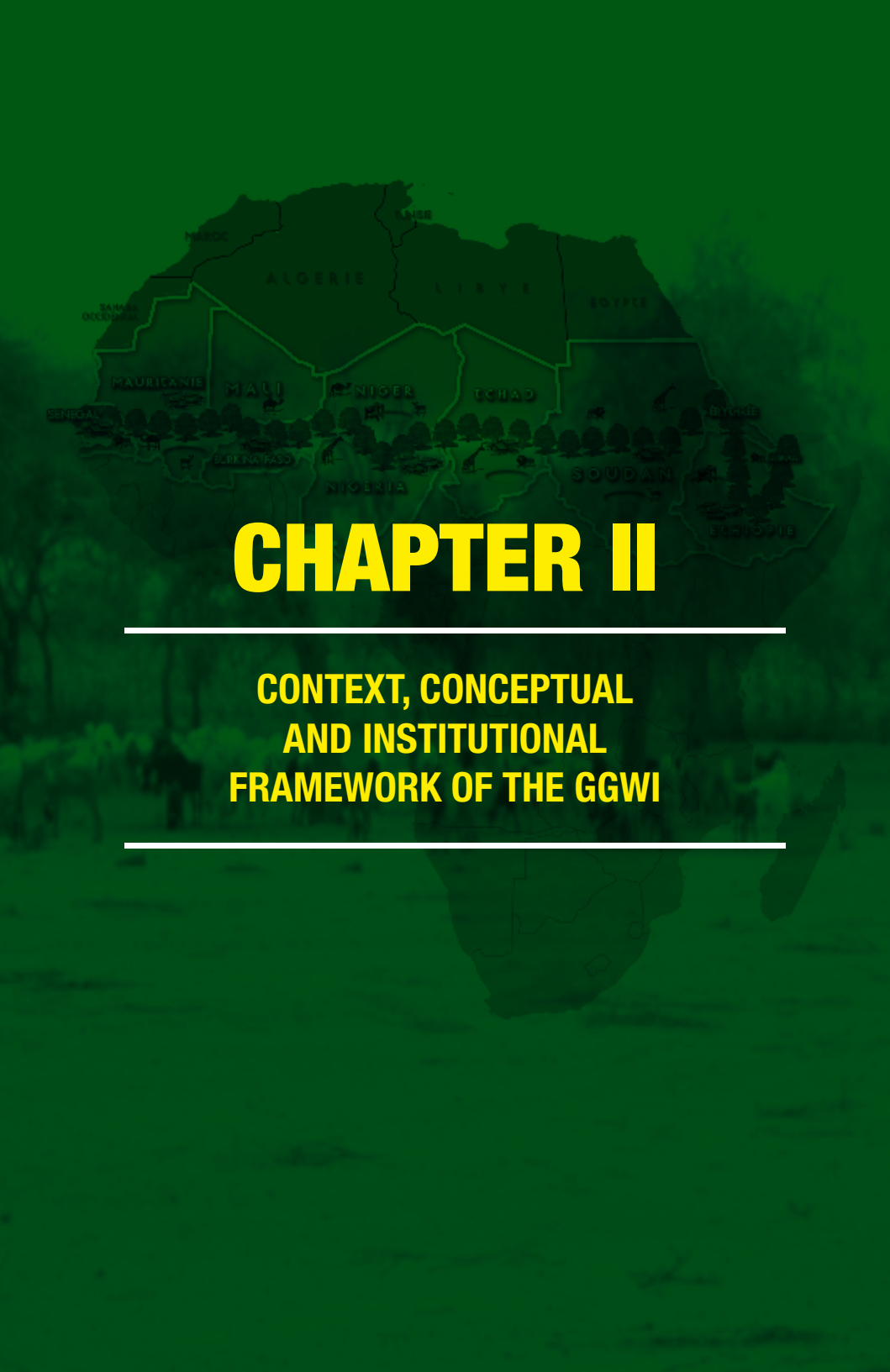
In highly exposed and poorly prepared Sahel-Saharan zones for the growing impacts of climate change and land degradation, particularly those in South Sahara, the already heavily affected bases and production systems have become even more vulnerable. The southern part of the Sahel-Saharan Band of the Great Green Wall Corridor is characterized by specific climatic, eco-geographic and socio-demographic footprint and an essentially agro-pastoral vocation that gives it a specific environmental, climatic, and socio-economic profile.

Multiple and varied impacts have affected large forest ecosystems and the rare relics of forests, real deposits of CO2 and regulators of greenhouse gas (GHG) emissions. The statistics on the state of degradation of forest heritage, although variable from one source to another, generally show significant rates of degradation or a strong trend of loss of areas of vegetation cover compared to those of bare land. These facts testify to the vulnerability of the highly exposed relict zones of the Sahel to the phenomena of desertification and land degradation that are even with the pressure on Chad at the gates of the traditional Congo forest basin. Statistics show, at the level of the eleven (11) countries of the Sahelian band of the South of the Sahara, an annual loss of vegetation cover of more than 1.8 million hectares (FAO, 2006), a significant reduction in the areas of arable land, an advanced degradation affecting annually more than 2 million hectares, resulting in a loss of fertility of the lands and consequently a fall of the agricultural production.

The recorded loss of arable land and the spread of arid lands in the Sahelian band, which seriously undermines at a time when population growth is on an upward slope and needs the substantial increase in agricultural production on which over 70% of Africans depend to achieve the goal of eradicating hunger and malnutrition in 2030 according to AfDB projects in its '' Feeding Africa '' program.

For Communities and Populations with a predominantly agro-sylvo-pastoral vocation, socio-economic development, food security and domestic needs are highly dependent on the availability of natural resources, including arable land, water resources, forest resources and land pastoral and their management and governance models. This situation is generally a source of disputes and conflicts, depopulation of arid zones, intensification of migratory flows, transhumance, and nomadism. In this context, the Sahelian soils have become breeding grounds for poverty, food insecurity, malnutrition and forced migration. This recurrent situation in the Sahel has exacerbated the risks of tension and social conflict due to the strong competition for relics and the lack of alternative solutions.

The vulnerability of the Sahel States to the vagaries of climate change and desertification impacts related to population growth are undoubtedly one of the biggest threats of the 21st century in the Sahel. In this context, the low-income countries of the Sahel suffering from these impacts are back to the wall and must quickly innovate their strategies and adapt to the challenges to build sustainable resilience and ensure economic development in these highly exposed areas. In this context, these Sahelo-Saharan States must imperatively for the survival of their economy, their social cohesion and their economic emergence implement on the scale of their land an operational model of Economic Development integrating this double challenge climatic and environmental.



CHAPTER II

CONTEXT, CONCEPTUAL AND INSTITUTIONAL FRAMEWORK OF THE GGWI

2.1. INTRODUCTION

The statistics on the state of land degradation, forest heritage and water resources, although variable from one source to another, generally show significant rates of degradation or a strong trend of loss of areas with vegetation cover. They agree globally on over 2 million hectares of land lost each year in the Sahel region in South Sahara. The various impacts that have severely degraded the bases and systems of production and natural capital (arable land, ecosystems and ecosystem services) have led to a decline in agricultural productivity and a fall in value chains and economic emergence capacities of soils and consequently a loss of income of the populations. In this context, the Sahelian soils have become breeding grounds for poverty, food insecurity, malnutrition and forced migration. This recurrent situation in the Sahel has exacerbated the risks of tension and social conflict due to the strong competition for relics and the lack of alternative solutions.

The vulnerability of States of the Sahel to the hazards of climate change and desertification impacts related to population growth is undoubtedly one of the biggest threats of the 21st century in the Sahel. To this end, the Sahelo-Saharan States must imperatively, for the survival of their economies and the social cohesion of their respective populations, implement at the scale of their land an operational model of Economic Development integrating the dual challenge climate and environment.

Faced with these challenges, countries and institutions have most often developed and implemented individually over the years different actions and control strategies with spatial planning schemes. At the institutional level, various national and sub regional specialized institutions have been created for this purpose. Conceptual approaches have also varied greatly. From the «greenbelt» concept with strong afforestation activity, the approaches have evolved into classic reforestation or revegetation actions associated with Sustainable Land Management experiences in drylands. Despite these efforts and some pockets of successes, the effects and impacts of desertification and climate change remain at the heart of Africa's priority concerns. In addition, one of the lessons to be learned from these experiences is that no single country has the technical, human, and financial means to deal with these major constraints. This situation calls for other alternatives and strategies to face the challenges.

The states of the band, and particularly those in South Sahara, are very exposed and unprepared to face the growing impacts of climate change and land degradation, the impacts of these environmental and climatic challenges and their corollaries have thus very strongly affected the bases and production systems, the living environment of the populations and the socio-economic emergence capacities of the local communities. The noticeable deterioration of natural capital, especially the production bases, has led to a decline in agricultural productivity and consequently in the income of the population.

The main issue of the Sahel-Saharan band is to develop and implement an operational strategy adapted to development and integrating the constraints,

the comparative advantages, the sociology of the terroirs and the adhesion of the populations and local communities. Indeed, the arid and semi-arid zones of this band represent remarkable cultural and biological heritage sites that should be conserved, restored, and enhanced to ensure coherence and sustainability in the Development and Security Strategy (DSS) implementation. Such realities call for the redefinition of an innovative African Initiative, built on a new approach and Harmonized Global Strategy for Socio-Economic Development and Sustainable Management of Natural Resources.

Such an Initiative, in its Objectives and Strategy, must be included in the overall African vision of regional integration, both economic and political, and in the direction of the 2063 Agenda of the African Union and in a short term around 2030, triple point of the objectives of the United Nations Conventions and the Sustainable Development Goals.

Faced with this situation, the Great Green Wall is the result of the translation of a Vision, Leadership and Political Commitment of African Heads of State and Government and an appropriate response from Africa for the struggle against desertification, restoration and sustainable land management, protection and conservation of biodiversity, development of agricultural and pastoral systems and intensification of actions to combat poverty and food insecurity.

This chapter recalls the issue of climatic and environmental impacts on the Sahel and the emergence context of the Basic Concept of the Great Green Wall. It also gives an overview of the conceptual and institutional framework of the Great Green Wall Initiative (GGWI).

2.2. PROBLEMATIC AND CONTEXT OF GGWI

Communities living in the Circum Sahara soil part in the Sahel-Saharan band (SSB) are essentially agro-sylvo-pastoral and are highly dependent on the restoration and conservation of natural resources, already severely degraded including land resources, water resources, forest, and pastoral. These relic resources are subject to strong anthropic pressure linked to survival competition, without alternative solutions in the short term. This particularly recurrent situation in the countries of the Sahelian Band of South Sahara has exacerbated the risks of tension and social conflict in terms of job losses and occupation of the most vulnerable groups, particularly young people, and women of the soil, of poverty and food insecurity despite pressing needs. Under these conditions, an acceleration of endogenous social dynamics with the bursting of family unities and centrifugal migrations to Sahelian soils mainly intra-African but now beyond the Mediterranean.

Research conducted by the Intergovernmental Panel on Climate Change (IPCC), shows that Africa is and will be the continent most exposed and least prepared for climate change. Thus, for the Sahel-Saharan countries, classified as fragile, highly exposed, and very vulnerable, the consideration and management of the «climate change» parameter must be at the heart of the priorities of the National Development

Policies and Strategies. National Strategies for Sustainable Development, in a national context of multiple challenges to the social demand and the achievement of the Sustainable Development Goals, must link the development / environment / climate triptych (DEC) in a relevant way and consider ambivalence economic growth and low carbon development. In fact, the context, and the endogenous realities in these states, in addition to this climate issue, the post-2015 period is also marked by a growing demographic dynamic, which will cause four (04) inhabitants out of 10 of the planet to live in Africa at the end of the 21st century (UNICEF, 2012) and as a corollary this requirement in terms of production and inclusive development.

Table 1 recalls some statistics on the member states of the GGW area (Burkina Faso, Djibouti, Eritrea, Ethiopia, Mali, Mauritania, Niger, Nigeria, Senegal, Sudan, Chad). In this GGW area, the population estimated at 396.8 million inhabitants in 2015, just over one third of the 1.186 billion inhabitants of the African continent are growing and is expected to grow to approximately 455.59 million inhabitants in 2020, with reference to the population growth rates recorded in 2015. The demographic explosion in this context of poverty in the Sahel will increase and accelerate migratory flows and amplify the social demand for job creation and well-being.

In addition, the analysis of statistics on environment and development of arid and semi-arid lands status indicators in the Great Green Wall countries (Table 2), showing some statistics on baseline status indicators in 2015 and 2020 and projections on changes in vegetation cover gains or losses between 2010 and 2020 in the member states of the Great Green Wall, confirms the vulnerability of Sahelian soils to environmental and climatic impacts.

This general context, which is very characteristic of the Sahelian band and particularly in its southern part of the Sahara, is the result of the perfectly well-established interactions of climate change, desertification, land degradation and loss of biodiversity. This natural capital potential, highly exposed to various forms of degradation, particularly over-exploitation, desertification, climatic variability, and anthropic pressure, installed in the Sahel for decades, has particularly affected, if not destroyed, the great natural heritage of the Sahel. Thus, the challenge in the management of the Sahel band in terms of development and security must be centered on an integrated approach to fight against climatic and environmental challenges. The priority will be in the framework of a concerted approach, to undertake at the scale of the Sahelian Band flagship actions on the one hand of restoration, conservation, and governance of Natural Capital and on the other hand, strengthening and valorization of local development potential to ensure socio-economic development.

In the face of this already alarming situation, the countries of the Sahel-Saharan region began as early as the 1970s to implement various national programs and action plans to combat drought and in the years 1993-1994 plans for Actions

to implement the three (03) UN Conventions of RIO, relating to the fight against Desertification, Climate Change and Biodiversity. At appraisal, after more than forty years, these various initiatives of struggle, yielded very mixed results. Not only these challenges still present and their impacts more pressing on communities and local populations and national economies and visible through degradation or even destruction of natural capital and production systems, widening areas of poverty and food insecurity but have also emerged other unexpected consequences of insecurity and centripetal migration flows to the African continent. The analysis of the lessons drawn from the National Policies, Strategies and Programs in the implementation of the objectives and orientations of the various Conventions of the field, of the United Nations recalled the urgency of a regional approach based on a common commitment of States, actions concerted efforts and pooling financial needs.

In this context, the countries of the Sahel fringe in South Sahara, with low economy, heavily impacted and very exposed and back to the wall have become aware of the magnitude of the challenges and the urgency to innovate their strategies and adapting them to the challenges in order to implement, an innovative mechanism more able to build in this context a sustainable management of resources and to ensure economic development and security in these highly exposed areas. One of the obvious lessons from these decades of implementation of various national action plans outside a global framework is that none of the Sahel-Saharan countries taken individually can cope alone and that a global community approach is essential.

The urgent response to this situation challenges the conscience of the entire international community and calls for a coalition for social and economic development and the restoration of fundamental basic balance. It necessarily involves an inclusive approach considering the sociological and anthropological parameters as well as the real aspirations of the local populations of the Sahel and federating relevant initiatives and actions underway in the Sahel. It is in this context that emerged in 2005, by the will of the Heads of State and Government of Sahel-Saharan states, the idea of creating a green band, founder of the Great Green Wall Initiative (GGWI)

Country	2015										2020					Key Sectors			
	Area (Km2) X1000	Area (Km2) X1000 of arid and semi-arid lans	Population X Million hbts	Avg Grrowth Population %	Prevalence Poverty%	GDP growth (%)	GNP (US $)	Agricultural GDP (%)	Forest area (x1000	Degradation X 1000 * 2 (Ha / year)	Population X 1Million hbts	Prevalence Poverty%	US GNP ($)	GDP growth (%)	Degradation (Ha / year) x 1000	Agriculture	Breeding	Forestry	Main Exports
Burkina	274,2	205,6	17,9	2,8	40,1	6,4	700	38	15 555	105	20,55	40,1	700	6,4	105	x			Co
Djibouti	23,2	18,5	1	1,5	79,4	7	1 030	2,9	560	16, 8	1,08	79,4	1 030	7	16,8	x	x		B
Eritrea	121,32	97	6,8	3,2	30	2,2	29,6	11,6	1532		7,96	30	29,6	2,2		x	x		M
Ethiopia	1 104,3	773,01	94,1	2,6	29,6	8,1	550	47,7	17 116,65	150	102,1	29,6	550	8,1	150	x	x	x	Ca
Mali	1 240	930	16,3	3	45	5	650	38	15 500	100	14,9	46,9	18,9	2,1	400	x	x		Co
Mauritania	1 030	824	3,7	2,5	31	6,4	1 270	17,1	4 385	127,2	4,19	31	1 270	6,4	127	x	x	x	M et P
Niger	1 267	1 013	17,6	3,9	48,9	5,4	410	37,7	16 000	80	21,31	48,9	410	5,4	80	x	x		B et M
Nigeria	923,7	369	178,7	2,8	46	4,3	2 970	20,6	9 000		205,16	46	2 970	4,3	9	x	x	x	Hy
Senegal	196	78	15	2,9	46,7	5,9	1 050	15,6	8 673	40	17,3	46,7	1 050	5,9	40	x	x		P, Ag
Sudan	1 861	1 395	38,4	2,1	46,5	4	1 710	26,8	69 000	50	39	44,8	84,07	4.9	50		x		Hy
Tchad	1 284	963	11,6	3		4,2	980	54,3	23 000	140	13,45		980	4,2	140	x	x	x	Hy
TOTAL	7 486,52	5 440	396,8	2		5			166 705		454,59								

Table 1: Statistical data on some indicators in the Great Green Wall Member States

The 2020 population data are extrapolated from the 2015 references, * 1 and * 2 sources : http://www.statistiques-mondiales.com/afrique.htm Fao: National Statistics Institute : M = Mine, P = Fishing, B = Livestock, Hy + Hydrocarbon, Ag = Agriculture, Ca = Coffee, Co = Cotto

COUNTRY	Area X 1000 Km2		% du territoire	forestière X 1000 ha		2010-2015 Perte/ Gain	
Country	Territory	Arid lands	2015	2010	2015	1000x ha	%
Burkina Faso	274.2	205	19.6	5,649	5,350	-299	-5.3%
Djibouti	23.2	18.5	-	-	-	-	-
Eritrea	121.32	97	-	-	-	-	-
Ethiopia	1 104, 3	281.7	11.4	12,296	17,116.65	203	1.7%
Mali	1,240	930	3.9	5,110	4,715	-395	-7.7%
Mauritania	1,030	824	0.2	242	225	-17	-7.0%
Niger	1,267	1,013	0.9	1,204	1,142	-62	-5.1%
Nigeria	9,237	369	7.7	9,041	6,993	-2,048	-22.7%
Senegal	196.19	78	43	8,473	8,273	-200	-2.4%
Sudan	1,861.48	1,395	10.3	20,082	19,210	-872	-4.3%
Chad	1,284	963	8.02	16,000	14,000	-4,000	-12%
TOTAL	27,805.69	6,174.20					

Table 2: Coverage and forest area variation between 2010 and 2015 (UN FAO 2015 Forest Resources Assessment)

In addition, statistics from the African Development Bank (AfDB) guidance document entitled Solutions for Climate Change: The Response to Impacts in Africa (2012). Indicate that in sub-Saharan Africa, 40% of the population does not have safe drinking water, 68% have adequate sanitation facilities and at least 625 million people do not have access to any form of modern energy and exclusively serve biomass. Statistical projections and estimates, notably those of the AfDB, predict a negative impact of climate change that could reach a cost of 3% of GDP for the African continent in 2030, corresponding to needs of US $ 40 billion a year in adaptation and mitigation. This context, particularly marked by the Universal Climate Agreement resulting from the Conference of the Parties (COP21) in Paris (France), is dominated by the issues of adaptation and resilience, of a strategy to reduce greenhouse gas emissions, sustainable land management towards degradation-neutrality, the green economy and climate-smart development, as well as the transition to the Sustainable Development Goals (SDGs).

African states faced recurrent cycles of drought that had ended up installing the premises of degradation of natural resources and production systems and

development potential with their corollaries in terms of poverty, food insecurity because of shrinking grazing fields and the bursting of the family fabric, have implemented since the 1970s various Programs and National Action Plans for the fight against drought and later Action Plans for the implementation of the United Nations Conventions of RIO . At the evaluation of these various initiatives, forty years later, results are still very mixed. Indeed, not only are the challenges and impacts still there and more pressing but have emerged from the unexpected consequences of insecurity and centripetal migration flows to the African continent.In the trajectory towards 2030, in accordance with the international and national commitments of the Member States in the United Nations Conventions and the SDGs, the adopted control Strategy will also have to make significant contributions to the Member States, notably the Nationally Determined Planned Contributions (NDPC).

In this context, the low-income countries of the Sahel suffering from these impacts are back to the wall and must rapidly innovate their strategies and adapt to the challenges to build sustainable resilience and ensure economic development and security in these highly exposed areas. Faced with this situation and the impossibility for individual states to deal with it, the Heads of State and Government initiated a concrete response by creating the Great Green Wall Initiative (GGWI). The GGWI translates a Vision, Leadership and Political Commitment of Member States to provide an appropriate and integrated response to issues of desertification, land degradation and climate change and to the green economic transition and the achievement of the Millennium Development Goals. Sustainable Development on the 2030 path and towards the 2063 agenda of Africa.

2.3.SHARED VISION AND OBJECTIVES

The communities and populations of the Sahelian soils used to draw from the natural resources of their lands the essentials of their food, nutritional, therapeutic, and energetic subsistence needs and forge their social, cultural, and spiritual cohesion and their security around this common heritage.

Recurring cycles of drought in the Sahel had ended, installing in the soil the premise of degradation of natural resources and production systems. These impacts particularly felt in these fragile, vulnerable, and exposed areas of the Sahel have strongly changed in the soils, the relations between Man and his environment. This context has favored poverty, idleness, the fragmentation of the social fabric and the loss of dignity and hope in the communities and populations of the Sahel.

In this context, the GGWI, expression of the appropriate and integrated response to desertification, land degradation and climate change issues and to the green economic transition and towards the achievement of the 2030 Sustainable Development Goals and in the trajectory of Africa's Agenda 2063, must convey a shared vision and goals. This Vision and Objectives of the GGW Initiative must be underpinned by a global solution for the development and local governance of

soils in a participatory approach to ensure by 2030 positive and very significant ecological and development impacts. The GGWI Vision and Strategic Objectives are the transformation of arid and semi-arid Sahelzones into the GGW corridor. This Vision and its Strategic Objectives supported by the GGW Initiative are the transformation of the arid and semi-arid zones of the Sahelian soils by 2030 into areas of economic prosperity that are perfectly secure and integrated with the national economic potential.

The IGMV is based on an integrated approach to developing and securing soil in the Sahel-Sahara band. It complements and reinforces the National Policies to Combat Desertification, Land Degradation, and the Impacts of Climate Change as well as those of Local Economic Development of Sahelo-Saharan States. The major objective is to contribute significantly to socio-economic development and the achievement of the Sustainable Development Goals to eradicate poverty and ensure the resilience of local communities and local populations. It also incorporates into its strategic objectives, those of the three (3) International Conventions on Climate Change, Desertification and Biodiversity, in the path towards the SDGs and in the dynamics of the African Union Agenda 2063. In the trajectory towards 2030, the operational route of the GGW, foresees the establishment towards 2020 of the emergence conditions of Rural Economic Emergence Hubs (PREE) and by 2025, the installation of Rural Hubs of Production and Sustainable Development (RHPSD) to build the 2030 path.

2.4. CONCEPTUAL FRAME

2.4.1. HISTORICAL

The Initiative of the Great Green Wall (GGWI) was launched June 1, 2005 in Ouagadougou, Burkina Faso, at the 7th Ordinary Session of Heads of State and Government of the Community of Sahel-Saharan States (CEN SAD on the theme «The role and place of CEN-SAD in African integration". This Summit is considered as the Summit of New Challenges and an important step in the process of building a community space based on the values of tolerance, solidarity, and peace. «The idea of realization of the Great Green Wall was then conceptualized between 2005 and 2008 before being endorsed in 2007 by the African Union through the Declaration 137 (VIII) of the Conference of Heads of State and Government at its 8th Ordinary Session in Addis Ababa (Ethiopia).

From 2005 - 2009, various reflections were carried out notably by the OSS, the CENSAD, the African Union and some countries including Senegal. Indeed, at the initiative of Mr. Abdoulaye Wade, President of the Republic of Senegal, who oversaw the environment sector within NEPAD had set up a National Scientific and Technical Commission to reflect on the conceptualization of the environment. 'Idea and the implementation modalities of the Great Green Wall. The Multidisciplinary Commission brought together experts from universities and research centers,

central government, the private sector, and civil society. It has developed a concept note document, a conceptual and operational diagram and a list of plant species adapted to arid and semi-arid zones with high ecological plasticity and specific to the various eco-geographical zones of the Sahelian Circum-Sahara band.

A consolidated document of the various approaches to the Great Green Wall was prepared at the initiative of the General Secretariat of CEN-SAD, validated by the Executive Council of CENSAD. The idea of Great Green Wall was therefore conceptualized between 2005-2007, before being endorsed by the African Union by the Declaration 137 (VIII), taken at the 8th Ordinary Session of the Conference of Heads of State and Government, held on 29th and 30th January 2007 in Addis Ababa, Ethiopia.

As part of its implementation and for regional coordination, the Pan-African Agency of the Great Green Wall was created by International Convention, signed by the Heads of State and Government, on June 17th, 2010 in N'Djamena (Chad) and currently ratified by Burkina Faso, Djibouti, Ethiopia, Mali, Mauritania, Niger, Nigeria, Senegal, Sudan and Chad. Eritrea has signed the Convention and the ratification process is underway. With the creation of the PAGGW, the Heads of State and Government wanted to provide the Initiative with an appropriate legal, organizational, and institutional coordination mechanism to ensure that the GGW Initiative has the necessary visibility and monitoring expected by the Member States. in the implementation process, based on roadmaps with implementation matrix and periodic reviews by the statutory bodies. The PAGGW within this framework is responsible for ensuring the coordination, development and implementation of the Five-Year Strategy, the Action Plan, and the Flagship Actions Priority Programs and, as well as the mobilization of the resources necessary for their implementation, in relation with the Member States.

2.4.2. CONCEPTUAL FRAME

The conceptual and operational approach, contrary to the actions taken in the past, also considers the sociological, anthropological, and eco-geographical realities as well as the real aspirations of the communities and local populations of the soils. The approach, objectives and National Vision of each State party to the Initiative must be based on regional cooperation. These prerequisites are the foundations of the Great Green Wall Initiative and justify the relevance of the sharing of the Integrated Approach to socio-economic development and security of the «Great Green Wall» space corridor, developed and implemented through the Great Green Wall Initiative.

The Great Green Wall Initiative (GGWI) is an African response to many challenges including desertification, land degradation and climate change. It corresponds to the operationalization of the political will of the Heads of State and Government of the Sahelo-Saharan States expressed in June 2005 in Burkina Faso. The aim is to develop African cooperation with a view to establishing a cooperation of joint efforts

to combat desertification, restoration and sustainable land management, protection and conservation of biodiversity, development of agricultural systems pastoral and intensifying actions to combat poverty and food insecurity. The goal is to ensure socio-economic development and security in Sahelian lands.

The GGWI is a New African Vision (NAV), an African label for integrated management of environmental and climatic issues in arid and semi-arid zones in the lens of neutrality in terms of land degradation, local economic development and biodiversity and ecosystems and local communities' resilience.

The Global Harmonized Strategy (GHS) for implementing the Great Green Wall Initiative was developed and adopted in 2011 by the Council of Ministers of the PAGGW. The process of developing the GHS began in December 2010 at an international meeting on the GGW implementation framework that brings together the GGW and the Global Environment Facility (GEF) Focal Points of the eleven (11) Member States, Experts from International Organizations and Civil Society. This consultation allowed the definition of a general consensual orientation framework on the Major Axes of the route definition, the strategic and conceptual approaches of the GGW which served as a support to the States for the elaboration of their Implementation Strategy of the GGW national documents. The Harmonized Global Strategy Paper (GHS) in Horizon 2030 is the result of the harmonization and consolidation of national documents on the Great Green Wall.

The five-year assessment is based on the critical analysis of the impacts of the Flagship Actions (FA) and the performances in relation to the baselines in terms of founding principles, targets, objectives, constraints, and challenges based on objectively verifiable indicators (IOV) of the Policy Framework and the Five-Year Action Plan. The analysis of the Five-Year Review of the implementation of the Great Green Wall Initiative is done at regional and national level. It identifies many experiences and lessons in terms of Results Achieved (RA), Major Constraints (MA) and overall directions for the development of a new five-year operational planning cycle.

The five-year review of the 2011-2015 cycle of implementation of the Global Strategy corresponds to the establishment of the fundamentals and solid bases of the GGW Initiative.

The management of environmental and climate challenges is one of the major challenges of the post-2015 period. It is and will remain at the center of development policies for at least the entire period from 2016 to 2030. Indeed, the challenge impacts the socio-economic development and the living environment of the population and creates increasingly its footprint on the fate and security of the populations, particularly in the Sahelo-Saharan States.

The analysis of the lessons drawn from the National Policies, Strategies and Programs in the implementation of the objectives and orientations of the various

Conventions of the field, of the United Nations recalled the urgency of a regional approach based on a common commitment of States, actions concerted efforts and pooling financial needs.

2.4.2.1. Concept '' Great Green Wall ''

2.4.2.1.1 Foundations and Principles

Beyond the emblematic character, the name «Great Wall Green or Great Green Wall» Dakar-Djibouti conveys notions of protection against desertification on the one hand and development centered around the tree of life and development on the other hand. Considering the tree as a major element governing the spatio-temporal evolution of Sahelian environments and consequently all the socio-economic activities that result from it, the «Great Green Wall» approach relies mainly on the protection / conservation / valorization by identification and promotion of sustainable land management (SLM) practices, strengthening of basic socio-economic services and sustainable empowerment of rural people. Studies and international meetings have identified the strategic approaches, the objectives, the results and expected impacts, the indicative regional route, the criteria for choosing plant species and farming systems, and the institutional coordination mechanism to be put in place.

The concept « Great Green Wall Dakar-Djibouti» broadly integrates the Sahel-Saharan countries of the Circum Sahara. The sequential approach in implementation began with the first pilot phase reduced to the Sahel-Saharan zone in South Sahara (covering Senegal, Mauritania, Mali, Burkina Faso, Niger, Nigeria, Chad, Sudan, Ethiopia, Eritrea, and Djibouti). The priority and the urgency simply justified this choice to act first on the southern part of the Sahara, which is very representative of the condensed constraints and challenges of the Sahel. Indeed, this Sahara-Sahelian Band of South Sahara is the most exposed to desertification, land degradation and climate change and the rates of degradation are among the highest in the world and the effects and recurrent impacts on ecosystems and local populations have an important advanced degradation of natural resources and depopulation of land, leading to high rates of precariousness, poverty, food insecurity. Acting on this area is the top priority in sequencing the operationalization of the Initiative.

2.4.2.1.2 Conceptual framework of the Great Green Wall

Contrary to the misconception and often conveyed by non-»insiders» to the expression of an African leadership capable of identifying, proposing, and implementing a Project of this scale, the GGWI or the completed image of '' Green Band '' is distinct from traditional green belts and is not a typical reforestation or restoration project. It is multisectoral and holistic, ecosystem-based, and integrated, combining sustainable land management through the reforestation of characteristic and targeted species and land restoration and community economic development and local governance. Thus, the idea of building a 2005 «green barrier» by S.E.M Olusegun Obsanjo, former President of the Federal Republic of Nigeria, is translated

by the concept GGW which in its conceptual approach is composite and contains in its various structure components of different vocations:

(i) multi-species plant units

Plant units made up of autochthonous species with multiple uses and functions are essentially selected for their adaptation to the hydric and edaphic constraints of arid lands, their economic or medicinal and ecological value and their acceptability by local populations.

Plant units can be:

- relics natural formations (classified, community and private forests);
- old or new artificial formations (including private forests) resulting from program and project achievements in the area), or to be created through reforestation or relining programs;
- botanical reserves for the conservation of plant biodiversity;
- defenses and Assisted Natural Regeneration perimeters in forest areas that are degraded.

(ii) agro-sylvo-pastoral units

Integrated agricultural, silvicultural, and pastoral production systems that have been restored and strengthened include :

- Annual crops under orchards, tree-planted perimeters, parkland, market garden perimeters, fruit orchards and multipurpose gardens;
- Annual crops under orchards, tree-planted perimeters, parkland, market Pastures and village and inter-community areas of rangelands and transhumance;
- Animal parks, wildlife migration corridors, protected areas including community wildlife reserves, national parks in whole or in part;
- Integrated Community Agricultural Farms (ICAF), operating several productions and upgrading systems and ICAF + constituting epicenters generated within the reach of the ICAF concentrating human groupings and a set of basic social and economic services.

(iii) corridors of hydraulic structures and other water points

It is planned to carry out along the route and at low points and fossil wetlands, a set of retention basins for the storage of rainwater and runoff, mini dams and reservoirs, hydraulic boreholes and pastoral wells and rehabilitate all existing water points,

(iv) basic social, economic, and business infrastructure

The operational strategy GGW advocates supporting operational activities through the development and exploitation of restored land, the creation of agricultural

production and processing infrastructure, and increasing the rate of access to socio-economic services, basic economic development through the rehabilitation and creation of energy infrastructure, particularly renewable energies, education, health and water supply (boreholes, wells, ponds, lakes ...) in the GGW.

2.4.2.2 Conceptual approach

The conceptual approach is based on key scientific criteria, which are clearly identified in relation to the environmental and climatic profile of the zones of implantation. These criteria are a route from Dakar to Djibouti over a length of about 8000 km, rainfall conditions are circumscribed between the 100 and 400 mm isohyets and the choice of plant species is based on adaptability, acceptability, and economic value.

It is about creating in this eco-geographic area, often marginalized in Planning Policy areas by the GGW Initiative, an integrated management strategy for arid and semi-arid by deploying wooded areasof multi-species vegetative units «, by integrating other systems of sustainable land use and by polarizing Sustainable Economic Poles to eventually ensure the creation of Rural Production and Sustainable Development Poles (RPSDP) in priority arid and semi-arid zones between 100 and 400 mm isohyets of average annual rainfall. These priority areas of implementation of the GGW are defined in an inclusive approach by the Member States.

Conceptually, the GGW contains in its structure, various components and different vocations especially multi-species vegetative units, agro-sylvo-pastoral units and a network of basic socio-economic infrastructures including corridors of hydraulic structures and other water points, health, education and of energy with the exploitation of renewable energies.

2.4.2.2.1. GGW route and expropriation area

The notion of alignment corresponds to the configuration of the zones where the Great Wall Initiative is prescribed. It draws its substance from the new conceptual and strategic approach based on an integrated and ecosystem management approach on specific national priority areas defined at Member State level.

The concept of Route Country Code (RCC) defines the national priority areas defined at Member State level. The operational approach and the implementation strategy foresee at the start a pilot phase over a well-defined geographical space defined as a national route restricted to 15 km wide and which may contain zones off-ramps. In the actual operationalization phase, the implantation zone is then widened to a GGW strike zone reaching in some countries more than 200 km wide, the Route Country Indicator (RCI) is identified by each Member State following an inclusive national dialogue.

2.4.2.2.2.Constraint «minimum 100 millimeters (mm)"

It is about a minimum average annual rainfall, indeed in this immense ecosystem, the determining agro-ecological parameters are the rainfall, the climatic variability, the temperature and the soil edaphic state, and that the reliable levers of economic emergence remain the potential of natural resources in particular, silvicultural, agricultural and pastoral. Thus, the priority issue in these arid and semi-arid zones remains the fight against food insecurity, malnutrition, and poverty. Such some issue constraints a growth in agricultural production by the development of family farming under rain in the areas of restored and rehabilitated lands. Taking into account the constraint «minimum 100 mm rain» is fundamental in the delimitation of the route included in average annual rainfall between 100 and 400 millimeters.

2.4.2.2.3. Choice of plant species

Species selection is defined by the adaptability, acceptability and economic value of the plant species used in GGW. The species are essentially autochthonous and have multiple functions and uses. They are selected for their resistance to water stress, their economic and ecological value, and their acceptability based on ethno botanical realities by local populations. The development of plant units through the strengthening and diversification of fast-maturing species and the optimization of value chains will be based on the relevant choices of plant species, speculation and production systems adapted to the context from which, the need to consider the adaptability and acceptability of species by the actors and beneficiaries at the grassroots level. An international symposium held in Dakar in 2008 on the selection of species and reforestation techniques in arid and semi-arid zones, bringing together eminent experts from various horizons has made it possible to select a list of plant species based on the chosen criteria. (APPENDIX 1).

2.5 INITIATIVE LEGAL FRAMEWORK AND GOVERNANCE

2.5.1. LEGAL SYSTEM

The Great Green Wall Initiative concerns all Sahel-Saharan states. It is based on one hand on the United Nations Convention to Combat Desertification, in countries severely affected by drought and Desertification, particularly, signed in Paris on June 17th, 1994 and the Constitutive Act of the African Union adopted in Lomé July 12th, 2000 and on the other hand the new vision triggered by the New Partnership for Africa's Development (NEPAD) for a sustainable development of Africa.

The overall objective of the GGW initiative is to contribute to addressing the multiple challenges of sustainable development faced by Sahel-Saharan states in a strategic framework to combat desertification, the climate change, biodiversity conservation and sustainable development impacts.

The Great Green Wall Initiative refers to the idea of building a Great Green Wall

from Dakar to Djibouti approved by the Conference of Leaders and Heads of State Members of the Community of Sahelo-Saharan States (CEN- SAD) at its sixth ordinary Session held in Ouagadougou in Burkina Faso on 1st and June 2nd,2005.

It is based on the Declaration 137 (VIII) of the 8th Ordinary Session of the Assembly of Heads of State and Government of the African Union held on 29th and 30th January 2017 in Addis Ababa (Ethiopia) approving the Great Green Wall Initiative.

As part of its implementation, the GGW Initiative is built on a regional, federative, and solidarity-based approach of Sahelian states.

The Pan-African Agency of the Great Green Wall (PAGGW) is created in N'Djamena (Chad) on June 17th, 2010 by International Convention signed by the Heads of State and Government of the eleven (11) Sahelo-Saharan African states founders: Burkina Faso, Djibouti, Eritrea, Ethiopia, Mali, Mauritania, Niger, Nigeria, Senegal, Sudan and Chad, to coordinate and monitor the implementation and mobilization of necessary resources and also to support Member States in planning and implementation. The PAGGW is an inter-state organization with international legal capacity and management autonomy, conceived under the auspices of the African Union and the CENSAD.

It has four statutory bodies, the Conference of Heads of State and Government, which informs the Heads of State and Government of the African Union Summit of its activities, the Council of Ministers, the Executive Secretariat, and the Technical Committee Experts who support the Executive Secretariat in the preparation of statutory sessions and technical documents.

2.5.2. GOVERNANCE

Referring to the Convention establishing the PAGGW and the regulatory texts specifying respectively the Statutory Bodies and the Trusteeship and Affiliated Institutions as well as the operating modalities, the governance of the Initiative, the Agency is part of an Orientation, Steering and Management Global Framework (OSMGF). OSMGF stratifies the various intervention frameworks of guidance, steering, programming, execution, and monitoring. The governance of the GGW initiative is on the one hand political, diplomatic, and operational from the regional, the national to the local level. OSMGF is schematized on the table 3.

2.5.2.1. Political and Diplomatic Governance

It is ensured by the Conference of Heads of State and Government composed of the Heads of State and Government of the Member States, meeting every two (02) years as well as the institutions of trusteeship, the African Union and the CEN-SAD. This political and diplomatic governance is expected to provide global guidance and political advocacy for the Initiative's international positioning and support to the PAGGW and member states in resource mobilization.

2.5.2.2. Operational governance

The operational approach in the implementation of the GGWI is self-centered on the soils and participative throughout the operational route. It is executed by GGW operational and pilot institutions at the regional, national, and local levels. To this end, the Pan African Great Green Wall Agency, set up at the regional level is relayed at national level by national GGW structures and at the local level, notably the basic community entity, the Integrated Community Unit of Sustainable Development (ICUSD), administrative base of the Local Economic Development (LED) architecture by the Local Committees for Sustainable Development (LCSD).

2.5.2.2.1. Regional level: Pan African Agency of the Great Green Wall

The Pan- African Agency of the Great Green Wall, abbreviated PAGGW, was created under the auspices of the African Union (AU) and CEN-SAD, on June 17th, 2010 in N'Djamena, Republic of Chad, by the Conference of Heads of State and Government. The establishment of the Agency by International Convention is open to all Sahel-Saharan States. In accordance with the Convention establishing it, the Agency is relayed in each of the Member States by a National GGW Structure created in accordance with the internal legislation of the country, with the mission of realizing the national component of the Great Green Wall. The Convention is signed and ratified by eleven (11) Member States founders: Burkina Faso, Djibouti, Eritrea, Ethiopia, Mali, Mauritania, Niger, Nigeria, Senegal, Sudan, Chad and registered at the United Nations (UN), on May 29th, 2015, under No. LA41TR / 26082014 / I-52372 and to the African Union (AU) in 2016 and accredited in 2017 as an Intergovernmental Organization (IGO /OIG) Observer to the Conferences of the Parties to the United Nations Conventions to Combat Desertification (UNCCD) and Climate Change (UNCCC). In addition to the traditional accounting, financial and administrative management tools, the Agency has also developed a Charter of Ethics and Good Governance which is an Initiative for Transparency in the GGW (ITGGW).

2.5.2.2.2 National level, National Agency GGW (NAGGW)

Within the framework of the implementation of the Convention establishing the Agency and in its article 5, in the implementation of the Initiative, the PAGGW is relayed at the level of each member country by a national structure dedicated to the GGW created in accordance with the laws and regulations of the country. The national GGW structure is responsible for implementing the Initiative's Globally Harmonized Strategy at national level, through the National Action Plan validated by national stakeholders.

2.5.2.2.3. Local level, Local Committee for Sustainable Development (LCSD)

The institutional and operational schemes of local governance at the soils level, in the case of the operationalization of the GGW take care of the local specificities and the advantages of the functional horizontal intercommunity being able to be established between the soils. At the soils level to promote a participative

management of populations and local communities in their development issues, the scheme is based on a representative management structure the Rural Committee for Sustainable Development (RCSD) on its own authority on ICUSD.

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Indicative Frames	Structuring	Entities	Missions
High Orientation Council (HCO)	• African Union and CEN-SAD: General Assembly.	Regional	Policy Orientations and Advocacy
	• Conference Heads of State and Government of the PAGGW Member States.	Member States	• General policy and main orientations of the Agency; • Membership of new members;
High Steering Committee (HCOPIL)	• African Union Commission; • General Secretariat CENSAD	Regional	Policy directions and advocacy
	• Cabinet	States	Monitoring and Orientation
	• Regional Economic Commissions (ECOWAS, ECCAS, UMA and IGAD).	Sub regions	Technical support
Management and Coordination Structures	• National Agency GGW	Member States	Regional coordination and technical support to Member States
	• Agence Nationales GMV	Country Scale	National coordination
	• Local Committee for Sustainable Development	ICUSD(1)	Local coordination

Table3: Orientation, Steering and Management Mechanism of GGWI

2.5.2.3. Exchange and consultation frameworks

The operationalization of the GGW Initiative, in addition to statutory bodies, also

relies on a set of consultation frameworks and specialized consultative bodies, the main ones are the following:

(i) Scientific, Technical and Financial Support Platform (STFSP) and specialized consultative bodies for advocacy and mobilization of funding, including:

- Recruitment, Evaluation and Advancement Committee (REAC);
- Platform of Women and Youth;
- Forum of Actors and Beneficiaries (FORABE);
- National Alliance in each of the Member States,

(ii) a Platform for Partnership and Scientific, Technical and Financial Cooperation (PSTFC), framework for consultation and planning of external support from Technical and Financial Partners. It includes a Technical component with a Leader and another finance component, with another Lead Partner,

(iii)a Round Table of Technical and Financial Partners, evaluation, and mobilization of funding bodies

[1] ICUSD : Integrated Community Unit for Sustainable Development

CHAPTER III

GGWI OPERATIONAL STRATEGY

INTRODUCTION

The rural development approach developed in the Great Green Wall Initiative to achieve the Objectives and Vision to achieve the transformation of soils into Economic Emergence Zones (EEZ) by 2020 and eventually by 2025 In Rural Poles of Production and Sustainable Development PRPDD is consistent with the relevant targets of the SDGs, notably SDG15-5. Indeed, it aims to contribute greatly to the promotion of green jobs, adaptation, resilience and neutrality objectives in terms of land degradation and creation of an environment conducive to the development of populations in the Sahel. In addition, the Great Green Wall with significant carbon sequestration potential will help mitigate the impacts of greenhouse gas emissions. It can thus be an operational mechanism and instrument for member states under the prospects of the Universal Climate Agreement, including Nationally Determined Contributions (NDCs).

The design of the GGW Initiative Operational Strategy, is based on the analysis of National Strategies for Local Economic Development (NSLED) following the advanced decentralization process underway in most member states of the Great Green Wall. The various constraints that have emerged in the application and impacts of decentralization and spatial planning require a rereading of these strategies and policies in terms of the approach and territorial division and make them more adapted to realities and the optics of development, empowerment of communities and populations of the soils. Indeed, in most Member States, changes in governance are being made with the creation of a High Council of Territorial Collectivities (HCTC), the case of Mali, Mauritania and Senegal.

The shared vision and objectives of the Initiative are broadly aimed at Local Inclusive Development (LID), through the restoration of the viability of ecosystems and production systems, and the strengthening of community development activities that can generate sustainable development, wealth and jobs, and to optimize the resilience and resilience of people to climate change. The GGW strategic approach in the Globally Harmonized Strategy (GHS) framework is based on the local support of local actors for a better empowerment. It also relies on the identification, sustainable management and enhancement of local natural economic capital and the optimization of value chains, to ensure the development and diversification of production and processing systems. The GGW Initiative relies on a Five-Year Strategic Planning by Objectives and indicators targets.

3.1. OPERATIONAL APPROACH

The conceptual and operational approach integrates into the parameters and indicators the sociological, anthropological, and eco-geographical realities in the soils as well as the real aspirations of the communities and local populations of these soils. The aim is to develop on the ground, Flagship Actions Priority Programs Projects, Sustainable Land and Natural Resources Management, Restoration, Protection and Conservation Projects as well as Hydraulic and Forestry Projects and at the same time an Income Generating Activities package associated with the creation and strengthening of basic social services in terms of health, education, water, and energy.

Thus, the GGW Global Harmonized Strategy of the GGW with five-year strategic planning and implemented according to a sequencing of five-year cycles on the 2010 path for the realization of the 2025 vision of the GGWI and its consolidation towards the achievement of the SDGs. It integrates the major objectives of the three (03) United Nations Conventions on Desertification, Climate Change and Biological Diversity and is the effective phase of operationalization of the overall objective of creating Rural Poles of Economic Emergence (PREE) through the implementation of Priority Programs for High-Value Field Actions for Populations and Local Communities. The second generation of planning 2016-2020 corresponds to the phase of operationalization and consolidation of this African response to the challenges of climate change and land development in the Sahel. It is based on a regional, holistic, eco-systemic and multi-sectoral approach to integrated development considering in its operational planning approach, the definition of Strategic Objectives and Flagship Actions Priority Programs (FAPP) through the proven existence of interactions between climate and environmental impacts and sustainable development.

The GGW approach is multi-sectoral, holistic, eco-systemic and inclusive based on a Local Government Development and Governance Scheme (LGDGS) shared by the States, a hub of technical information and good practices, an early warning system. Response and Multifunctional Platforms with experimental areas and incubators project to promote «GGW labeled» products. It associates upstream and downstream populations of soils from where the slogan «For Populations and By Populations».

3.2. GLOBAL STRATEGY HARMONIZED (GHS)

3.2.1. Founding Principles and Development Approach

The Operational Strategy is built on the National Strategies of the Member States. The Concept Approach makes the Great Green Wall initiative, a mechanism based on an integrated approach to accelerate ecosystem restoration and socio-economic development to ensure security in the GGW corridor. The major objective is to contribute significantly to socio-economic development and the achievement of the Sustainable Development Goals to eradicate poverty and ensure the resilience of

local communities and local populations.

The Great Green Wall Initiative (GGWI) in the founding principles of its vision and strategic framework is part of these new paradigms and in line with Africa's Agenda 2063 entitled «The Africa We Want» and the objectives of the Flagship Programs on Sustainable Development in Africa, particularly the development of renewable energies and adaptation and resilience.

The operational strategy of the integrated approach is based on the installation of Rural Poles of Economic Emergence (RPEE), real engines and levers of socio-economic development for the creation of Rural Poles of Production and Sustainable Development (RPPSD) in 2025. The well-structured and integrated RPPSDs in the National Economic Development Facility will be able to contribute to the conditions of eradication of poverty, food insecurity and malnutrition and to fight against unemployment through the creation of employment, infrastructure development and basic social services. Thus, to do this, the challenge is on the one hand the recovery and development of local development potential and their value chains, the strengthening of production bases and systems, the training and development of the living forces to production techniques and transformation, entrepreneurship, and the implementation of inclusive local governance. The GGWI also considers the orientations of the National Strategies for Local Economic Development (NSLED) following the advanced process of decentralization underway in most member states of the Great Green Wall. They aim globally Local Inclusive Development (LDI) of the local communities through the creation of jobs and the capacity building of adaptation and resilience of populations in the face of climate change in order to contribute to the management of defect migratory flows of African. The GGW approach in NSLED is based on local support for local actors for better empowerment. It is based on the identification of local natural economic capital through a diagnostic audit of local development opportunities (LDO), land assets and cross-border resources and their sustainable management and development through the development and diversification of development systems production and processing.

3.2.2. Strategic planning

Five-year strategic planning is built on five Major Strategic Axis (MSA) relevant to the shared vision and objectives of the Initiative. These five MSAs have enabled the identification of Projects and Priority Programs and Regional Structural Programs (RSP) Portfolios

3.2.2.1. Major Strategic Axes (ASM)

Based on specific Major Strategic Axes (MSA) and powerful forces on grassroots development, the following five (05) Program and Priority Portfolio Portfolios are identified (Fig. 3): PF01: **Sustainable Land Management and Green Economy**,

PF02: Climate Change, Socio-Economic Development and Local Governance, PF.03: **Support and Development Research,** PF04: Communication, Marketing and Advocacy and PF05: **Information System, Observatories and Early Warning.** In addition to these flagship action priority and programs projects implemented at the level of each country, the Operational Strategy also includes a dozen Structural Projects and Regional Programs coordinated by the Pan African Agency of the Great Green Wall, implemented in different countries according to its specificities.

Fig. 3: Programmatic Block of the GGW Operational Strategy: Portfolio of Projects and Priority Programs (PPP)

3.2.2.2. Portfolio of Projects and Programs (PPP)

The PPPs can be consulted on the 2016-2020 Strategy Document for the implementation of the GGWI posted on the grandemurailleverte.org website. They comprise fifteen (15) Flagship Action Priority Programs and Projects(FAPP) and eight (08) Regional Structural Programs and Projects (RSPP) and one (1) Joint Program «Restoration, Development and Migration for Resilience in the Sahel» (REDEMI / RESSAHEL).

Within the framework of a partnership coalition for the acceleration and coherence in the implementation of the GGWI, the Pan African Agency of the Great Green Wall has elaborated a program entitled Restoration, Development and Migration for Resilience in the Sahel (REDEMI / RESSAHEL). The REDEMI / RESSAHEL is a Program built around a unifying theme structured around the three (03) issues of the day («Restoration, Development and Migration for Resilience in the Sahel), which are a priority for the Sahel. It is built on a coherent foundation around a broad partnership between the PAGGW and the Member States, the African Development Bank (AfDB), the Food and Agriculture Organization of the United Nations (FAO), enlarged other institutions carrying initiatives on the unifying theme in order to coherence and capitalize the multiple and often disparate interventions on the Great Green Wall, without a general framework of appropriate coherence and most of which are on the periphery of the objectives and shared vision of the GGWI including the United Nations Development Program, the UN Environment, the World Food Program (WFP), the French Development Agency (FDA) and other partners active in the field and which could join the multisectoral implementation partnership, the International Organization for Migration (IOM) and the International Organization of Francophonie (OIF).

Le REDEMI/RESSAHEL est structuré autour de deux (02) Sous Programmes (SP) à composantes mutiples definies selon une approche programmatique :

The REDEMI / RESSAHEL is structured around two (02) sub-programs (SP) with multiple components defined according to a programmatic approach:

SPI: CLIMATE CHANGE, RENEWABLE ENERGY DEVELOPMENT AND RESTORATION OF DEGRADED LANDS «:

COMPONENT 1.1: Restoration and Conservation of Lands and Natural Resources;

COMPONENT 1.2: Climate Change Adaptation, resilience, and mitigation.

COMPONENT 1.3: Promotion and Development of Renewable Energies.

COMPONENT 1.4: Institutional Support and Capacity Building for Regional and National Structures;

COMPONENT 1.5: Operational Information and Communication Device.

SP.2 SOCIOECONOMIC DEVELOPMENT AND TRANSFORMATION OF SAHELIAN SOILS IN RURAL AREAS OF PRODUCTION AND SUSTAINABLE DEVELOPMENT (RAPSD).

COMPONENT 2.1: Economic Development and Resilience of the Communities and Local Populations of the Sahel;

COMPONENT 2.2: Development of value chains and the circular economy of natural resources and ecosystems;

COMPONENT 2.3: Migration, Security and Return to Land;

COMPONENT 2.4: Strengthening Socio-Economic Infrastructure

The financial requirements for the implementation of the REDEMI / RESSAHEL Program over the five-year period 2018-2023 are estimated at US $ 1.5 billion. The three-year preliminary phase 2018-2021 for the implementation of Flagship Actions Priority Program focuses primarily on the seven (07) targeted countries, **Burkina Faso, Mali, Mauritania, Niger, Chad, Nigeria and Senegal** because of their context and their positions in the development and security as well as the phenomenon of migration in the Sahel. The financial requirements for the completion of this phase are estimated at eight hundred fifty (850) million US dollars distributed as follows: 300 million US dollars (US $) for the Sub-program (SP01), 500 million US dollars (US $) for the Sub program.

3.2.3. Operational planning

The operational planning with a five-year cycle is sequenced as follows:

- The first cycle 2011-2015 aims at setting up the institutional and organizational framework of the GGW structures for the conceptualization, awareness and ownership of the Concept, the vision, and the approach as well as the implementation of pilot activities at each country level;
- The second cycle 2016-2020 which is more operational, aims the acceleration of concrete actions for the installation of the Rural Poles of Economic Emergence in the soils;
- The third cycle 2021-2025 consolidates the actions carried out and allows the creation of the Rural Poles of Production and Sustainable Development, The fourth cycle 2026-2030 will allow a significant contribution of the GGW to the achievement of the Sustainable Development Goals and other international commitments in the United Nations Convention (UNCCD, UNCCC and UNDB) of the Member States.

3.3. Logical Framework of Intervention

The operational governance advocated in the implementation of the Great Green Wall is in line with the principles of participatory approach and Results Based Management. It is based on a participatory approach in identifying priorities, operational planning of Local Economic Development Strategies (LEDS), placing local communities and grassroots populations at the heart of options and activities.

The implementation of the strategic planning and the Local Economic Development Strategy of the soils of the GGW require the establishment of operational territorial governance and adapted to the objectives of decentralized management skills. The GGW institutional architecture is consistent with the general guidelines of the laws on decentralization and considers inter-community dynamics and comparative advantages.

In the implementation of the GGW initiative, to promote participative management and governance by local populations and communities in their local development issues, the institutional and operational framework, supports the local specificities and the advantages of the functional horizontal inter municipality between soils. The Model of Development and Local Governance recommended in the implementation of the Initiative in view of the constraints and specificities of the soil approach is based on the new development plan that starts from a new grassroots community base, identified as the Integrated Community Unit for Sustainable Development (ICUSD), with a fairly representative management structure, the Local Committee for Sustainable Development (LCSD) with jurisdiction in ICUSD.

3.3.1. Development and Local Governance Model (DLGM)

The arid and semi-arid zones covered by the Great Green Wall represent a set of remarkable economic, cultural and biological heritage that should be conserved, restored and promoted in any strategy of socio-economic development and land security. Thus, the approach in terms of socio-economic development and securing the Sahelian soil must necessarily integrate the three paradigms Restoration / Development / Security for the creation of an environment conducive to the protection and reinforcement of ecosystems, the achievement of neutrality in terms of land degradation, as well as the adaptation, resilience and development of local people and communities in the Sahel.

The National Strategies for Local Economic Development (NSLED) following the advanced decentralization process underway in most member states of the Great Green Wall, are aimed globally at Inclusive Local Development (ILD) of local communities through the creation of jobs and capacity building adaptation and resilience of people to climate change. The socio-economic, environmental, and climatic footprint of the constraints of the Sahelian soils imposes a Development and Local Governance Model (DLGM) of the soils, which is readjusted, more integrated and more anchored to the realities, the sociology, the capacities and the needs

of the soils. The viability of such a model should be justified by the opportunities for optimizing incomes, creating jobs and moreover green jobs to better fix the living forces in the soils, but also the contribution as a mechanism and instrument operational resources to support Member States in implementing their international commitments in the RIO UN Conventions and the Sustainable Development Goals (SDGs).

In the implementation strategy, the zones of influence of the national components of the GGW are delimited into Integrated Community Units for Sustainable Development (ICUSD). ICUSD in the sense of the GGW model of Local Economic Development (LED) is the basic entity from which the Rural Pole of Economic Emergence is constituted and developed. It is a cross-community space that can be straddling several administrative entities, perfectly integrated, economically viable by its economic potential and the critical mass of its population.

The achievement of such specific objectives in the land requires necessarily in the implementation of the DLGM, multiform support of proximity of actors and Communities at the base to accelerate their empowerment and empowerment necessary to ensure inclusive development.

The Development and Local Governance Model (DLGM) of the soils advocated in the Globally Harmonized Strategy for the implementation of the GGWI reinforces the central position of the soil and the role of the Communities and Local populations in the Local Strategy of Economic Development and Governance (LSED). The DLGM implemented is self-centered on the sociological realities and the economic and human potential specific to the soil and integrates the development and diversification of production and processing systems in a global vision of creation of the 2020 conditions favorable to the emergence and in the long term, by 2030, the establishment and development of Rural Poles for Production and Sustainable Development (RPPSD), fully integrated into the national economic fabric. The technical pathway of the appropriate DLGM is through identification, diagnostic audit, sustainable management, enhancement of the economic and human potential of the soils as well as the optimization of their value chains and participative management with populations at all levels of the course of the DLGM route.

For its operationalization, the DLGM relies on a Local Economic Development Scheme (LEDS) and a set of operational tools, and a financial instrument fed through various innovative mechanisms for mobilizing financial resources. The LEDS, in addition to the monitoring framework, the Operational Information and Communication System (OICS), is based on a Global Harmonized Strategy (GHS), broken down into five-year Action Plans implemented through Flagship Actions Priority Program (FAPP) and Structuring Regional Projects (SRP).

3.3.2 Local Economic Development Scheme (SDEL)

The SDEL draws its substance on a territorializing efficient and operational pushed on the scale of terroirs. It is built with the strategic objective of transforming and developing arid and semi-arid lands into the economic mold through the creation of Rural Poles of Production and Sustainable Development (PRPDD) that supports the Vision of the Great Green Wall Initiative. As part of this, the MDGL SDEL of the Global Harmonized GGW Implementation Strategy is articulated around a New Local Development Operational Scheme starting from a redefinition of a new Community Base Development Base (CBD) and a well-structured, more inclusive, and accountable local development and governance structure.

3.3.3. Mechanisms and Tools for Implementation

The GGW uses several mechanisms and tools for its implementation including local governance instruments, operational tools, a financial instrument and communication and advocacy tools as well as an innovative resource mobilization strategy and instruments.

3.3.3.1. Local governance instruments

These are organizational and institutional instruments to support the local governance of identified and structured soils on a regional scale.

3.3.3.1.1 Integrated Community Unit for Sustainable Development (ICUSD), more adapted Grassroot Development Community-Based (GDCB):

It is a question of developing an efficient scheme of structuring the soil in mosaics of economically viable territorial spaces, to identify a Grassroot Development Community-Based (GDCB), economically viable the Integrated Community Unit of Sustainable Development (ICUSD), in order to facilitate the horizontal intercommunity allowing the grouping of soils to reach a critical size and an economic viability essential to the process of economic and social emergence.

In a critical analysis of the results and impacts of the National Economic Development and Governance Policies and Strategies implemented in most Member States, the real progress in the soil areas seems very limited, in view of the recurrence and the amplification of the socio-economic development problems that communities and local populations are facing. To this end, the criteria of the administrative division and the local economic development approach of the decentralization policies underway in most of the Agency's Member States should be reviewed at the regional level within the overall framework of the spatial planning to ensure a better integration of these areas very often economically marginalized and yet has high potential. Thus, the approach ''soil" developed in the GGWI changes paradigms and proposes in the scheme of local economic development (SLED), fundamentals and mechanisms are found in compliance with the realities and aspirations of the soils. It gives a

new conception and a new vocation of the Grassroot development and governance community-based. The Community base must be compatible with the role of leverage for social and economic development at the grassroots level, based essentially on the potential for local development opportunities (LDO) and human resources as well as the sociological realities and local populations identified needs. Thus, in the new scheme of development and governance of soils has been introduced the concept of Integrated Community Unit for Sustainable Development (ICUSD). ICUSD is the grassroots community space through which coherent and sustainable socio-economic development is built and strengthened. It is circumscribed in a vision of development and based on criteria of geographical homogeneity, sociological and cultural diversity, critical mass of population and economic potential. It can, geographically correspond to a soil or a group of soils within the framework of intercommunity. Community or intercommunity development of ICUSD is led by a Local Committee for Sustainable Development (LCSD), which is consistent with the national decentralization provisions and whose role is to provide guidance, planning, management, and monitoring. Projects related to the Local Institutional Task Force made up of rural development experts from ministerial departments, technical and financial partners, and NGOs.

The identity of the GDCB or the ICUSD is based on the capacity to produce from Local Development Opportunities (LDO) of Local Natural Capital and the optimization of value chains, the essential social, economic and financial needs, necessary for their socio-economic development, but also on the setting up of a Local Committee for Sustainable Development (LCSD), an expression of a territorial consensus, capable of assuring planning, monitoring and evaluation of local policies for the development and sustainable management of natural resources.

3.3.3.1.2. Local Committee for Sustainable Development (LCSD)

The Local Committee for Sustainable Development (LCSD) is the basic management and development structure. It is responsible for the orientation, planning, management and monitoring of LED Policies and Strategies identified through a participative management of populations in the ICUSD area to advisory support of a rural Task Force.

The LCSD is the territorial authority responsible for the conduct of development actions and governance at the base of ICUSD. It has through the creation of Support Center for Soil Development (SCSD), a Local Task Force (LTF) support and local support in the form of Multisectoral Technical Support Platform (MTSP) of diverse skills. The PTMA consists mainly of public and private structures, non-governmental organizations, universities, and research centers working in rural development. The creation of a Support Center for Territorial Development (SCTD), housing the Technical Platform and the Local Task Force (LTF), facilitates the necessary support and supervision.

3.3.3.2. Operation Tools and Mechanisms

3.3.3.2.1. Support Center for Soil Development (SCSD)

The success of the local economic development plan of the soil approach and the durability of these impacts require not only a proximity in the action of the various actors at the base, but also an availability in suitable formats of reliable data, of frameworks information, exchanges, and sensitization in the context of local support and capacity building.

To create and strengthen the local support is created a Support Center for Soil Development (SCSD), located at the epicenter of ICUSD. It is a Multisectoral Technical Support and Advisory Platform (MTSAP), provider of multiform support and advice in terms of technical approach and demonstration, organization, planning, dissemination of the information and dialogue. The SCSD may drain one or more ICUSDs within its area of competence. The SCSD is a center of human resources and adapted techniques and a hub of skills, information and advice support useful to the development of soils. It is conceived as a nerve operational support center structured in Multifunctional Platforms of Services and Councils, located in the lands at the epicenter of ICUSD. It is set up to provide communities and local populations with local support in the Local Economic Development of their lands.

The Scientific, Technical and Financial Support Platform (STFSP) set up around the Rural Task Force should facilitate the access and transfer of information and successful experiences through experimental perimeters and incubators of projects and innovations operation of an Alert and Response System against meteorological effects and climatic and environmental hazards.

a) Evidence

The adoption and implementation in most Sahelian countries of policies and strategies aimed at promoting local development and the sustainable management of natural resources have not made it possible to reverse the trends observed and favor the correct appropriation by the populations of the soils, important potentialities, constraints of local governance and community development of their lands.

The multidisciplinary, multisectoral approach of the Great Green Wall and its implementation in specific regions, eco-geographical, often socio-economic, and anthropological require different support strategy, information, and management of local soil players. Indeed, transfer, ownership and expected mass valuation techniques scientific data, relevant experience, technical and technological innovations by different target populations and beneficiaries of lands are ineffective. To optimize the TFL's contribution to communities and local populations and create the necessary proximity, it is essential to set up the epicenter of the terroir with information and supervision desks.

The overall objective is to establish a new close institutional vehicle to better support grassroots actors through capacity building, formulation, implementation, monitoring and evaluation of Flagship Actions Priority Program (FAPP) to facilitate the acceleration of the operationalization of the implementation of the Great Green Wall Initiative and local initiatives in the LED framework. It is the creation of Support Centers for Soil Development (SCSD).

The SCSD is a multifunctional platform of services and councils implanted on the soil for the benefit of the ICUSDs to accompany the Local Economic Development. It is designated as a real nerve operational support center for the soil development. It is a technical hub, skills, information, and advisory support to effectively manage proximity to boost mapping and development of local potential and support local initiatives converging LEDs including Adaptation and resilience of populations and soils to climate change and desertification.

b) Concept

The SCSD labeled GGW, is based on the concept of rural expansion center and the operation on farm-school for learning, demonstration, meetings, training, and exchanges where the local people of the land will be the main actresses in direct contact with producers of useful knowledge and techniques directly accessible. This is the creation of a real hub of services in a multipurpose center located in the heart of the region for greater proximity, more direct advice and better leverage for exchanges between producers of knowledge and techniques (scientific researchers, local knowledge etc.), the Rural Task Force (local development agents), NGOs and grassroots communities.

The SCSD is a platform for exchange, dissemination and demonstration of knowledge and good practices (traditional and scientific) and transfer of technologies and appropriate innovations labeled GGW for the Management and Development of Soils and brings together on the same site the skills and opportunities required to support the soil development. It is multi-modular and has reception facilities, training, communication, a technical support platform for experimental research and innovation, the transfer of innovations through demonstrative test benches, improved technologies and project incubators, information and communication, training, and development. It also has a biodiversity conservation zone and local knowledge to inform and educate people about best practices and innovations.

c) Objectives

The overall objective of the SCSD is to create within the community perimeter a Multisectoral Technical Support and Advisory Platform (MTSAP), dedicated to the soil development, ensuring the dissemination and transfer of useful knowledge and techniques as well as awareness and capacity building of local communities in the sustainable management and operational governance of local development opportunities in their area. The aim is to provide local actors with the tools and skills

required for support, training, and local supervision in the implementation of Local Economic Development initiatives.

The specific objectives are mainly:

(i) the creation an adapted space in the soils, open to local populations for the training, experimentation, dissemination and transfer of knowledge and techniques useful for the purpose of promoting sustainable management and governance by grassroots communities, the potentialities of the soils;

(ii) bringing together the knowledge and technical producers of local actors and economic promoters, by responding to the training needs, expertise, studies and analyzes, as well as the organization and supervision of local promoters;

(iii) the realization of awareness-raising actions on the effects of desertification and climate change through education for the Eco citizenship of the population, especially young people, schoolchildren through didactic materials, debates, discussions and interactive programs targeted in community radio and rural television;

(iv) the organization of exchange and training seminars on best practices in Sustainable Management and Local Governance and the facilitation of study tours between organizations and Economic Interest Groupings (EIG) in the inter-community area;

(v) the creation and supervision of thematic sessions of training and inclusive dialogue between actors, targets, governors and local decision-makers of ICUSD on Local and Regional Development and Local Governance Policies and the New Approach targeting the triptych environment-development-climate;

(vi) the rehabilitation and conservation of local biodiversity (e.g. wildlife reserves, aromatic and medicinal plants, etc.) by acting as a conservatory (botanical garden, herbarium, and community wildlife sanctuaries);

(vii) development of experimental sites, promotion, transfer of innovations and successful experiences and incubation of promising projects, which can be used for the implementation of local community development programs, particularly family farming, pastoralism, forest products valorization, domestic energy, rural entrepreneurship, and local governance;

(viii) creating and making available to stakeholders, local decision-makers, and researchers a scientific and local knowledge database and a mechanism for accessing information and Useful Data (Information Systems and early warning and response etc.), accessible to populations in appropriate formats;

(ix) the identification and promotion to society, and to local populations and public and private national promoters, of the capacities of the scientific training and research structures (laboratories, universities, schools, etc.) offered in terms of training, development, consulting, provision of strategic information and support;

(x) the identification of local economic opportunities and green job niches, the facilitation and assistance of rural promoters in the start-up phase (incubation) of projects through technical support, advice, and administrative and accounting frameworks;

(xi) support for local production and processing initiatives through the establishment of multifunctional Integrated Agricultural Farms (MIAF) to support Local Economic Development and ensure self-sufficiency and food security in the soils;

(xii) strengthening the intervention capacities of local entities in the implementation and monitoring of the Great Green Wall.

d) Structuring and management of the SCSD

The implementation of SCSD in the community perimeters will be done according to the mesh of the ICUSD. It obeys a good rationalization and responds to criteria of opportunities including the variation of the eco-geographical contexts, the sociological and economic specificities of the terroirs, the proximity of the public and private structures of training and research.

The SCSD is located at the epicenter of the ICUSD perimeter and may have in its sphere of influence several ICUSDs. The schematic model for structuring a SCSD module is given below (Table 4):

Cells	Areas	Composition	Missions
Administration, Training, Information and Accommodation Complex (ATIAC)	Zone 1 (ATIAC)	- Administrative, financial, and logistical block: 05 administrative offices and 1 appendix(logistics, reprography) and a thematic exhibition hall; - Training and Information: (02) workshop rooms and (02) videoconferencing multimedia rooms; - Hosting (hosting trainees, seminarians, and speakers): 05 Rooms of passage and a bar restaurant (20 Places).	- organize and manage the operation of the center through a personality called the Animator, justifying a great expertise in rural development, including ensuring the planning of activities, human resources, financial and logistical; - ensure the maintenance of infrastructure and the management and programming of the use of the Center's resources.
Communication Education in Eco Citizenship (CEEC)	Zone 2 (CEEC)	- 1 Community radio station; - 1 documentation room (library, video library and reading room); - 1 introductory room for informatics and ICT (reduction of the digital divide).	- develop the capacity of ICUSDs to sensitize populations to environmental and climatic challenges and priority issues of local development, conservation, and sustainable management of natural resources, particularly biodiversity, soils, and water resources; - raise awareness of the return to the soil and the opportunities for green job creation by the environmental economy and the development of IGAs of local initiatives (Great Green Wall program and other local development projects); - support the training and development of researchers, teacher-researchers, PhD students, as well as decision-makers and local actors on the priority themes of the Environment, climate change, the green economy and sustainable development through protection, conservation, and enhancement of environmental resources.

Promotion, Innovation and Transfer of Successful Technologies and Experiences (PITSTE)	Zone 3 PITSTE	- 2 lecture rooms; - 2 practical training rooms; - 2 laboratories equipped with basic materials; - 1 test preparation room to be set up in zones 5 and 6; - 1 project incubation room.	The PITSTE is the interface between knowledge and technology producers and civil society (local populations, economic promoters, and consumers) in terms of opportunities and technical innovations. Its main role is to listen to and support users to identify economic opportunities and then promote the creation or diversification of production and processing sectors, the impulse of micro-entrepreneurship and micro-finance. rural.
Conservatory of biodiversity (CBIOD)	Zone 4 CBIOD	- 1 herbarium of the soil with an exhibition hall of the practices, tools of the soil and local products; - 1 Botanical Garden dedicated to plant biodiversity of arid and semi-arid environments with a focus on plants with high economic value (Ex: essences, aromatic plants, medicinal plants, high nutritional value plants, fruit species etc.); - 1 wooded area of community reserves constituting an annex to the SCSD.	- collect, describe, and present the in-situ richness of the plant heritage of soils through the creation of herbaria, botanical gardens and the installation of multi-purpose garden plots and community reserves; - set up tests to characterize and improve endogenous plant resources and enhance the value of local wood and non-wood forest products and inform and disseminate innovative improvement experiences; - to facilitate the visits of the vegetable infrastructures and to prepare for this purpose for the pupils, students and other visitors fact sheets and posters on biodiversity and its usefulness.

Experimental Research Station (ERS)	Zone 5 ERS	The ERS is a technical platform for experimental research with the necessary infrastructure to provide in situ support and support for students, young researchers and technicians involved in innovative research, as well as the mastery and transfer of improved techniques and successful experiments. to the people. An experimental area of at least two (2) hectares and control fields simulating the natural conditions of evolution.	It is intended to: - demonstrate the feasibility of the tested process; - act as a technology showcase and transfer of technology to users; - provide a team of senior researchers, a scientific animation and coaching through case studies, conferences, and field visits; - identify and develop experimental research themes of interest in the implementation and monitoring of the Great Green Wall programs and projects and operational research on the valorization of forest products.
Greenhouse battery and other experimental devices (GBOED)	Zone 6 GBOED	A battery of tunnels greenhouses to host the experimental devices of Research & Development programs and labeled pilot projects.	The Tunnel Greenhouse Battery is created to support the implementation of research and development programs labeled Great Green Wall by housing the necessary experimental devices. It is also intended to facilitate the monitoring and collection of relevant data by researchers and the guided visit of schoolchildren and students.
Common services (CS)	Zone 7 CS	- Energy installations; - hydraulic installations; -Systems of communication and computer operation; - Health post.	A block of common services. It centralizes the equipment and equipment ensuring (i) the energy supply (renewable energy) of the SCSD, (ii) the irrigation of experimental devices (drip for example, and (iii) communication and computing (telephony, internet, and systems, etc.).

Table 4: Description of the configuration of the Support Center for Soil Development (SCSD) zones

Le schéma de gouvernance et de gestion du Centre d'Appui au Développement des Terroirs est spécifié ci-après (Fig. 4) :

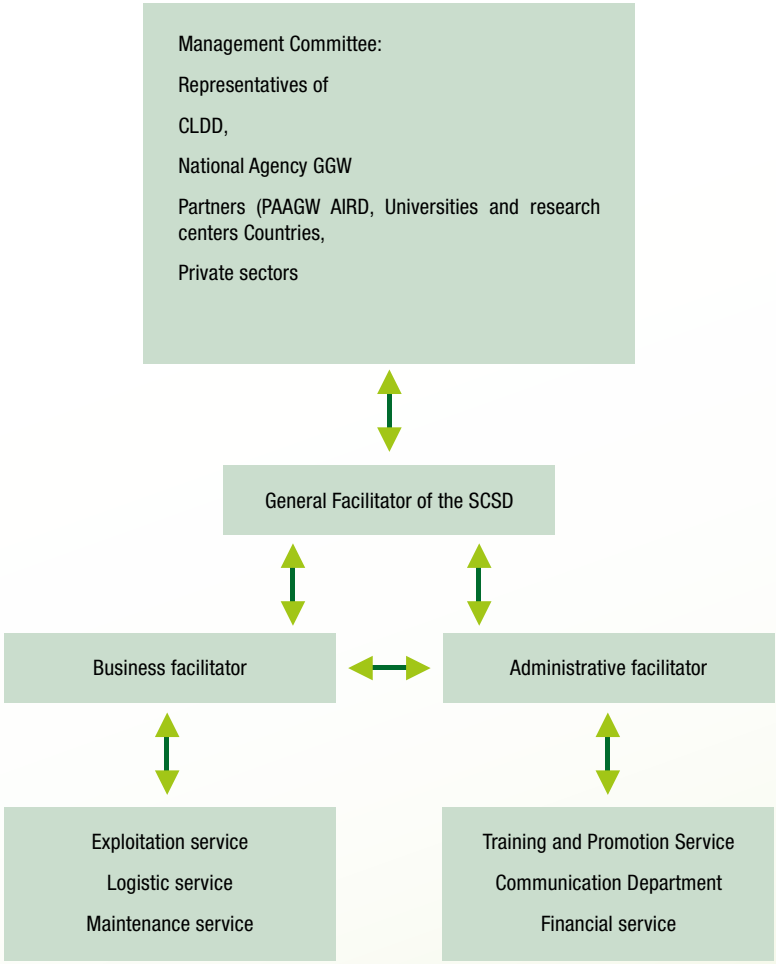


Fig. 4: Indicative Chart of Governance and Management of SCSD

3.3.3.2.2. National Alliances

They are built around the National GGW Structure and constitute a framework for dynamic dialogue and collaboration favoring the creation of a national coalition around the GGW in order to stimulate the necessary synergies and dynamics between the key actors of the public sector, particularly the Agriculture, Livestock, Hydraulics, Decentralization, Spatial Planning, Social Action, Health, Education, the private sector and civil society around the objectives of the GGW.

The National Alliances are relays and frameworks for consistency of GGW programs and projects with national sectoral policies in the areas of influence of the National Components GGW.

3.3.3.2.3. The Scientific, Technical and Financial Support Platform (STFSP)

The Scientific, Technical and Financial Support Platform (STFSP) set up around the Rural Task Force will promote support, training and the availability and processing of useful data. Beyond the GGW stakeholders, the STFSP offers opportunities for researchers and students to follow in the field, the implementation of proven forestry techniques and encourage mobility, the exchange of experiences and know-how, training through research and availability of useful real-time planning and monitoring / evaluation tools and data provided by the Information and Observatory Early-Warning System (IOEWS), storing, processing and disseminating useful information to countries.

3.3.3.2.4. Potential for Local Development Opportunities (LDO)

The «soil» approach of local economic development is based primarily on the economic, cultural and tourist potential of the local community or inter-community space. Thus, one of the main challenges of land development is the establishment of a dynamic process of sustainable management that promotes the knowledge, reinforcement and enhancement of local development opportunities (LDO) and value chains in terms of resources, forestry, pastoral, agricultural, energy, water and cultural and ecosystem services.

In this context, the mastery of this potential for development and property rights in the soil should be the basis of the strategy and planning of development actions. A diagnostic audit of LDOs, land holdings and transboundary resources initiated in the grip of the GGW should allow to better understand the potential of development of the land updated and well mastered. It will be done beyond an inventory, by a diagnostic cartography and the production of specific data of operations research and innovation the most exhaustive possible in an economic vision and with the aim of development of activities generating income.

3.3.3.2.5. The Domino Model of Agricultural Development: Integrated Farms Community Farms (IFCF)

This model configured at the local community level is iterative and integrative. It relies on the implementation, multiplication, and domino dissemination of Integrated Farms Community Farms (IFCF). The IFCF is the base lever of the GGW model of soil approach to development and local governance in the process of transformation of Sahelian soils. This model integrates the realities and the constraints of management of the natural resources of the property inheritance and the economic role of the local communities and local populations who are here promoters, actors, beneficiaries and shareholders of their own development.

The IFCF are articulated around the integrated development in a plot of 5 to 10 ha of the zone of economic, social and environmental interest of various agricultural crops including horticulture, beekeeping, poultry farming, fish farming, livestock farming, sheep and goats, etc. with management and valorization of the interfaces between these speculations. This approach, which places communities and local populations at the center and involves them upstream and downstream, has the advantage of removing the constraints and burdens related to land management which are particularly difficult in most Member States and which is a limiting factor in the development and securing of soils. The multiplication and integration of these IFCF into a coherent economic unit generates within the community or inter-community scope an Integrated Community Agricultural Domain (ICAD) of at least 100 ha.

The establishment and diversification of the ICADs, strengthen production and processing capacities in the soil and favor the interest of the private sector in exploiting the economic, cultural and tourist potential of the soil and in the large-scale creation of rural agro poles (Agropor), with the creation of product processing and marketing units through the development of Public-Private Partnerships (PPP).

The economic emergence and the critical mass of human concentrations by the return and the setting of the living forces of the soil will justify the development of infrastructure and basic social services notably of health, education, renewable energies, access to water, etc.). These factors of economic emergence are also creating jobs and generating stable incomes and the emergence of Rural Production and Sustainable Development Poles.

3.3.3.3. Financial Instrument: Adaptation and Resilience Fund for Climate Change and Local Economic Development (ARFCCLED)

The Adaptation and Resilience Fund for Climate Change and Local Economic Development (ARFCCLED), is envisaged to have a better visibility and a good

rationalization of the scattered resources, mobilized by various structures or initiatives claiming the Great Green Wall. It is intended for the implementation of the support programs to the climate management and the local economic development in the Great Green Wall soils, in particular programs of adaptation and resilience to the climate change and community development of the soils.

ARFCCLED is proposed in a US $ (01) billion trust fund with resources from various sources including Technical and Financial Partners, public and private sectors, funds associated with decentralization, innovative instruments of mobilization of the Agency's innovative resource mobilization instruments such as the Green Fund and GEF, the GGW Carbon Bank and carbon finance.

ARFCCLED supports the traditional resources mobilized in co-financing with partners for projects of common interest as well as the States' efforts on their own resources. Management is relocated at national and local level to facilitate financial interventions.

3.3.3.4. An Operational Information and Communication System (OICS): The Strategic Plan for Communication and Advocacy (SPCA)

Communication and advocacy is an important component in the implementation of the GGW. It has developed an Operational Information and Communication System (OICS) to enhance the visibility, credibility and ownership of the Vision, Objectives and Programs of the GGW and the commitment of state decision-makers, stakeholders, beneficiaries, and scientific, technical and financial partners. OICS is an Inclusive Communication and Advocacy Strategy for the positioning and promotion of Agency Activities and Programs / Projects as well as their expected impacts through the GGW. It aims to strengthen the popularization of the Great Green Wall Initiative and serve as a powerful lever for communication and advocacy for the Fundraising process. In addition to the OICS, the Initiative also relies on other communication and information media such as the quarterly magazine 'The Echoes of the GGW' and the nomination of Ambassadors and Champions for GGW Projects and Programs.

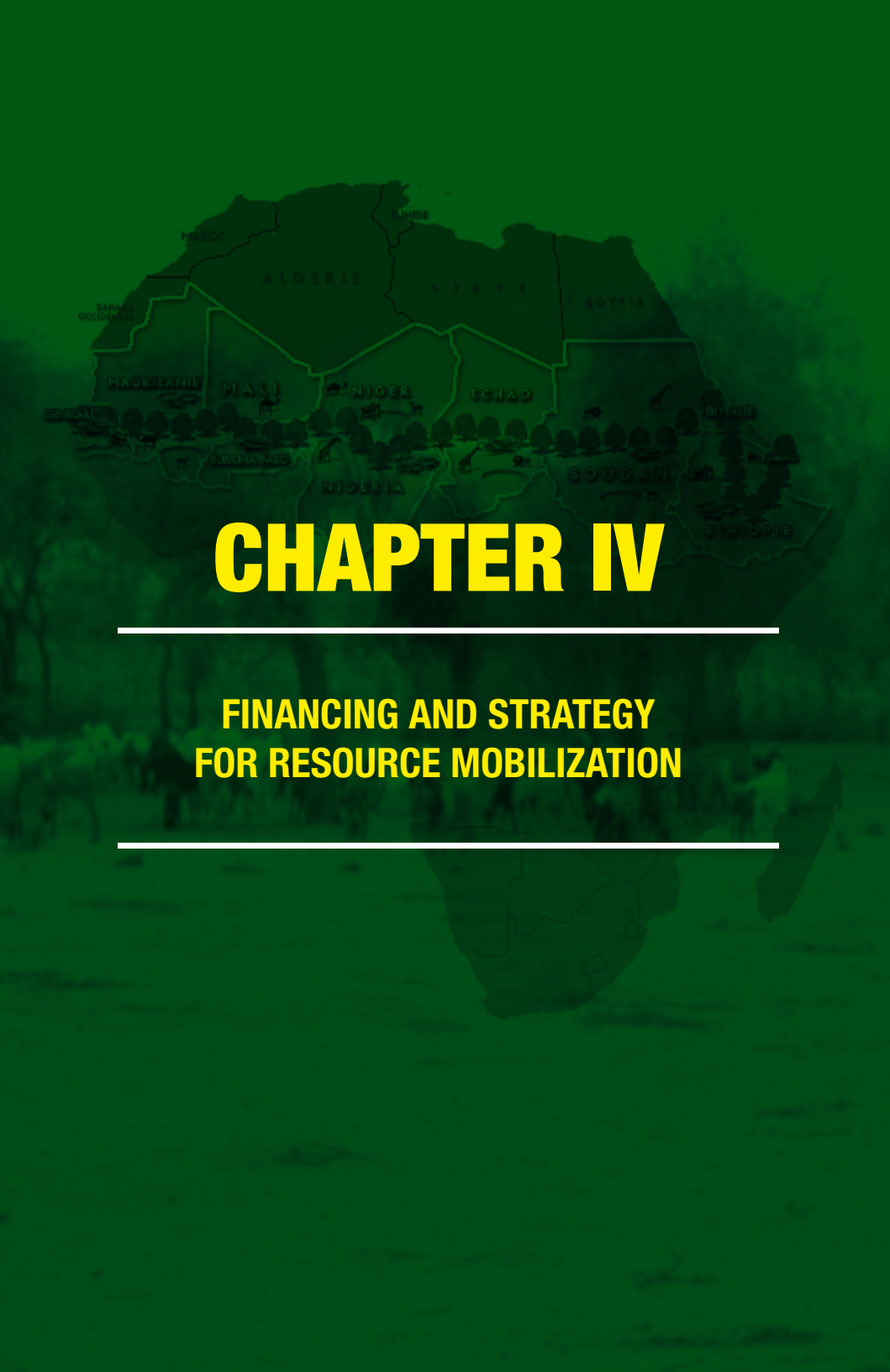
3.3.3.5. Resource Mobilization Strategy Paper (RMSP)

Resource mobilization is the process by which the GGW Initiative acquires the means necessary for implementation through the execution of the actions of its various operational and strategic plans. It is a guide that will be structured around a combination of targeted actions:

The Resource Mobilization Strategy Paper (RMS) provides an essential roadmap that describes precisely how resources could be mobilized to meet the organization's resource requirements (financial, human, goods and services).

The Resource Mobilization Strategy uses a variety of mechanisms including: (i) accreditation to the various Climate Funds; (ii) the setting up of a Scientific, Technical and Financial Support platform, framework for consultation with partners; (iii) the creation of a GGW Carbon Bank; (iv) the creation of a Climate Adaptation and Resilience Fund and Local Economic Development; (v) the signing of Performance Contracts between the Member States and their National Structures dedicated to the GGW.

The objective is to mobilize the necessary resources by raising awareness among potential Strategic Partners to the funding of GGW programs and projects.



CHAPTER IV

FINANCING AND STRATEGY FOR RESOURCE MOBILIZATION

4. 1 RESOURCE MOBILIZATION STRATEGIES

The realization of the Great Green Wall is an imperative to ensure the transformation and enhancement of the potential of the arid and semi-arid zones of the Sahel and to establish a more inclusive development in the context of the economic emergence of these zones through the creation of Rural Economic Poles (REP). Achieving such a vision and sustaining impacts require the mobilization of sufficient and planned human and financial resources. The mobilization, availability and management of the significant financial resources required to implement the Great Green Wall is one of the limiting factors in achieving the GGW Initiative.

The results of the last five (5) years of implementation have shown that one of the major constraints was the mobilization, sustainability and use of both domestic and foreign financing. The absence of a good mastery of financial resources planning has had a very negative impact on the progress of the process.

One of the observations made on the mobilization and use of scarce external financial resources recorded as support for the GGWI is the lack of rationalization and the loss of these affected resources. The Great Green Wall is currently the subject of multiple interventions without traceability and often with very limited impacts on targets. It is important to define a one-stop-shop (Executing Agency for the funds allocated to the GGW) and to retain the standard GGW-labeled project model, in order to guarantee the impact and visibility of the interventions. In this context, it is necessary to set a percentage of at least 60% to devote specifically to field achievements on any funding dedicated to the GGW.

The financial resources likely to intervene in the implementation of the GGW are the domestic resources, coming from the Member States and the local Private Sector and the external resources mobilized from Cooperation Agencies, international institutions and the main mechanisms and financing instruments, those of the United Nations Conventions on Climate Change, the fight against desertification and biological diversity.

The financial resource requirements for the financing of the 2016-2020 Five-Year Action Plan are broken down into the operating and equipment budget of the Coordination and Operations structures and program budget, dedicated to the field implementation of part of the Flagship Action Priority Program (FAPP) of the five portfolios and also the nine Regional Structural Programs (9) (RSP).

4.2. DOMESTIC RESOURCES

They come from the Member States one side by the statutory contributions payable to the operating budget of the PAGGW and the direct interventions in the implementation of the national GGW components. They are also derived from resources mobilized from the local private sector as part of their interventions in the implementation of GGW Programs and projects.4.2.1. Statutory contributions from member states

The statutory contributions payable by the States are devoted almost entirely to the operating expenses and some investments of the Agency. Unfortunately, the level of the annual contribution per country set since the creation of the Agency, which is not compatible with the Agency's burdens, as well as the difficulties involved in mobilizing them, have severely limited the activities of the Agency. This rate should be raised by 100% and an operational plan of clearance of the claims of the Agency on the States set up to ensure the technical and financial viability of the Agency and allow it to feed the heading Intervention Fund in the Programs and Projects (IFPP), planned to fulfill the contractual commitments in the co-financing of the Programs and to amplify its Promotion and Advocacy Activities.

4.2.2. Direct State Interventions in Financing As part of the implementation of the national components of the GGW, the member states of the Initiative have for the most part agreed to significant financial efforts on their national resources. These financial efforts testify to the will and commitment of these States. They played a catalytic role in launching the implementation of the GGW and contributed to the mobilization of the Partners. The analysis of the Strategic Objectives (SOs) and the GGWI Vision indicates the impacts and added values on the National Policies for Socio-Economic Development, Restoration and Sustainable Management of Natural Resources and Degraded Ecosystems, Protection and Conservation natural capital economics by optimizing value chains that must be considered when accounting for macroeconomic parameters. However, accounting for the GGW in terms of results and impacts in achieving the objectives of socio-economic development, the fight against poverty and food insecurity, sustainable management, and the increase of arable land through the actions of restoration is not yet effective in Member States and GGW Programs and Projects do not always rank among the funding priorities.

The actual economic contribution expected from the GGWI, should lead the States and their partners to consider the national programs and projects GGW among the national priorities and to make them benefit as such:

- allocations in the Medium-Term Expenditure Framework (MTEF) of State budgetary policies to support the achievement of the national component. To this end, the Performance Contract mechanism based on a strategic roadmap drawn up between the State and the Institution should be encouraged to facilitate better planning of the Flagship Action Priority Program (FAPP) based on program budgets;

- ranking among the national priorities eligible for the Member States 'portfolios of Member States' allocations to Technical and Financial Partners. This ranking would facilitate the mobilization of financing and support of subsidy rates from financial institutions that have been approached and have shown their commitment to support in co-financing the National Projects of the GGW Member States.

4.2.3. Local Private Sector

The implementation of the Great Green Wall opens important economic opportunities for the local private sector. Indeed, the integrated approach of the local economic development based on the exploitation and the transformation of the various products of the GGW as well as the reinforcement of the basic infrastructures through the realization of the 15 FAPP and the 9 RIPS in the optics of creation of RPPSD. It offers an important source of business opportunities to the private sector in general and to the local private sector. Business opportunities are part of the Public Private Partnership (PPP) with states and local communities or as a joint venture with the international private sector.

Private sector promotional activities are planned for the course of 2017. The Side Event organization on GGW economic opportunities and the creation of Data Rooms at Headquarters and National Agencies is planned.

4.3. EXTERNAL RESOURCES

4.3.1. Financial challenge

The five (05) years of the first five-year implementation cycle have helped to better understand the economic and strategic reach of the Great Green Wall, its importance and its impacts on human development and conservation and environmental protection and resilience and adaptation to the effects of climate change.

The twelve (12) impacts of the integrated approach recalled below reflect the positioning and the contribution of the Great Green Wall towards the issues and concerns post 2015 period of the international community:

- an integration of the three United Nations framework agreements;
- a Program of Sustainable Integral Development of Rural Soils (PSIDRS);
- a rural green economy and family farming development approach;
- a pool of youth employment and a vector of migratory inversion;
- a mosaic of carbon sinks and greenhouse gas as part of mitigation and Planned Contributions ...;
- a mechanism for adaptation and resilience to climate change of Vulnerable Populations and Communities of Rural Soil of the Sahel;
- a significant contribution to achieving the Sustainable Development Goals (SDGs);
- a sustainable land management mechanism towards neutrality in terms of land degradation and forest protection and conservation;
- a mechanism to combat poverty, malnutrition, and food insecurity;

- a powerful input of Economic Emergence Plans through the rehabilitation of the potential of the rural world;
- an important contribution to the improvement of macroeconomic indices, economic growth rates, agricultural GDP for 1 to 2.5 points, the Human Development Index of Member States;
- a significant contribution in the trajectory towards 2030, to the commitments of the States in the United Nations Conventions in terms of the fight against the desertification, the climate change, the biological diversity, as well as the objectives of Sustainable Development.

- an asset and a vector of peace, cohesion, and harmonious integration.

The achievement and sustainability of such impacts will require the availability of sustainable funding, i.e. sufficient and planned during the various five-year cycles to 2030. In this context, it is proposed to set up a GGW Specific Financial Action Plan (SFAP/GGW). Indeed, the strong value-added that the realization of the Great Green Wall could bring to the socio-economic development, to the social cohesion and to the regional political and economic integration of the Member States classified as vulnerable to very vulnerable, constitutes a bundle of factors that would justify the urgency of the GGW Specific Financial Action Plan (SFAP/GGW). Such an initiative is in line with the high-level meeting of Heads of State and Government held in Paris on December 1st, 2015 on the sidelines of COP21 on Africa's solutions to climate change, particularly on climate change. GGWI and is part of the logic of the mobilization of the financial resources announced by the various partners during this political advocacy and the implementation of new internal instruments of mobilization of financing envisaged by the PAGGW.

As part of the funding we identified potential sources of resource mobilization. These include:

(i) National public funding

- Allocations in the Medium-Term Expenditure Framework (AMTE) of State budget policies to support the achievement of the national component;
- Assignment of part of the resources from international financing mechanisms by reserving allocations of up to 10% of the portfolios of each country to the financing of national projects labeled with the Great Green Wall.

(ii) International public financing.

-Devoting part of the conversion of the country's debts in the financing of Local Economic Development projects in areas of the Great Green Wall on the components, development and protection of ecosystems and production systems, sustainable land management, sustainable development family farming, pastoralism, income-

generating activities, and the development of rural entrepreneurship.

(iii) Regional and sub regional public funding, encourage financial support from African regional and sub regional community institutions (ECOWAS, UMA, UEMOA, IGAD, ECCAS, etc.).

(iv) National and international private funding,

- Develop the public / private partnership through the GGW package (development and conservation of resources / local economic development, support for research and training in rural development, basic infrastructure);
- Promoting the partnership and support of the rural entrepreneurial initiative by the formal private sector in the context of community development in rural areas.

(v) Financing of the 09 Structural Regional Programs (PRS)

- The Global Amount sought for the financing of the nine (9) RIP is in the range of US $ 525 million planned over the period of the Programs execution. As part of the mobilization of the required funding, requests have been prepared and submitted to institutions including the African Development Bank (AfDB), the Islamic Development Bank (IDB), the West African Economic and Monetary Union (WAEMU) and expert missions are scheduled. In the case of the RIP over TAP, the financial arrangement is in progress.
- The World Bank's financial assistance of 2 to 6 $ US Billion, the Global Environment Facility (GEF), the United Nations Environment Program (UNEP), the United Nations Development Program (UNDP) UNDP) and other targeted countries and institutions (France, Turkey, China, India, European Union, Arab Funds, Nordic Funds, etc.) should facilitate the mobilization of funding. In this context, a high-level meeting with donors is planned in September 2016 on the sidelines of the COP22 in Marrakech during which the commitments should be specified.
- The implementation of the instruments planned within the Agency and currently being finalized should facilitate the mobilization of resources on the Climate Funds and the opportunities offered by the Carbon Finance. It is (i) a GGW Carbon Bank (GGWCB) for financial support and acceleration of the implementation of the National Mitigation and Adaptation Strategies and building the resilience of Communities and Populations Local of the member states of the GGW; (ii) the GGW Fund for Adaptation and Resilience to Climate and Local Economic Development (ARCLED) in the soils; (iii) a Program and Project Intervention Fund (PIF) to facilitate the release of the Agency's share in Partner-related Programs.

4.3.2. Summary estimate of indicative financing needs

The summary estimate of the financing needs for the 2016-2020 FAP gives an overall amount of: One thousand four hundred and sixty-five billion six hundred and two million six hundred thousand (1465,602,600,000 FCFA),(see Strategy Paper 2016-2020).

Financial planning is detailed in the Five-Year Action Plan (FAP 2016-2020), an integral part of the Strategy. Indicative funding data for the other five-year cycles 2021-2025 and 2026-2030 after the evaluation at the close of each year cycle.

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CHAPITRE V

RISKS IN IMPLEMENTING THE GGW INITIATIVE

The Great Green Wall benefits from the guarantee and the commitment of the highest African authorities. It is a good opportunity that Africa offers to the international community to act effectively and in synergy for the resolution of the major environmental, climatic, socio-economic, food insecurity and regional integration challenges.

The technical approach and operational planning are well mastered. The legal, organizational, and structural fundamentals are put in place and all the operational dynamics impelled. In addition, at the end of the five years of implementation of the first five-year cycle 2011-2015, the ownership of the Initiative by the various actors, the target populations and most of the Technical and Financial Partners is effective. However, during the five (05) years of the second cycle 2016-2020, these achievements will be consolidated at the level of each Member State through national alliances and awareness campaigns to the local communities and to the international community through a communication plan. and better developed and sustained advocacy.

The analysis of the 2011-2015 five-year report highlights significant advances in technical implementation, the positive perception of the various players and the many expectations related to the realization of the GGW, as well as major risk factors that can slow down the execution even mortgaging the outcome of the Initiative, as pre-planned. These risks are essentially:

• **the lack of will of the Member States.** The project falls within the framework of Continental Cooperation between the Member States. The particularity of the Initiative is the decision of the countries to work together and make the efforts jointly. Thus, the technical, political, and financial commitment expected from each Member State at the right time and in accordance with the planning constitutes a major constraint in the implementation;

• **mobilization and planning of financial resources.** Despite the political commitment of countries and technical, financial, and scientific partners, mobilization difficulties and the planning of funding despite numerous announcements have been one of the limiting factors in the operationalization of the programs and projects of the GQP 2011- 2015. Mechanisms for mobilizing domestic and foreign funds and starting cooperation agreements can lead to delays and demobilization. Similarly, the lack of good planning and sound policy towards value-added dedicated resources for local communities both at the States level and at the international community level, may aggravate such situation;

• **political instability and / or insecurity in the targeted areas of the GGW.** Global insecurity, local conflicts, land issues, political instability are all risks in the regional approach. The Heads of State of the countries of the route and the international community, must take care to solve the current and future security constraints in the Sahel and in the areas of implantation of the GGW whose continental character is a stake of basic economic development and political and cultural integration;

• **climate risks.** Climate variability is one of the strategic parameters to support in all development projects. The impact of climate risk is even greater in the case of arid zones where annual rainfall minima are supported in the planning of operational field and agro-sylvo-pastoral activities;

• **Coordination of the initiative.** The impact of effective regional and national regional coordination is also an important factor in the success of the Initiative. Multiple and unplanned interventions in the various stations of the Initiative's governance scale are counterproductive and provide a signal of unpreparedness and lack of logical approach that can discredit the Initiative and curb the heat and trust of the Partners. Respect for the missions and roles assigned to each of the Initiative's policy and technical governance stations is essential and must be clearly established in the implementation of this 2016-2020 GGWI Strategy.

PART TWO

GGWI IMPLEMENTATION STATUS OF ACHIEVEMENTS IN 2011-2017 AND CHALLENGES TO THE 2030 PATH

INTRODUCTION

The Great Green Wall African Project originates from the Great Green Wall Initiative, born from the political will of the African Heads of State and Government whose objective is to stop desertification through the restoration of land and socio-economic development of the soils. To this end, the implementation of this Initiative is carried out by the Pan African Agency of the Great Green Wall whose missions are the coordination, the monitoring of implementation activities achievement and in collaboration with the African Union, mobilizing the necessary resources.

The Agency is relayed in each of the Member States by an Agency or national structure dedicated to the Great Green Wall responsible for the physical achievement of the implementation activities.

This Part II of the Work entitled «GGWI: Achievements from 2011 to 2017 and Challenges to the 2030 Path» consists of two Chapters:

Chapter 1 reviews the achievements of the PAGGW from 2011 to 2017;

Chapter 2 capitalizes the main achievements in each of the Member States.

Specifically, the PAGGW achievements are institutional and management of projects at the regional level. They highlight the achievements and advances relevant to the viability of this important project in terms of governance, stakeholder capacity building, communication and advocacy as well as in the mobilization of resources and the implementation of programs and projects. This chapter highlights key messages, vision and objectives, the conceptual framework, and the implementation strategy.

The achievements in the Member States concern the detailed review of the achievements in the period of implementation at the level of each country through the flagship activities of land restoration, community development in the soil, capacity building and their impacts on the environment targeted populations, funding for projects and programs as well as challenges and opportunities. In addition to an executive summary for each Member State, the review of the country revisions considers the following aspects:

1. the Context analyzing the Country Profile, the area of intervention and the institutional and conceptual arrangements for implementation;

2. an overview of the main re-enactments from 2011 to 2017 depending on the start of work in each country;

3. Ecological and socio-economic impacts;

4. Partnership and Financing, Challenges and Prospects

CHAPTER I

PAN-AFRICAN AGENCY OF THE GREAT GREEN WALL ACHIEVEMENTS

The analysis of cross-cutting Flagship Actions (FA) carried out by the GGWI, the executing agency of the Great Green Wall Initiative at the regional level during the period 2011-2017, makes it possible to identify significant results at the institutional level, legal and regulatory framework and in operational planning.

In its missions of coordination, monitoring of achievements and mobilization of the resources are summarized in the sections relating to the strengthening of institutional aspects, the strengthening of stakeholders' competences, the setting up of the Operational information and Communication System.

1.1. INSTITUTIONAL STRENGTHENING

1.1.1. Development and implementation of framing and planning elements

1.1.1.1 Global Harmonized Strategy (GHS)

The GHS, framework and orientation document for the implementation of the Initiative is developed in 2011, according to a participative and inclusive approach of experts based on Strategic Major Axes identified and selected in 2010 in Nouakchott following an iterative process. The elaboration of the GHS also capitalizes on the many and diverse reflections of experts and political authorities at international meetings and statutory sessions of CENSAD.

1.1.1.2. Strategic planning

The GHS is implemented according to strategic and operational planning at the five-year cycle. In accordance with the Global Harmonized Strategy, the PAGGW in collaboration with the Member States and in the framework of its Strategic Planning, in a participatory approach has elaborated with the Member States the Strategies and Action Plans 2011-2015 and 2016-2020 and ensured the popularization and promotion of the planning documents.

1.1.1.3. Strategic Planning and Monitoring Tools

The PAAGW has all the appropriate administrative and financial management tools, including the Manual of Administrative, Financial and Accounting Procedures, developed in 2011 and revised in 2018, the Internal Ruling and the Staff Regulations, a Five-year global harmonized cycle Strategy with a Resource Mobilization Strategy and a Strategic Communication Plan.

1.1.1.4. Coordination, Monitoring and Certification of Financial Statements

In accordance with the provisions of the Convention and its missions, the Agency has regularly organized (i) statutory meetings and ensured the implementation of Resolutions and Recommendations including the Summits of the Conference of Heads of State and Government of the PAGGW and the Sessions of the Council of Ministers preceded by meetings of the Technical Committee of Experts, (ii) the

missions of auditing of all the years of 2011-2017 which resulted in the certification of the accounts and financial statements by the External Auditor (EA) of the PAGGW and discharge given to the Executive Secretary by the Council of Ministers.

1.1.2. Development and implementation of management tools, strategic planning, and monitoring

1.1.2.1. Management and Communication Tools and Mechanisms

As part of its communication, advocacy, coordination, and monitoring of GGW national structure activities, the Agency has set up an Operational Information and Communication System (OICS). The OICS consists of a tri-modular infrastructure called «Information System, Observatory, Early Warning" (ISOEW) for data collection, processing and disseminating. It also consists of a communication unit responsible for the promotion and the advocacy of GGW vision, objectives and Programs and Projects to the International Community for the mobilization of funding.

In accordance with the provisions of the Convention, and with the aim of creating synergies, rationalizing, and harmonizing the actions and initiatives at the national level around the GGW, the PAGGW regularly supports the National Structures in the establishment of GGW National Alliances.

1.2. SKILLS STRENGTHENING

The skills strengthening activities are targeted to the needs of the GGW. They consisted of the organization of workshops and seminars by the PAAGW and the partner institutions on topics of interest for the implementation of the GGW (SLM, Desertification ...). They targeted the staff of the Scientific and Technical Direction of the PAAGW, the Focal Points and Technicians of the Ministries in charge of the Environment of the Member States, the experts of the National and International Partner Organizations. Since 2016, through its Support Program for Research and Training (SPRT), scholarships have been awarded to Master's and PhD students on themes of the GGW.

1.3. MOBILIZATION OF FINANCIAL RESOURCES

1.3.1. Programs and Projects Portfolio

The PAGGW in the implementation of the GHS has elaborated the Five-Year Action Plans 2011-2015 and 2016-2020 which made it possible to identify major strategic axes of intervention with structuring programs and regional projects integrating in an integrated rural development approach, aspects of degraded land restoration, economic development, adaptation, and resilience to CC and the fight against food insecurity and migration.

1.3.2. Advocacy and Platform of Cooperation and Partnership

Thus, to encourage the mobilization of funding, the PAGGW strengthens its partnerships with financial institutions and organizes international meetings for the financing of its programs and projects (Cop 21, Round Table of Donors ...), it also sets up mechanisms and tools for mobilizing resources through the GGW Carbon Bank, the Adaptation and Resilience Fund for Local Economic Development.

1.3.3. Innovative Tools for Resource Mobilization

The PAGGW, as part of its financial resource mobilization missions has developed various tools and innovative instruments that should accelerate the implementation of the Projects and Programs of the Initiative:

- Establishment and operation of a GGW Carbon Bank,
- Establishment and operation of the FACDE in Trust Fund,
- Accreditations in Executing Agency and in Climate Funds,
- Implementation of Communication and Advocacy Plan,
- Development and implementation of a Resource Mobilization Strategy (RMS).

1.3.4. Frameworks for Consultation, Advocacy and Resource Mobilization.

As part of the advocacy and promotion of the GGWI, the PAAGW has set up consultative bodies technically and financially. It's about the following:

- a Scientific, Technical and Financial Support Platform (STFSP) and specialized consultative bodies for advocacy and mobilization of financial resources including:
- a Recruitment, Evaluation and Advancement Committee (REAC);
- a Platform for Partnership and Scientific, Technical and Financial Cooperation (PPSTFC),
- a Platform of Women and Youth,
- a Forum of Actors and Beneficiaries (FORABE);
- Round Table of Technical and Financial Partners.

CHAPTER II

MEMBER STATES ACHIEVEMENTS

INTRODUCTION

The implementation of the GGW is carried out on the tracks of the national components of each country. These national components constitute the indicative route (Fig 5). For most countries, it is in an expropriation zone, which considers 100- 400 mm isoheights. The national component of the route is delimited, refined, and characterized based on physical, eco-geographical, climatic, socio-cultural, and economic criteria. In some countries, the adoption of the national GGW route has been the subject of in-depth exchanges in sessions of the national parliament when the law ratifying the Convention establishing the PAGGW and a deliberation of the Council of Ministers through outreach and inclusive dialogue with grassroots communities located in an expropriation route.

The GGW intervention framework is developed at national level and is consistent with the priority orientations of the national policies and strategies of each Member State and a cross-diagnosis between actors and beneficiaries. This previously operated diagnosis identifies the main issues and sets the main orientations in terms of the Conceptual Strategy and Operational Approach for the GGW.

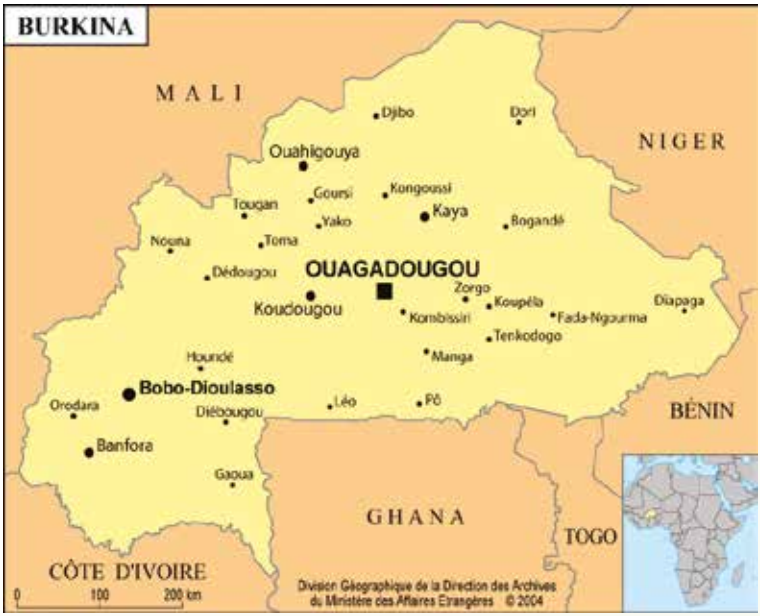
The Action Plan and the Operational Planning are consistent with the region and the GGW programs and projects developed around the Major Strategic Axes (MSA) defined in the five-year plans of the Globally Harmonized Strategy (GHS). The achievement of the national activities is done according to the direct resources coming from endowment on the national budget, the capitalization of the local opportunities of the other current projects and the financing and co-financing of Technical and Financial Partners intervening in the fields of interest of the GGW initiative. Thus, the establishment of National Alliances GGW, to promote synergies between the various ministerial departments and public structures and the rationalization of national resources are advocated in each Member State.

This chapter sets out achievements and gains at the level of each of the eleven (11) Member States. It reviews the achievements of concrete activities to operationalize the GGW on the ground during its 2011-2017 implementation.

These achievements are presented for all Member States, country by country according to the alphabetical order and numbered from **1 to 11: 1. Burkina Faso, 2. Djibouti, 3. Eritrea, 4. Ethiopia, 5. Mali, 6. Mauritania, 7. Niger, 8. Nigeria, 9. Senegal, 10. Sudan and 11. Chad.**

Fig. 5 :Member countries of the Great Green Wall along Dakar-Djibouti axis

I. BURKINA FASO



Executive summary

In Burkina Faso, SLM achievements enabled between 2011 and 2017, mainly the production of more than 14 million plants, the recovery of 18,122 ha, the reforestation of 19,313 ha, the disposal of 585 ha, the RNA on 12,500 ha, the realization of stone barriers and bunds on 2709 ha and 3675 ha of Zaï, the construction of 49,633 «3 stones» improved households. These achievements are accompanied by numerous Income Generating Activities (IGAs) related to Sustainable Land Management (SLM) to improve the quality of household nutrition and create wealth through nutritious gardens, valorization of NWFPs, production pf fodder and honey, sale of seedlings. In addition, there are capacity-building actions in which 2,500 technicians and 24,000 producers have been trained in the various fields (SLM, agroforestry, M & E, management, construction of "3 stones» improved households).

In terms of impacts, there is evidence of sustained efforts by Burkina Faso in the restoration of land for agricultural, pastoral and forestry purposes, a strong involvement of local NGOs in the implementation of the GGW, the creation of more than 45 383 jobs as well as the generation of direct financial receipts for the populations benefit of the intervention zones (more than 3 billion CFA francs were generated by the sale of NTFPs, market gardeners and plants by local populations).

In perspective, it is necessary to note the reinforcement of the resources mobilization through a durable financing, the capitalization of the acquired assets, the elaboration and the implementation of the Action Plan 2018 - 2022, the setting up of a National Alliance around the GGW the contribution to the operationalization of the Ouagadougou call, which is part of Burkina Faso's overall strategy for managing natural resources.

1.CONTEXT

Burkina Faso faces major environmental problems including land and water degradation, biodiversity erosion and climate change accentuated by the mismanagement of natural resources due to increasing population pressure, a non-renewable sustainable energy system and growing urban environment problems. It is in this context that Burkina Faso, like several Sahel - Saharan states, is engaged in the dynamics of the Great Green Wall Initiative for the Sahara and the Sahel (GGWISS).

The implementation of the GGWISS is oriented in a vision of Sustainable Land Management (SLM) considering the major concerns of the populations and the environmental challenges of the country and the priority regions of intervention. The choice on SLM is consensual and strategic to better unite efforts to combat desertification, loss of biodiversity and climate change, but also to tackle rural poverty.

The context deals with the Country Profile, the Area of Intervention (layout and influence of the GGW as well as the institutional and concept of the GGW implementation).

1.1. Country profile

Burkina Faso's country profile presents the physical, climatic, ecological, demographic, socio economic aspects...). From a physical point of view, Burkina Faso covers an area of 274,200 km² and administratively, the territory is subdivided into thirteen (13) regions, forty-five (45) provinces and three hundred and fifty-one (351) of which three hundred and two (302) rural communes. It is a Sahelian country with a predominantly arid to semi-arid climate, facing relatively difficult agro-ecological conditions due to climatic deterioration and increasing anthropogenic pressure. An extreme irregularity of the water heights characterizes the rainfall regime both in time and in space. The analysis of average rainfall covered by the third State of the Environment Report indicates that it varies from 300 mm in the north to over 1,200 mm in the south-west of the country (Figs 6 and 7).

Demographically, the population is estimated at 19,034,397 in 2016 and could reach 21,510,181 in 2020. The average annual population growth rate is 3.1%, with an estimated population of 18,931,686 in 2015 (a density of 69 inhabitants per km2) against 47 inhabitants per km2 in 2003. This population is young with 47% under 15, 67% under 25 and 33.2% between the ages of 15 and 35.

Between 2009 and 2014, the incidence of poverty fell by six points, from 46.7%, for a poverty line of 108 454 FCFA, to 40.1% for an estimated poverty line of 154 061 FCFA. The depth and severity of monetary poverty also decreased from 15.1% and 6.7% to 9.7% and 3.3% respectively between 2009 and 2014. The rural sector accounts for 86% of the total population (RGPH 2006) and has a prominent place in the national economy. It provides about 61.5% of the cash income of farm households. This sector alone contributes almost one third of the national wealth (31% of GDP).

The overall contribution of primary activities to the national economy is 40.65% of nominal GDP in 2008, ie about CFAF 1 500 billion. The agricultural activity is the most important of the whole of this sector with a share of 17,90% of the GDP of 2008, about 660,43 billion FCFA. The livestock activity followed by forestry (fig 8) contributed respectively to 14.5% and 6.58% of GDP in 2008. Almost half (46%) of the territory is subject to land degradation phenomenon (disappearance of vegetation cover, weakening of soil impoverishment, erosion and lowering of water tables ...) (FAO, 2007).

[1] National Plan for Economic and Social Development (PNDES) 2016-2020]

[2] INSD / RGPH: Demographic Projections 2007 to 2020 (2009)

[3] National Economic and Social Development Plan (PNDES) 2016-2020]

[4] IPE-BURKINA: ECONOMIC EVALUATION OF THE ENVIRONMENT AND NATURAL RESOURCES IN BURKINA FASO (final report 2011

La contribution globale des activités primaires à l'économie nationale est de 40,65% du PIB nominale de 2008, soit environ 1 500 milliards de FCFA. L'activité agricole est la plus importante de l'ensemble de ce secteur avec une part de 17,90% du PIB de 2008, soit environ 660,43 milliards de FCFA. L'activité d'élevage suivi de la foresterie (fig 8) ont contribué respectivement de l'ordre de 14,5% et de 6,58% du PIB en 2008 . Près de la moitié (46%) du territoire est soumise au phénomène de la dégradation des terres (disparition du couvert végétal, fragilisation appauvrissement des sols, érosion et la baisse des nappes phréatiques…) (FAO, 2007).

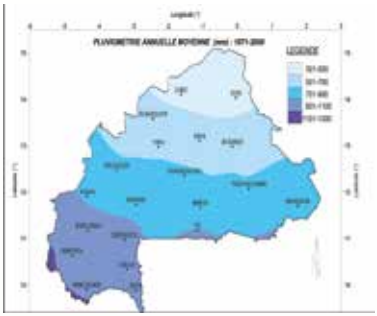


Fig.6: Spatial distribution of average annual rainfall (1971-2000)
Source: Department of Meteorology, 2002

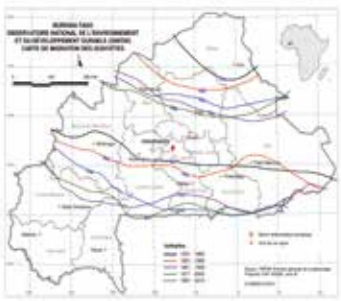


Fig.7: Isoheight migration map
Source: National Observatory of the Environment and Sustainable Development. MEEVCC (July 2012)

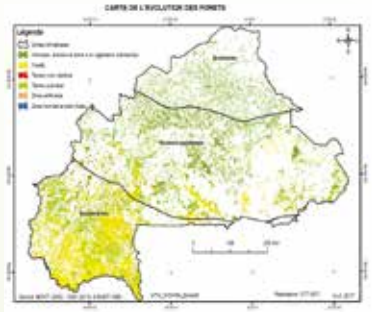


Fig. 8: Forest evolution between 2002 and 2013
Sources: Baseline Report, Targets and Related Measures of Neutrality in Land Degradation in Burkina Faso 2017.

1.2. Intervention area (GGW route and expropriation)

The priority intervention zone of the GGWI in Burkina Faso is composed of four (4) regions: Central Plateau, North Center, Sahel and East (Fig. 9). These regions were chosen because of their high level of land degradation and connectivity with neighboring Burkina Faso countries under the GGW (Fig. 10). The reference situation in 2016 estimated the area to be recovered from 1,988,539 ha (Table 5). These four regions comprise 15 provinces and 101 municipalities with an area of 92,709 square kilometers. The population of this area of influence of the GGW was estimated in 2006 to 4,076,238 inhabitants and women represent an average of 51.77%. By 2020, this area will have 6 million inhabitants, which requires special attention to restoration and land reclamation and productivity to increase agricultural production.

As part of the implementation of the PNDES and following the adoption of the resulting Agro-Sylvo-Pastoral Sector Policy, CN-GGWISS undertook the elaboration of the Strategy and Action Plan of the Great Green Wall initiative for the Sahara and the Sahel (SPA - GGWISS) for the period 2018 - 2022.

The Strategy and its Action Plan is intended as a unifying framework for mobilizing funding for sustainable land management and natural resource management. Its development for the next five years pursues the following objectives:

I. Adapt the orientations of this planning tool to the content of our national development reference framework, the PNDES, as well as to the Harmonized Results Framework defined by the PAGGW and the African Union Commission;

II. Take into account regional priorities for sustainable land management in the areas of agriculture, animal and fishery resources, water, environment and forest resources, and gender promotion.

III. Identify an institutional mechanism for implementation that is as effective as possible and values the capacities and potentialities of the different regions.

At the end of this exercise, the northern region will become a priority area for GGWISS in Burkina Faso.

Area of degraded lands to recover (ha)				
Sahel	Central Plateau	North Center	EAST	total ZI GGWISS
1 212 004	31 813	344 465	400 258	1 988 539

Table 5: Area of degraded lands to be recovered (ha)/
Sources: reference situation report GGWISS BF 2016

Fig. 9: Location of the Great Green Wall intervention zone in Burkina Faso

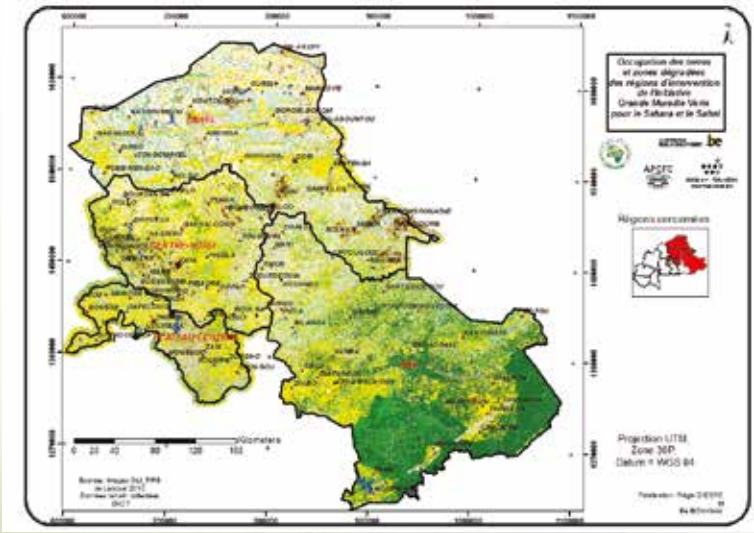


Fig. 10: the land cover map of the 4 GGWISS regions
Source: reference IGGWSS-BF 2016

1.3. Institutional and conceptual framework for implementation

The setting up of institutional, organizational, and conceptual mechanisms are essential levers for the implementation of the Initiative. To this end, since 2011, Burkina Faso has had institutional and conceptual achievements, notably:

-Signature of the PAGGW Convention, June 17th, 2010;

-The Ratification of the Convention, May 22th, 2015;

-The existence of political support that enabled the GGWISS to be present in the country's institutional landscape;

-The establishment and consolidation of the essential bases for promoting the operationalization of the GGWISS through the development of several tools (monitoring and evaluation manual, reference situation, communication strategy, training plan, strategy for mobilizing resources);

-The progressive appropriation of the GGW approach and the effectiveness of the achievements;

-The involvement of communities in the whole decision-making process of the actions to be implemented;

-The development of Technical and Financial Partnership for the mobilization of resources for the scaling up of good SLM practices.

2. OVERVIEW OF KEY ACHIEVEMENTS FROM 2011 TO 2017

Between 2011 and 2017, several activities were carried out in the intervention zone, in particular the field operational activities through the SLM (reforestation, defenses, ANR, agroforestry, CES / DRS) of Community Development and capacity building through training, development and research. These activities carried out by the UGGGW are reinforced by various projects, NGOs and associations intervening in the GGWI zone namely the Sahel, East, Central Plateau, North Center regions.

2.1. Field operational activities

Several achievements have been obtained. Table 6 below gives a summary of the flagship actions carried out between 2011 and 2017

FLAGSHIP ACTIONS	ACHIEVEMENTS	PARTNERS INVOLVED
Plant production	14 666 827 plants dominated by local utilitarian species(Acacia senegal Acacia nilotica Adansonia digitata Acacia macrostachya Zizyphus mauritiana Tamarindus indica Faidherbia albida Moringa oleifera)	- PRC-GGWSSI - ACD project - River Project - NGO Tiipaalga, - NGO GREN LAND - the Forest Sector Support Project (PASF), the Agricultural Productivity Improvement and Food Security Project (PAPSA), - the Parks Support Program (PSP), - the Consolidation of Local Environmental Management Project (COEM), - the Economic Growth in the Agricultural Sector Program (EGASP), - the NEER-TAMBA project - PAM, PLCE, - REACH- ITALIA, - the Forest Investment Program (FIP).
Reforestation/ reforestation	17063 ha reforested including 115 ha of baobab; - 2250 ha of direct seeding on scarified sites; - 2700 kg of seed for direct seeding of 4 species : (Alysicarpus ovalifolius, Cenchrus biflorus, Brachiaria ramosa, Eragrostis tremula) ; - 12500 ha of RNA achieved; - 250 ha of dunes fixed by Euphorbia cuttings; - 585 ha Defens built; - 2759 km of hedgerow, windbreak and alignment plantation completed.	
DRS CES, Establish agro forestry devices	- 662 ha of anti-erosion bunds; - 2047 ha of stony cords; - 1500 manure pits; - 6500 tons of compost produced; - 298 ha Half-moons; - 3675 ha Zai.	

Energy saving	- 49633 households « 3 stones »Improved built saving approximately 41600 tons of wood per year; - 2000 improved metal fireplaces were made.	
Recoverdegraded land	- 18,122 ha of land were recovered	
Training Programs	- 2500 technicians on seed harvesting and seedling production techniques, de-centralized management of forest resources, use of the tools of the market analysis and development (MAD) approach, monitoring and evaluation, environ-mental assessments, management, financial and accounting management, the development of RDTs. - 24000 producers on: ANR, half-moon, plant produc-tion technique, household construction techniques « 3 stones «Improved NWFPs.	

Table 6:Assessment of GGWISS flagship actions completed between 2011 and 2017

Dissemination of appropriate technologies: The GGWISS in Burkina Faso is part of a vision of Sustainable Land Management (SLM) and the environment. Operational activities carried out in the intervention area concerned afforestation, land clearance, RNA, plowing of degraded land sites using the Delfino plow, the manual work of DRS / CES and the practice of agroforestry in order to get the most out of the water, reduce erosion, maintain fertility (Plates 1 and 2), enhancing the value of non-timber forest products, an activity of excellence for the creation of financial income for the benefit of women and for household food security social mobilization.

Picture 1: Zaï Confection

Picture 2: Plantation de hedgerows

Picture 3: Half -moon confection

BOARD N ° 1: Illustration of good SLM practices implemented in the GGWISS intervention zone

BOARD N ° 2 (Photos 4, 5 & 6): Illustration of the plowing result of the delphino plow

Use of the best techniques of SLM: Techniques recently labeled SLMs practiced for decades (zaï, demi-lunes, stony cords, ANR, etc.) and adapted finely to the local context have been implemented on a large scale. From 2011 to 2017, past-silvo-pastoral activities were conducted, and the results are recorded in the table above.

To strengthen the production system, the hedgerow approach was introduced in the GGW zone by the NGO GREEN LAND. In the Sahel, the first vocation of the grove is to control rainwater where it falls through the development of bunds, ponds, and hedgerows, to mitigate the erosive action of the monsoon waters and maintain the biodiversity of an extremely fragile environment.

Like garden perimeters, protecting an area to grow vegetables, farmland perimeters

were developed to solve the problems related to extensive agriculture (overgrazing, erosion, fire) (Board No. 3). The concept developed here is based on the creation of co-ownership of farmland perimeters, including individual plots and communes whose management is organized around a land group of beneficiaries. The result is a totally restored environment where agriculture is no longer synonymous with erosion, where farming is no longer synonymous with overgrazing and where trees and shrubs are harmoniously integrated into the environment.

Picture 7: hedgerows perimeters

Picture 8: Manure pit

BOARD N°3: Past-Sylvo-Pastoral Activities in Hedgerows Perimeters

2.2. Community development

The use provided by the exploitation of non-timber forest products, have been beneficial for the environment as it reflects the farmer's responsibility (protection, sustainable exploitation). This explains the GGWISS focus on the subject.

Since 2011, the GGWISS and its partners have supported the development of stakeholder' abilities by contributing to their organization, training and equipment. Many TDMs related to SLM are being developed to improve the quality of household nutrition and create wealth. For this purpose, several activities were conducted namely:

- the establishment of nutritious gardens to produce baobab and Moringa leaves (Board N ° 5);
- valorization of fruits, seeds, leaves harvested in MED, consumed, processed, or sold;
- mowing and conservation of natural forage that is sold or consumed;

- the transformation of Balanites seeds (oil and soap) by women;
- beekeeping in regenerated forests (Board No. 4);
- Plants sale ;
- the development of improved stoves (Board N ° 4).

BOARD N ° 4 (pictures 9 & 10): Improved stoves and GGW products from Burkina Faso (honey, etc.)

BOARD N ° 5 (pictures 11, 12 & 13): market gardening on pilot farms accompanied by NGO GREEN LAND

The contribution of forest species to employment remains an everyday observation, from harvesting to marketing. However, the lack of technical or economic data makes its assessment difficult. NWFP production in the regions is closely related to available potential, market needs and, to a lesser extent, dietary habits. The most recent statistics on productions are those established at the end of 2015. The results of the regions of the GGWISS intervention zone are presented in Table 7 below, which gives some indicators on the exploitation and exploitation of these products (2011 - 2015):

NWFP	PRODUCTION ZONE GGWISS (Kg)	NATIONAL TOTAL (kg)	Price kg	MONETARY VALUE (FCFA) GGWISS
Shea almonds	350 000	307 510 822	240	84 000 000
Shea Butter	650 000	62 761 682	595	386 750 000
Soap	10 852	53 757	500	5 426 000
Nere Seeds	977 425	98 558 419	350	342 098 750
Soumbala	103 910	1 648 838	1 200	124 692 000
Nere powder	4 720	136 150	150	708 000
Monkey bread powder	16 617 032	57 677 150	85	1 412 447 720
Baobab leaves	267 374	665 372	185	49 464 190
Balanites almonds	1 036 726	2 305 755	200	207 345 200
Tamarind fruit	6 289 332	226 956 044	200	1 257 866 400
Fruit of liana	32 440	709 058 500	15	486 600
Dry chalices (kapok)	37 709	171 412	300	11 312 700
Total				3 882 597 560

Table 7. Indicators on exploitation and exploitation of NWFPs (2011 - 2015)
Source : DGEVCC, May 2016

Apart from these particular cases which are certainly related on the one hand, to the shortcomings of the methods of sampling and data processing, and on the other hand, to the slowness in the transmission of the collected information, the values which are recorded in the table reflect the stakeholders' dynamism in the different sectors and can guide future actions in terms of investments to boost the NTFP sectors.

2.3. Capacity Building

The GGWI Action Plan in Burkina Faso recognizes the importance of scientific research in the success of the initiative. It is planned to set up a Scientific and Technical Council to promote scientifically and technically useful innovations for the optimization of sustainable land and environmental management activities.

Since 2014 a research work is conducted on the theme «Planting of Acacia Senegal,

Acacia nilotica and Acacia raddiana inoculated and non-inoculated in the Great Wall of Burkina Faso, and for a comparative study of growth and production of Gum Arabic. The work conducted by INERA / DEF aims to boost the growth of plants by inoculating seedlings of Acacia Senegal with strains of rhizobia.

In addition, the GGWISS coordination took part in several meetings organized by the West African Center for Scientific Services on Climate Change and Adapted Land Use (WASCAL).

Finally, two students from FREE UNIVERSITY OF BURKINA and UNIVERSITY OUAGA II respectively worked on the themes «Local communities and sustainable development: contribution of the pan-African program of the Great Green Wall Initiative for the Sahara and the Sahel (GGWISS) «and» Contribution to the improvement of food security through the recovery of degraded lands in the provinces of Soum and SEno: Case of the Great Green Wall Initiative for the Sahel and the Sahara «, within the framework of their end-of-study dissertations.

3.ECOLOGICAL AND SOCIO-ECONOMIC IMPACTS

The activities of the GGWISS have had positive repercussions both on the local community and on the governance of SLM (Board N °6).

3.1. Impacts on beneficiary communities

- The manual work of DRS / CES enabled some households to increase their area (18,122 ha of land was recovered) exploitable and good yields of speculation on these treated lands were recorded.
- The sites plowed by the Delphino plow were colonized in the first campaign by an herbaceous carpet and the communities mowed the grass to make hay.
- Household support for land reclamation has attracted considerable interest from rural communities.

3.2. Impacts on local governance in SLM

The project activities proved to be a plea to deconcentrated administrative authorities and communal authorities on the risk of inaction in the face of the degradation of edaphic resources.

They also raised the hope that it is possible to reverse the trends of this degradation.

The marketing of NTFPs: (shea almonds, shea butter, nere seeds, monkey bread powder, baobab almonds balanites, tamarind fruit, liana fruit, kapok, honey, fodder, plants sale) and the exploitation of vegetable gardens have enabled producers to make more than 4,000,000,000 F CFAs and create many jobs.

Thus, it appears that in the GGWISS intervention zone, for the 2011-2015 period, all the NWFP sectors generate around 45,383 jobs, i.e. 20% of the national level, which is 223,106 jobs generated. The female population is more than 90% dominant, in all sectors except those of Arabic gum and the exploitation of honey.

With great potential, the GGWISS intervention zone is rising to the forefront of regions providing diverse NWFP products.

Picture 14: impact of the half-moons on the restoration of the lands (Tiipaaga)

Picture 15: Operation of infiltration basins (Green Land)

Board N°6 Achievements impact

4. DEVELOPED FUNDING AND PARTNERSHIPS

The GGWISS is implemented in Burkina Faso by a set of state and non-state stakeholders through a synergy / complementarity approach that carries out actions in a concerted manner and based on the fact that different stakeholders design and implement activities that complement each other either in space, time or targeting of beneficiaries so that one or more expected results are achieved.

4.1. Funding

4.1.1. Funding in progress

Project	Source funding	Amount CFA
Capacity Building Program - GGWISS (Phase 1 and 2)	State APEFE WBI	2,544,893,546
Action Against Desertification	EU FAO status	982 500 000
Local environmental front for a green union	State, EU, MM	327 500 000
TOTAL		3,854,893,546

Table 8 : Mobilized funding for activities implementation (2014-2021)

4.1.2. Other expected sources of funding

FUNDING	AMOUNT (CFA)	OBSERVATION
Restoration of Sahelian Forests and Landscapes	380 000,000	Project launched in :November 2017
Reducing Gaps in the Great Green Wall: Connecting Sectors and Stakeholders to Strengthen Synergies and Scaling Up	Not defined	Project launched in 2015 in Dosso, Niger
Improving the resilience of local populations to CC and poverty through the development of apiculture in addition to a local reforestation and market gardening project	15 000,000	Agreement signed, opening of the account in August 2017
Restoration of Natural Capital for Climate Change Resilience of Local Communities in the Sahel, North Central, Central Plateau and Northern Region of Burkina Faso (GGW Program)	25 000 000,000	Project under formulation in the context of the climate green fund - Burkina Faso-FAO
Establishment of modern palm-groves in the Great Green Wall Initiative intervention zone	4 000 000,000	Negotiation between the PAGGW and the IDB
Combating desertification and adapting to the effects of climate change: support for cross-border communities in the liptako-gourma zone	26 639,550 000	Cross-border project Burkina Faso-Niger. developed search for funding
UEMOA support for the implementation of the GGWISS	937,250 000	Request for funding sent to UEMOA by the PAGGW

Table 9: Other sources of funding

4..1.3. Country statutory contribution

Since 2011, the cumulation of the statutory contribution amounts to 199 494 084 CFA and the arrears are 150 000 000 FCFA. Arrangements are made for clearance.

4.2. Partnerships developed

Since 2011, the National Coordination of the GGWISS has put an emphasis on the consolidation of synergy and complementarity. In the context of the fight against poverty and the management of natural resources, the relevance of the search for synergies and complementarities is essential. This vision has greatly contributed to making the partnership between the GGWISS and its partners more dynamic. The main partnerships developed under the GGWISS focus on projects / programs, NGOs, and development associations whose actions are part of the fight against desertification and sustainable land management and with which geographic areas of intervention are shared. This facilitated the implementation and / or negotiation of the following projects (Table 10)

Implementation in progress	Pending startup	In formulation	in search of funding
Capacity Building Program - GGWISS **Objectives:** strengthening the organizational and technical capacities of the MEEVCC and by experimenting the process of implementation of the SPA / GGWISS at the level of a pilot commune (Bourzanga) to scale up Sustainable Land Management (SLM) and taking account gender • Budget: 1,572,207 FCFA 577 • Intervention zone: Sahel region, Central Plateau, North Center, and East **Partners:APEFE / WBI** **Duration 5 years (2017-2021)**	**Forest and Landscape Restoration (FLR) and Sustainable Land Management (SLM) in the Sahel** The purpose of the project is to contribute to the deployment of FLR / TDM in a holistic way, to sustainably provide multiple social, economic, and environmental goods and services and achieve the objective of land degradation neutrality by 2030 Budget 5 202 000 000 FCFA Intervention zone: Sahel and Eastern region (Burkina Faso), Tillabéry region in Niger Partner: FAO, GEF, EU Duration: 4 years Sept 2017-Sep 2021	**Restoration of Natural Capital for Climate Change Resilience of Local Communities in the Sahel, North Central, Central Plateau and Northern Region of Burkina Faso (Great Wall Green Program)** **Objectives:** • Improve the resilience of agro-sylvo-pastoral production systems in the face of climate change, through the rehabilitation of hydraulic infrastructures and the restoration of degraded lands; • Contribute to climate change mitigation through carbon sequestration in restored territories / landscapes; • Strengthen the food, nutrition, and energy security of rural populations **Budget: 25000 000 000 FCFA** **Duration: Five (5) years**	**Combating desertification and adapting to the effects of climate change: support for cross-border communities in the liptako-gourma zone** Goal: Contribute to a better productivity of the lands and the improvement of the living conditions of the populations by the implementation of good practices of sustainable management of the natural resources and the environment and adaptation to the effects of climate change «. **Budget: 26639,550000 FCFA** **Duration: Five (5) years** Intervention zone: Liptako-Gourma Region (Sahel, North, Center-North and East regions in Burkina, and Tillabéry region in Niger).

Action Against Desertification»EU-FAO objectives: • eliminate poverty; • eradicate hunger; • improve resilience to climate change in arid zones / fragile ecosystems in ACP countries through the landscape approach Budget: about 300 000 000 CFA / year Intervention zone: Region of the Sahel Partner: FAO, GEF, EU Duration 3 years**2016-2018**	**Improving the resilience of local populations to CC and poverty through the development of apiculture in addition to a local reforestation and market gardening project** **General Objective: T**o improve the sustainability of the honey production of 20 beekeepers in the commune of Bourzanga and strengthen their resilience to poverty through the establishment of a modern apiculture production system in addition to a local reforestation project and market gardening **Budget:**15 000 000 CFA **Intervention zone:** Region of the Sahel **Duration:** 1 year **Partner:** PAGGW	**Establishment of modern palm-groves in the great green wall initiative intervention zone** Project initiated by the Pan African Agency of the Great Green Wall in agreement with the IDB. **Objective:** to promote and develop palm-groves cultivation to contribute to food self-sufficiency, the fight against desertification, the improvement of people's incomes, **Cost:**4 000000 000 FCFA **Intervention zone:** Sahel region, Central Plateau, North Center, and East	**Request for funding addressed to UEMOA (initiative of the Pan African Agency of the Great Green Wall)** **Objectives: Support the implementation of the GGWISS** **Three components:** • Institutional strengthening of GGW implementation and monitoring structures; • Priority operational activities: Priority actions for the construction of the Great Green Wall, • Support for Community Development and Food Security: Actions to support local initiatives. **Intervention zone:** Sahel region, Central Plateau, North Center, and East **Budget:** 937,250 000

FLEUVEproject: « Local Environmental Frontfor a Green Union » (2015-2018) **Overallobjective :integrating sustainable management of natural resources, land and ecosystem risks into development plans at the local level** and their implementation through the establishment of innovative and multi-stakeholder partnerships including the public and private sectors, as part of a contribution to the implementation of the Great Green Wall Initiative for the Sahara and the Sahel. • **Budget: environ 500 000 000 cfaf/ year** • **Intervention Zone: Sahel Region** • **Partners : FAO, Global Mechanism, UICN**	**«Bridging gaps in the Great Green Wall: Connecting sectors and actors to strengthen synergies and scaling up »** Overall project objectives: Achieving a greater implementationof sustainable land management policies in the Sahel countries (GGW) through increased investment, intersectoral coordinationand engagement of marginalized groups **Duration :** 3 years **Budget :** 860 000 000 CFAF **Intervention Zone :** Member state of the Initiative • PartnerUNEP, UICN		

Table 10: Projects launched as part of the Great Green Wall Initiative implementation for the Sahara and the Sahel

5. CONSTRAINTS

Burkina Faso's concern about the need for secure, predictable, and sufficient funding is a widely shared concern. With the adoption of the 17 global sustainable development goals, the need for funding is expected to be extremely high, leading to the need to identify and mobilize additional resources.

The major constraint is the lack of control of the financing mechanisms offered by the various sources in place, both through multilateral cooperation and bilateral cooperation. It will therefore be necessary to develop capacities for developing national and multi-country strategies for mobilizing financial resources. Added to this is the lack of synergy between GGW projects (dialogue always fragmented, many parallel conversations).

6. POST PERSPECTIVES 2017

In terms of perspectives, the following is planned:

- As part of the implementation of the PNDES and following the adoption of the resulting Agro-Sylvo-Pastoral Sector Policy, CN-GGWISS undertook the elaboration of the Strategy and Action Plan of the Great Green Wall initiative for the Sahara and the Sahel (SPA - GGWISS) for the period 2018 - 2022. At the African scale, the SPA GGWI is intended as a unifying framework for the mobilization of financing for the sustainable management of land and the management of natural resources. Its development for the next five years pursues the following objectives:
    - Adapt the orientations of this planning tool to the content of our national development reference framework, the PNDES, the PAGGW strategy (2016-2020) and the SDGs and the Harmonized Results Framework defined by the African Union Commission;
    - Consider regional priorities for Sustainable Land Management in the areas of agriculture, animal and fisheries resources, water, environment and forest resources, and gender promotion;
    - Identify an institutional framework for implementation that is as effective as possible and values the capacities and potentialities in the different regions.
- An operationalization of the Ouagadougou appeal launched on the celebration of the International Day Against Desertification on the need to rehabilitate 10 million hectares of degraded land and to create 2 million jobs related to the exploitation sustainable land for young people, women and migrants and to better manage financial flows in order to act primarily on migration causes;
- Implementation of the resource mobilization strategy for the GGWISS;
- Implementation of the second phase of the GGWISS Capacity Building Program;
- The establishment of a National Alliance around the GGW

CONCLUSION

The analysis of achievements from 2011 to 2017 leaves a significant step forward in the implementation of the Great Green Wall Initiative in Burkina Faso. But despite the efforts made many challenges remain. Investment in the restoration of degraded lands must be a priority regarding the issues it connects (food, migration, climate, etc.), particularly regarding access to finance.

Several high-level meetings are held about the Great Green Wall; many recommendations and resolutions were formulated on financing, governance arrangements and approaches. The tools of implementation exist and are increasingly mastered by our countries; the populations have developed knowledge and expertise in resilience that are only waiting for an accompaniment.

We must therefore act to accelerate the scaling up of sustainable land management practices to increase resilience and landscape restoration.

II. DJIBOUTI


DJIBOUTI
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Doumèra
Moulhoulé
Alaili Dadda'
Khôr 'Angar
Sanabi'
ÉTHIOPIE
Dorra
'Assa Gaïla
Ouaddi
Balho
Obock
Randa
Tadjoura
Îles Moucha
Golfe d'Aden
Golfe de Tadjoura
Lac 'Assal
Dôralé
DJIBOUTI
'Arta
Yoboki
Damèrdjôg
Goubétto
Loyada
Ghoubbet el Kharab
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Executive summary

As part of the implementation of the GGW, several achievements have been recorded in Djibouti, which focused particularly on the construction of infrastructure (Micro-dams, Forages ...) favoring ecosystem restoration activities and local development of soils. It should also be noted the development of forest and agro-pastoral perimeters, reforestation, and forest restoration by the introduction of new varieties (Acacia, Ficus ...). Community development activities and IGAs have made it possible to improve the production and living conditions of beneficiary local populations through the creation of wealth, the securing of access to water, the development of the milk and meat sector, improving the diet and developing agricultural cooperatives. The prospects are for the effective implementation of the GGW Strategy 2016-2020, the establishment of National Alliances GGW the mobilization of the necessary resources, the creation of a Regional Office GGW in each of the five (5) geographical Regions of Djibouti.

1.CONTEXT

Djibouti is a Sahelian country with difficult eco-climatic conditions that limit the practice of agriculture. These constraints as well as those related to the control of cultivation techniques mean that oasis-type agriculture and extensive livestock farming are the only recourse in these conditions. Livestock farming is a priority area for the Government to maintain the rural population on land, to improve food security and living conditions of rural people. To lay the groundwork for secure, profitable, and sustainable agro-forestry-pastoral development, the Government of Djibouti has initiated several programs for irrigation development and runoff mobilization with a resource development strategy, water, vegetable, animal, etc. to cope with climate constraints by seizing the investment opportunities offered by the various development partners.

This strategy is clearly aimed towards the fight against poverty and sustainable economic development while integrating the protection of the environment. This political will has resulted in large-scale economic actions based on domestic and foreign private investment. The main axes of agricultural development are the extension of the palm-groves and the creation of agro-pastoral units around the water points.

The Great Green Wall program, which aims to be an integrator, is part of this dynamic and aims to support the efforts of the Government of Djibouti in ecological, social, and economic security.

The context analysis includes the country profile, the route area and its expropriation, the Institutional framework.

1.1Country Profile

The Republic of Djibouti is located on the East Coast of Africa and shares borders with Somalia, Ethiopia and Eritrea, at the Red Sea and the Gulf of Aden entrance. The national territory is 23,200 km² with a coastline length of 370 km that penetrates the eastern flank to the center of the country by the Gulf of Tadjourah and Goubhet-Al-Kharab. The country has the lowest point of Africa with 155 m below sea level (Lake Assal). The climate is arid with an average annual precipitation of about 150 mm.

The population is estimated at 942,333 inhabitants (2016, World Bank), 70.6% of whom live in urban areas. The growth rate of the population is relatively high (2.8% per year) and reaches 6% considering the migratory flow. The main sectors of activity in GNP are tertiary services 80%, industry 16.9% and primary 3.1%. The GDP per capita is 1788 $ (2016 Coface).

1.2. Intervention zone

GGW's intervention zone in Djibouti is composed of 3 regions: Dikhil, Ali-Sabieh and Arta; split between 5 geographic units (Dakka Plateau, Hanle-Galafi Plains, Dikhil-Okre-Erreh Unit, Bara and Piedmonts Unit, Holl-Holl-Djibouti Unit). The indicative route of the GGW of Djibouti is 209 km long and 15 km wide and occupies an estimated total area of 342826 ha (Fig. 11). The population of this zone (GGW) is estimated at 120,000 inhabitants, 65% of whom are rural (44% nomads and 21% sedentary) and 35% urban dwellers.

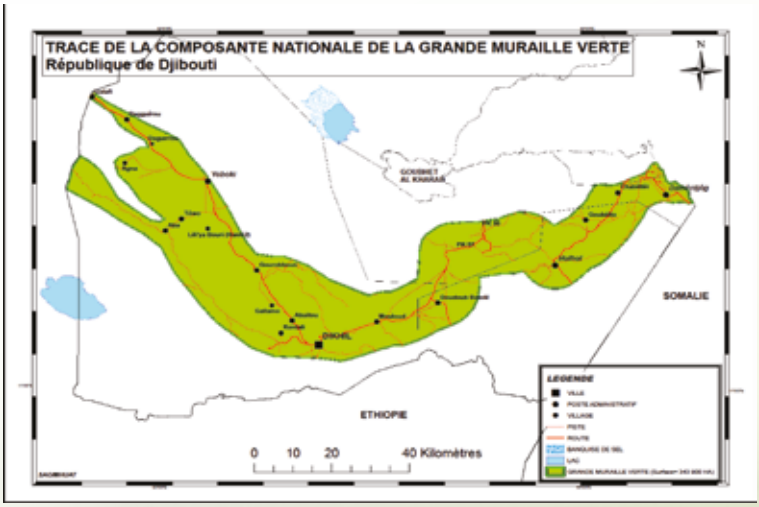

Fig. 11: Map of the Great Green Wall route of Djibouti

1.3 Institutional framework

The Government of Djibouti has shown political will to take into account the new environmental challenges, which has resulted in the creation by a presidential decree (2009-062 / PRE / MHUE) of an Inter-Ministerial Steering Committee (ISP) of the national component of the GGW promulgated on March 29th, 2009 under the supervision of the Primature. This Inter Ministerial Steering Committee is assisted by a National Coordination Commission (NCC) and a Program Implementation Agency (PIA). A law, establishing and setting the rules for the organization and operation of the GGW Project Implementation Office (PIO), was adopted in January 2011. A new law on the reorganization of the Ministry was promulgated in June 2014 by the government thus giving the National Component of the GGW, a status of sub-directorate within the Department of Environment and Sustainable Development.

2-OVERVIEW OF KEY ACHIEVEMENTS FROM 2011 TO 2017

Aware of the Great Green Wall importance, the Government of Djibouti has guided along the route three important development projects which relate to:

- Project: Development of agro-pastoral perimeters as a strategy for adapting to climate change in the Petit Bara and Grand Bara regions during the year;
- Hanle Project «Implementation of Adaptation Technologies in Fragile Ecosystems of the Central Plains of Djibouti;
- Project to implement NAPA priority interventions to build resilience in the most vulnerable coastal areas of Djibouti Damerjog.
- Operational activities

2.1 Activites operationnelles

2.1.1 Restoration, conservation and sustainable management of natural resources and biodiversity.

The operational activities carried out under the three (3) projects focus on the rehabilitation of ecosystems, the strengthening and improvement of production systems, community development and income-generating activities (beekeeping, poultry and crafts, etc.). The activities carried out since 2011 to 2017 focused on:

- The establishment of three micro-dams spilling Damerjoog to restore ecosystems;
- Rehabilitation of the Hamboucto threshold;
- Rehabilitation of the Kourtimalei Dam 2014;
- Creation of Water Resources Management Committee;
- Development of 6 boreholes in Didjander, Omar-Djagaa, Yabbhe, Wadjale, qal-qaloc and Hanle;

- The restoration of 70 ha Hanlé acacia forests;
- Introduction to Djibouti Acacia Senegalis and Barbary fig;
- Planting thousands of trees Leucaena leucocephala, conocarpus, vetiver, nimes, Acacia nilotica, etc.;
- Planting 200 feet of date palm;
- Rehabilitation of the agro-pastoral perimeters of Hanlé region (Kouri-Koma);
- Delivery of water supply equipment for the drilling of Yabbhé to secure access to the water of the agricultural area of Kourtimalei.
- Improvement and strengthening of production systems

2.1.2 Improvement and Streghtening of Production Systems

In terms of strengthening production systems, several efforts have been made, in particular:

- The construction of two warehouses in Kourtimalei and qal-qaloc for the storage of agricultural products and equipment;
- The construction of a new perimeter of 5 ha in kourtimalei with 2 tanks of 300 m3 capacity and a pipeline of 1560 linear meters and a fence 700 meters linear;
- The development of 12 ha including the existing perimeter (6ha) and implementation of a new perimeter with construction of 3 tanks in Qal-Qaloc with a capacity of 450 m3 with a pipeline of 2906 linear meters and a fence 1400 linear meters;
- Rehabilitation of existing perimeters in Omar-Djagaa (1 ha) and Hamboucto (5 ha);
- Servicing of the new perimeter of Omar-Djagaa (4 ha);
- Development of drip systems;
- Installation of 15 solar motor pumps for the wells of the Damerjoog gardens;
- Installation of nurseries at Hanlé and Omar-Djagaa.

2.2. Community development

Wealth-generating activities such as beekeeping and poultry production, milk production, handicrafts and infrastructure development were carried out to improve the production and living conditions of the local populations benefiting from projects executed on the route. It includes the following:

- the distribution of agricultural tools and inputs for all beneficiaries of the agricultural perimeters of kourtimalei, qal-qaloc, Hamboucto, Hanle, Damerjoog and Omar-Djagaa;
- the distribution of Moringa seeds, vetiver grass in the kourtimalei, Qal-Qaloc and Hanle sites for shade, fodder, and shelterbelts;
- the construction of a mini-dairy center in Kourtimalei;
- installation of solar equipment in homes in Damerjoog;
- the intensification of summer and winter vegetable crops in the agricultural perimeters on the route (tomatoes, onion, chilli, melon, watermelon, eggplant, okra, etc.);
- intensification of forage crops to feed livestock;
- the delivery of fishing equipment to thirty-five (35) fishermen and twenty-five (25) shrimp fishermen to promote fishing in the mangrove areas on the route to preserve and enhance this fragile marine ecosystem;
- setting up agricultural cooperatives in Kourtimalei, Qal-Qaloc, Hamboucto and Damerjoog;
- the construction of a point of sale for dairy and agricultural products at the Kourtimalei site.

2.3 Capacity building

Training was provided for beneficiaries of the projects carried out along the route, namely:

- Training on agro-pastoral techniques, composting manure, and spatial organization of agricultural perimeters;
- Training on the creation of agricultural cooperatives and their main principles were carried out on all the sites of the projects executed on the route of the GGW;
- A series of training sessions on microfinance products, loan repayments, savings account, sustainable agricultural practices, and diversification of agricultural products were conducted at the Kourtimalei, Qor Qaloc and Hamboucto sites;
- Agro Pastoralists training on raw milk processing, storage, and processing techniques;
- Development of diverse women's microfinance groups with a focus on women's empowerment.

3. GGW SOCIO-ECONOMIC IMPACTS

The implementation of GGW in Djibouti enabled:

- The improvement of diet and the fight against the food insecurity of the populations (100 families) through the development of vegetables and fruit crops and dairy products;
- The development of agricultural cooperatives; (4 agricultural cooperatives created);
- The development of the dairy industry; (45 milk producers)
- Securing access to water ;
- The creation of wealth through products sale from market garden crops, fruit, and dairy products;
- Sedentarization and the change of lifestyle of nomadic populations; (about 120 settled families);
- Women's empowerment ;
- Improvement of shrimp catches (24 fishermen trained).

4.FINANCING AND PARTNERSHIPS DEVELOPED

4.1 National

For the implementation of the GGW in Djibouti, funding was mobilized at the state level (ongoing) and contacts were developed with donors to obtain financial and technical support for the implementation of projects.

4.2 International

For the implementation of the GGW in Djibouti, contacts with International Organizations (FAO, JICA, TIKA) have been developed with the donors to obtain financial and technical support for the implementation of projects that will contribute to the objectives. of the GGW.

5. CONSTRAINTS

All the achievements along the Great Green Wall in Djibouti come mainly from projects funded under climate change framework. The main constraint lies in the lack of substantial funding for the implementation of activities

6. PERSPECTIVE

In perspective, the post-2015 period will be devoted to improving food security, the fight against poverty and unemployment in the priority area of intervention through the implementation of multifaceted and integrated actions of Sustainable Land

Management and the promoting Wealth Generating Activities. These large-scale economic actions will enable us to set up the Rural Production and Sustainable Development Poles as early as 2025 and thus contribute to achieving the 2030 Sustainable Development Goals.

In addition, we are considering the following:

- the establishment of a national alliance around the GGW
- the implementation of the National Strategy of the GGW and its Action Plan
- the implementation of a strategy for mobilizing financial resources around the GGW.
- the creation of regional offices in the GGW areas of intervention.

III. ERITREA


ÉRYTHRÉE
ARABIE SAOUDITE
SOUDAN
Qurora
Nagfa
Mersa Goulboub
Îles Farsandin
Îles Dahlak
Keren
Kérou
Agordat
Ieciem
Dogali
Massaoua
ASMARA
Nefasit
Barentou
Tesseney
Dbarwa
Decemhari
Mendefera
Gouloudj
Addi Kwala
Adidi Qeyeh
Italayle
Tiyo
Presqu'île de Buri
YÉMEN
Ile Zougour
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DJIBOUTI

Abstract

In the implementation of National environmental management plan, many activities were achieved; 41,000 ha of degraded landscapes afforested and rehabilitated. In order to encourage natural regeneration and biodiversity restoration, more than 300,000ha of land have been managed under enclosures, mainly on dam catchments and biodiversity hotspot areas.

Eritrea national action Plan (2011-2015) has been prepared and includes a variety of activities: Introduction of new technologies, Agricultural equipment; establishment of hill side terracing (50 000 km); promotion and establishment of nursery sites in six zones; Plantation of economic tress (1 000 ha) and Mangrove seedlings at the coastal areas (20 000); sand dune fixation with drought resistant trees (400 ha).

The main perspective is resources mobilization for GGW action plan implementation.

1. CONTEXT

1.1. Country Profile

Eritrea is located at the northern part of the Horn of Africa, between latitudes 12° 40" and 18° 02" North of equator and longitudes 36° 30" and 430 20" east of Greenwich. It has a landmass area, about 125,700 km2 inclusive of the islands, and a coastline spanning some 1,900 kilometers. It shares borders with Sudan in the north and west, Ethiopia in the south, Djibouti in the southeast and the Red Sea in the East.

1.2. GGW Activities

Eritrea established is national strategic Action Plan for implementation of The Great Green Wall for Saharan and Sahel initiative in October 2012.

The components of the national Action plan are:

i. Implementation of Sustainable Natural Resources Management

ii. An enabling policy and institutional environment for reducing Biodiversity loss, Land degradation and Desertification and impacts of climate change.

iii. Human and institutional Capacity building

iv. Introduction of sustainable project management

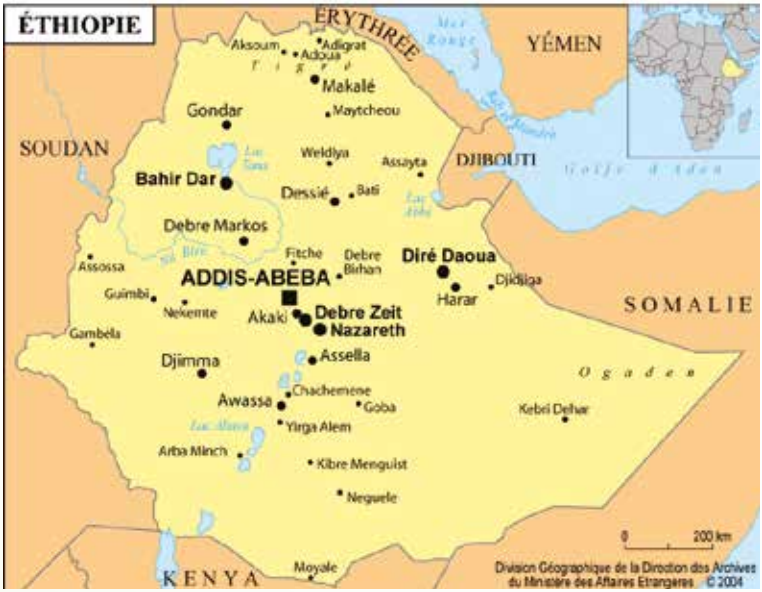
The main activities for the five years action plan (2011-2015) are among other:

- Introduction of new technologies (GIS, Cartography instruments, agricultural equipment);
- Establish 50 000 km of hill side terracing;

- Plant 1 000 000 trees seedlings on degraded lands;
- Promotion and establishment of nursery sites in six zones;
- Plantation of economical tress (Acacia senegal and Acacia seyal) 1 000 ha and 20 000 Mangrove seedlings at the coastal areas;
- Sand dune fixation with drought resistant trees (400 ha);
- Installation of Biofertilizer and introduction of Compost techniques;
- Construction of diversion weir and irrigation infrastructure to promote agricultural production and nutrition;
- Installing 20 solar energies in six zones and expansion of improved stoves 20 000 in three zones;
- Production of briquettes from prosopis biomass for firewood in 500 ha;
- Revising Several sect oral development policies to include protected areas in sect oral development budgets (sect oral development plans published);
- Socioeconomic studies (preparation of manuals, questionnaires, preparation of awareness materials);
- Develop sustainable management plan for all protected areas;

Unfortunately, we didn't receive any report of Eritrea's implementation status of GGW.

IV. ETHIOPIA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Abstract

Many activities were implemented which including seed collection and seedling production (183 tons of seeds and 1.127 billion multipurpose tree seedlings), planting of seedlings and direct sowing on 126,704 ha of lands, watershed management on 272,776 ha, rehabilitation of degraded lands on 560,315 ha, construction of 32 million percolation pits, management of 620,930 ha natural forest.

In the framework of income generating activities 50,800kg of incence and 368,728 of gum were collected. Moreover 46250 jobs were created for community members in incence and gum production.

The activities of GGW have contributed to the improvement of the environment and socio-economic development of the local community through Sustainable Land Management (SLM) programs and during the last five years, laudable activities have resulted in the restoration of degraded lands and minimized the vulnerability of local communities to natural hazards such as drought and floods.

The Expansion of the natural forest area; The promotion of income generating/ livelihood diversification activities; building the capacity of cooperatives engaged in incense and gum production and Implementation of the all projects.

1. CONTEXT

1.1. Country Profile

The Federal Democratic Republic of Ethiopia is a landlocked country in the Horn of Africa, bordered on the north by Eritrea, on the west by Sudan, on the south by Kenya and on the east by Somalia and Djibouti. It is located in the tropics between

3 ° 24 and 14 ° 53 North; and 32 ° 42 and 48 ° 12 East. It covers 1,120,000 km 2 in nine regional states and two city administrations. The GDP was 46.6 billion USD in 2014, agricultural GDP represents 46.6% of theGNP. The population growth rate is 2.3%. The total population is 89 857 727 inhabitants with more than 80% of active population in the agricultural sector.

Located in the Horn of Africa and in the tropics, Ethiopia's climatic conditions are influenced not only by latitude but also by wide ranging altitudes and the seasonal migration of the Inter-Tropical Convergence Zone (ITCZ) following the position of the sun relative to the earth and the associated atmospheric circulation. As a result, the country is comprised of diversified climate that combines tropical, sub-tropical and temperate types. Accordingly, the central and northern regions receive moderate rainfall that gradually declines towards the low-lying Arid and Semiarid Lands (ASALs) that receive an annual rainfall ranging from 100-700 mm. The ASALs are portion of the country relevant for the GGWSSI covering about 65 per cent of the country's landmass (Mulugeta and Demel, 2004).

Forests and vegetated areas in Ethiopia have been subject to intense deforestation and degradation for millennia with estimated annual deforestation rates of 91,000 ha per annum (Ethiopia's FRL-revised submission to UNFCCC, 2017). The current forest cover is estimated to be about 15.5% of the country's total area.

Ethiopia pledged to restore 15 million hectares of degraded and deforested lands by 2030. This commitment aligns well with the country's aim of transitioning towards a Climate Resilient Green Economy (CRGE) with zero net greenhouse gas emissions and corresponding plans for large scale afforestation and reforestation. The GGW program, which is part and parcel of Ethiopia's response to global commitment to implement the Sustainable Development Goals (SDGs), African Forest Landscape Restoration Initiative (AFR100) and Bonn Challenge on restoration of degraded lands.

The GGWSSI is thought of as a continuous 'wall' of trees and development activities, spanning from Djibouti in the East to Senegal in the Western dry lands of the continent. Instead of thinking of the initiative as a continuous 'wall' of trees and development activities, Ethiopia has decided to look at the GGWSSI as a mosaic of complementary land use practices in areas subjected to advancing desertification and land degradation in the ASALs. MEFCC, as a focal institution for GGWSSI, has identified Ethiopia's GGW route that stretches from Sudan in the North West to Djibouti crossing the north-eastern lowlands of the country and covers 58 Woredas (districts) in three national regional states.

The objective of Ethiopia for the GGWSSI is to serve as a key instrument through which the fight against desertification and land degradation in the country could be prevented. The overall objective of the national strategy of the GGWSSI is to create conditions for sustainable socio-economic and environmental development for the citizens. More specifically, the implementation of the GGWSSI in Ethiopia aims at:

- In the short- and medium-term: (i) conserving, restoring and enhancing biodiversity and soils; (ii) diversifying production systems; (iii) meeting domestic demand, and promoting income-generating activities; and (iv) improving the basic social infrastructure; (v) improving the capacity of carbon sequestration in vegetation cover and soils;
- In the long-term: (i) reversing migration flows to the restored areas; and (ii) improving the living conditions and livelihoods of local communities.

1.2. Intervention zone

Baselines of the 58 Wered as have not been established so far. However, both the socioeconomic and biophysical baselines of the 3 AAD project Wered as is being finalized (Fig. 12). A map showing the geographical location of the GGW route in Ethiopia and the target woredas and bio-physical information has been produced from satellite imagery supported by ground truthing.

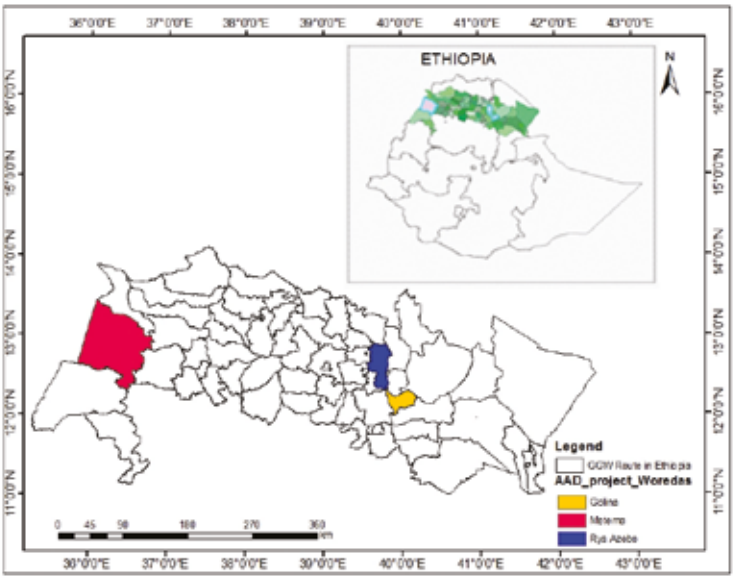

Fig. 12: Location Map of the GGW Route of Ethiopia, Regions and Woredas (districts) of Intervention

1.3. Institutional arrangement

Since ratifying the convention by issuing a proclamation, Convention related to the Creation of the "Pan African Agency of the Great Green Wall Ratification Proclamation No. 842/2014", the MEFCC, is a mandated institution to oversee the overall implementation of this regional this initiative. The Ministry utilizes the regular government administrative channels to reach to the communities through the lowest administrative units. The Ministry provides technical backstopping throughout the process of planning, implementing as well as monitoring and evaluation of landscape restoration activities. The GGWSSI is now coordinated under Rehabilitation of Degraded Lands Directorate of MEFCC

2. ACTIVITIES CARRIED OUT IN THE GGW ROUTE

Ethiopia has been conducting extensive natural resource management practices mainly through massive public mobilization. During the first five years of Growth and Transformation Plan (GTP I) implementation (2011-2015) more than 12 million ha of degraded lands have been restored. The country has also launched the second five-year GTP II (2016-2020) which targets to rehabilitate five million ha of degraded land through planting more than 23 billion seedlings and undertaking other NRM activities.

The GGW interventions have been implemented in 58 woredas (administrative unit equivalent with districts) as part of the regular government natural resource management program. MEFCC provides guidance and support and monitors the implementation of multi-sectoral and integrated landscape restoration activities.

The implementation of the Action Against Desertification (AAD) in support of the realization of the objectives of GGWSSI and South-South Cooperation in Africa Caribbean and Pacific countries (ACP) was started in March 2016. The AAD has been implemented in Golina, Metema and Raya Azebo pilot Woredas (districts) along the GGWSSI route in Afar, Amhara and Tigray National Regional States, respectively.

2.1. Operational activities: Reforestation, land restoration, conservation of natural resources, etc

Various rehabilitation activities targeted to prevent desertification land degradation and drought have been conducted under the government regular programs through community mobilization and a support from AAD project. The rehabilitation activities also include interventions of various programs including Productive Safety Net Program (PSNP) and Sustainable Land Management (SLM). The implementation of these activities varies among woredas due to some differences in local contexts. The main physical and biological measures implemented in the reporting period (2014-2017) are listed below.

2.1.1. Regular rehabilitation activities

Over the four operational years, 1.6 million persons (0.6 million females and 1 million male) were mobilized to implement different landscape restoration activities as listed below in 58 woredas.

a) Physical measures implemented on 697,514 ha

- Integrated watershed management has been carried out over 272,776 ha
- Construction and maintenance of soil bunds have been carried out in over 137,199 ha and 97,946 ha of farm lands respectively
- Rehabilitation of degraded lands has been carried out over 560,315 ha
- Over 32 million percolation pits were constructed

- 4.2 million m3 of wooden check-dams have been constructed and maintenance of check-dams involved one million m3 materials.

b) Biological measures

- Planting of seedlings and direct sowing were carried out on 126,704 ha of lands.
- Achievement in seed collection and seedling production included
- 183 tons of seeds and
- 1.127 billion multipurpose tree seedlings

c) Participatory Forest Management (PFM)

- 620,930 ha of natural forest are brought under PFM arrangement of 41 farmer cooperatives;
- 71 kms of fire break were constructed to control forest fire

2.1.2. AAD's project rehabilitating activities

The progress of the restoration efforts in the three target wored as include the following:

- Conducting soil and water conservation measures in selected watersheds of 200 ha
- Conducting multipurpose tree planting on 600 ha of watershed
- Restocking 418 ha of degraded woodlands
- Production of 801,534 multipurpose trees seedlings
- Promoting fodder production on 150 ha
- Promoting homestead and on-farm agroforestry on 240 ha

2.2. Capacity building

Training in seed collection, nursery management, planting, construction of physical structure, and the use of improved stoves was given to 928 frontline staff and to 61,819 agro-pastoralists as part of the regular government. Moreover, local community training was provided by the AAD project to 120 selected community members on integrated environmental planning and formulation and enforcement of policies and strategies. Training materials that can serve as reference materials on two topics have also been prepared in the local language. Furthermore, with a support from AAD project different field hand tools and office equipment were distributed for the three target woredas. With the same project, different theoretical and hands-on field trainings have also been provided to experts.

2.3. Income Generating Activities (IGAs)

Jobs were created for 46250 community members (43850 males and 2400 females) in incense and gum production. Training in incense and gum production and their sustainable utilization was provided to 1012 community members 11 of whom are female. Accordingly, 50,800 kg of incense and 368,728 kg of gum were collected. Moreover, 8000 (7100 males and 900 females) are engaged in nursery operation.

3. SOCIO-ECONOMIC IMPACTS

The activities of the GGW have contributed to the improvement of the environment and socio-economic development of the local community through sustainable land management (SLM) programs and in the last five years, laudable activities have allowed restore degraded lands and reduce the vulnerability of local communities to natural hazards such as drought and flooding.

4. FUNDING AND PARTNERSHIP

4.1 Funding

National: Government of the Federal Democratic Republic of Ethiopia

International:European Union (EU) In accordance with the agreed modality of implementation, aletter of agreement was signed between FAO and MEFCC in December 2016, which can be used for the implementation of the rehabilitation activities of the DAA project. In this agreement, the ministry has mobilized approximately 195 404 USD.

4.2. Partenariats

- National: SLMP of the Ministry of Agriculture and Natural Resources, Horn of Africa and Network
- International: FAO, World Bank.
- The Ethiopian government has made efforts to pay the annual contribution to the PAGGW. As a result, it is possible to pay four (4) years of the statutory contribution. Additional efforts are also being made to mobilize funds.

5. CONTRAINTES

Overall, the progress of the initiative is limited and questioned by:

- Lack of appropriate technologies for arid and semi-arid zones vulnerable to desertification and the climate change impacts.
- Resources to support restoration activities,
- Resources to integrate livelihood options into landscape restoration activities.

6. POST PERSPECTIVES 2017

The following major activities are planned for 2018

6.1. Regular Program

As part of the regular government's natural resource management program in the identified 58 woredas, MEFCC continues providing guidance and support and monitors the implementation of the different activities:

- Expansion of the natural forest area under PFM;
- Promotion of income generating/livelihood diversification activities;
- Building the capacity of cooperatives engaged in incense and gum production to ensure sustainable utilization of incense and gum;
- Closing and rehabilitating of degraded lands;
- Provision of technical support in producing multipurpose tree seedlings and planting them on closed areas.

6.2. AAD project

L'année 2017 a été partiellement consacrée aux travaux préparatoires mais l'année 2018 sera une année pour les activités opérationnelles à grande échelle. Les activités suivantes seront mises en œuvre avec la plus haute priorité:

The year 2017 was partially devoted to preparatory works but the year 2018 will be a year for full scale operational activities. The following activities will be implemented with the highest priority:

- Strengthening the support to households' income generation/livelihood diversification through providing required inputs contingent upon budget availability;
- Expanding the physical land restoration activities in 600 ha of watersheds;
- Preparation of 900 ha for planting multipurpose trees;
- Establishing on-farm and homestead plantings in holdings of 720 HHs;
- Planting of fodder on 240 homesteads;
- Carrying out enrichment planting and management of 450 ha of degraded woodlands
- Provision of technical support and materials to produce 1,050,000 seedlings;
- Preparation and dissemination of sensitization and awareness creation materials including signposts, posters, newsletters, brochures, folders, video and photographs and, advertisement, press release, and news on local radio and TV.

V. MALI


MALI
ALGÉRIE
S A H A R A
MAURITANIE
Tessalit
Kidal
Tombouctou
Gounciam
Gao
Ansongo
Ménaka
Niono
Mopti
Sévaré
Bandiagara
Djenné
Bankass
Kayes
Nioro
Nara
Banamba
Koulikoro
Ségou
Kita
Sikasso
Koutiala
BAMAKO
Bougouni
SÉNÉGAL
GUINÉE
CÔTE D'IVOIRE
BURKINA
NIGER
GHANA
TOGO
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Division Géographique de la Direction des Archives du Ministère des Affaires Etrangères © 2004

Executive summary

In Mali the activities have led to various achievements through the establishment of nurseries, producing 135,472 seedlings, achieving more than 6000 hectares of planting Acacia Senegal, reforestation of new plots, and deferred grazing of 148ha planted in herbaceous species. The training activities concerned 88 brigades on fire prevention / firefighting techniques (Nioro, Nara), 291 producers in nursery technology, 300 women in market gardening techniques, 200 volunteers on smart technologies for SLM.

SLM, community development and wealth-generation activities have led to the diversification of livelihoods, sources of income and production, the reduction of food insecurity and malnutrition, the strengthening of protection and social integration; the Community has risk management and strengthening people's capacities to prevent, mitigate the impact of risks and reduce their vulnerability.

In perspective, the MU-GGW aims at the operationalization of the GGW National Alliance, the Decentralization, and the dynamic of the GGWU at the regional, local and communal level, the Strengthening of the mobilization of the resources, the Signature of a 5-year performance contract between the MU-GGW and the State and the transformation of the MU-GGW into GGWNA.

1. CONTEXT

The Great Green Wall Initiative for the Sahara and the Sahel in Mali results in the implementation of an innovative and inclusive approach of synergizing actions to combat desertification, land restoration and conservation of the biodiversity. It also concerns the development of agricultural, forestry and pastoral production systems, the development of basic socio-economic infrastructures and the creation of wealth through the development of income-generating activities to contribute to stable food security and the revival of sustainable economic growth.

1.1. Country Profile

Mali has 1,241,238 km² for 18.3 million inhabitants in 2016. It is one of the largest states in West Africa that has no coastline and shares borders with seven countries: Algeria, Mauritania, Niger, Burkina Faso, Ivory Coast, Guinea, and Senegal. Three seasons characterize the Malian climate: a dry season from March to June, a rainy season or wintering from June to September and an off season or cold season from October to February with a drying Saharan wind called the harmattan. The average temperature varies between 24 ° C in January and 35 ° C in May.

The country is crossed by two large rivers that have their source in the Fouta-Djalon in Guinea. Senegal is a West African river with a tropical regime, 1,750 km long, which has its source in Guinea at 750 m altitude. It travels through Mali, then Mauritania and Senegal, while serving as a border between these two countries,

before flowing into the Atlantic Ocean in St. Louis. Senegal is formed at Bafoulabé in Mali by the confluence of two rivers that descend from the mountains of Fouta, Bafing and Bakoye. The Niger River (4700 km, including 1700 in Mali) is navigable over 1308 km and divides into several arms to form the Inner Delta, a natural region extending over 64 000 km², floodable from September to December. The course of this river is dotted with lakes: lake Débo , lake Horo, lake Faguibine (on 650 km²), lake Kamango , etc.

With an accentuated relief, vast alluvial plains dominated by limestone plateaus and sandstone, Mali is divided into three (3) climatic zones. The northern desert which covers two thirds of the territory belongs to the southern Sahara whose rainfall does not exceed an annual average of 130 mm. The Sahel center has a relatively dry climate, with annual rainfall averaging between 200 mm and 500 mm, and the vegetation cover varies from the steppe in its northern part to the savannah in the southern part. The southern Sudan, which is covered by the savannah in the north and forests in the south, is watered by rainfall with an annual average of 1400 mm.

The Malian population is growing at a rate of 3.6% per year. More than three quarters of the population live in rural areas. The urban population is largely concentrated in Bamako, which has more than 2 million inhabitants. The size of the demographic household is 6.3 at the national level. The average population density of municipalities by region is very heterogeneous. It is located at the national level at 13.5 inhabitants per square kilometer and ranges from 0.4 inhabitants in the Kidal region to 8,344 inhabitants in the Bamako District. In terms of gender and age composition, there are 50.4% of women and a very high proportion of young people, since almost two-thirds (65%) of the population is under 25 years of age.

Mali's economy is based on the primary sector (agriculture, livestock, forests, etc.). Economic activity is mainly limited around the fluvial region irrigated by the Niger River. Its GDP is 11 billion USD is 1 USD 100 per capita and agricultural GDP is 38.8% of the GDP. GNP is 18.26 billion USD.

1.2. Intervention zone

In Mali, the intervention zone of the Great Green Wall (GGW) covers all the localities between the isohyets 100 mm in the North and 500 mm in the South. It is a breeding area par excellence with 70 to 80% seasonal migration of the national herd. The route's right-of-way covers six (6) administrative regions (Kayes, Koulikoro, Segou, Mopti, Gao, Timbuktu, Menaka), 14 circles, 204 rural communities and2, 622 villages over a length of 2,066 km from East to West and a width of 100 to 150 km in some places for an area of about 3,099,000 ha (Fig. 13) .In Mali, within its intervention zone of the Great Green Wall (GGW) is created a green band of plantation of various local species with high economic value (Fig. 9) .

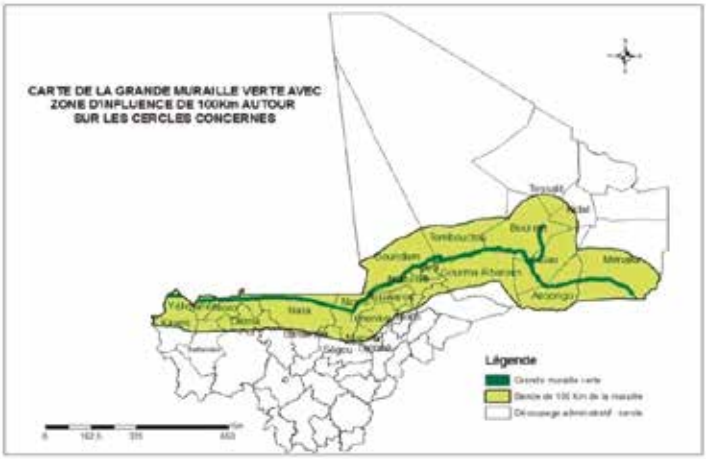


Fig. 13: Map of the route of the Great Green Wall of Mali

1.3. Institutional Framework

In Mali, the implementation of the GGW has made a significant progress on the institutional and organizational levels:

- Creation of the Management Unit of the Great Green Wall of Mali (MUGGW) by ordinance N ° 2016-011 / P-RM of March 17th, 2016;
- Appointment of the Director by Decree N ° 2016- 0828 / P-RM of 01 November 2016;
- Provision of UGGW Headquarters by the Government;
- Participation in the listening sessions of April 18, 2017 at the Committee on Rural Development and Environment and the plenary session of April 27, 2017 at the National Assembly in the context of the adoption of the bill to ratify Ordinance no. ° 2016-011 / P-RM of 17 March 2016 establishing the Management Unit of the Great Green Wall. This law was adopted by the Deputies with the recommendation of transforming the UGGW to a National Agency of the Great Green Wall in Mali;

- Strengthening the staff of the UGGW by appointing experts in programming, monitoring & evaluation, forest resources, Wildlife Resources, Pastoral Resources, and an accounting manager.

2. OVERVIEW OF ACTIVITIES ACHIEVED

2.1. Field operational activities

In 2013-2017, several Restoration, Conservation and Sustainable Management of Natural Resources and Biodiversity activities were developed, ranging from the creation of nurseries, the production of seedlings and seeds to reforestation, and so on. (Board 7). These achievements capitalize the interventions of various projects, NGOs, and associations in the intervention area of the GGW in Mali.

Table 11 below gives a summary of achievements in 2013-2017

MAJOR ACTIONS	ACHIEVEMENTS	PARTNERS INVOLVED
Plant production	135,472 plants of local species (Acacia senegal , Acacia nilotica , Faidherbia albida , Adansoniadigitata Acacia macrostachya Sclerocaria birrea,parkia biglobosa , Zizyphus mauritiana , balanitesaegyptiaca)	- PROJECT FLEUVE - RESAD - Project PGRNCC - Kew Botanic Garden - IUCN - HELVETAS Swiss Inter Cooperation - NGO « Rights and resources initiative - RRI. - Project GEDEFOR-2
Afforestation / reforestation	- 6255,1ha reforested; - Rejuvenation of 42 ha and 3237 plants set up (Adansonia digitata, Faidherbia albida, sclerocarea birrea, Parkia bigloboza) - 1514 kg of seed for the restoration of pasture (Stylosanthes hamata, Andropogon gayanus, Andropogon pseudapricus)) ; - 40.6 ha of ANR realized; - 18.2 ha of dunes fixed by sowing strips of grass; - 148 ha of built defenses.	

DRS CES Establish agro forestry devices	- 450 m of filter dikes; - 3800 ml of stony cords; - 150 m of waterfalls - 200 meters of Thresholds; - 09 ha Half-moons	
Recovery of degraded land	- 120 ha of land was recovered	
Training/	- 291 village nurseries on seed harvesting and seedling production techniques, - 300 women on market gardening techniques; - 50 local actors on adaptation to CC - 200 people on smart SLM technologies; - 50 local actors on Market Analysis and Development	

Table 11: Overview of 2013-2017 achievements report

Implementation of SLM practices (filtering dams, stony cords, half-moons, waterfalls thresholds, ANR, etc.) allowed land reclamation and improved production of village terroirs.

Picture 16 : ANR Sites

Picture 17 : Stony cords

Picture 18 : Fixing dunes

Board 7: SLM Activities on recovering degraded lands

To reinforce the impacts of these achievements, several studies and capacity building sessions of the actors were carried out. The training programs included: fire prevention / control techniques and benefits; collection and treatment of seeds, production of seedlings.

Studies have been carried out on the identification of intervention sites and priority actions in the GGW areas of Kayes and Koulikoro regions. The diagnosis of the installation of the multi-functional Gardens, the development and implementation of communication and advocacy tools for the mobilization of resources for the benefit of the GGW as part of the FLEUVE project. The identification of 10 priority species has also been implemented (Adansonia digitata, Ziziphus mauritiana, Tamarindus indica, Balanites aegyptiaca, Sclerocarya bierrea, hyphaena thebaica, Cordia myxa, Acacia senegal , Acacia seyal , Acacia nilotica) by communities as part of the reforestation process . Various inventories have also been implemented (the inventory and characterization of the flora and fauna characteristic of the specific richness of biodiversity in the Nioro Circle, the inventory of local best practices of production methods and sustainable consumption (MPCD).), the development and management plan of the classified forest of Lorack bane, the analysis of the potential ecotourism around the protected areas in the project intervention area Fleuve.

The different achievements were made possible thanks to the technical and financial support of the MEADD and its partners including the PAGGW and the Global Mechanism in collaboration with IUCN.

Pictures 19 & 20: Water shed management

Picture 21: Development of half moons

Board N ° 8: Recovery and development of degraded lands

2.2 Community development and local governance

The development activities are aimed at:

- The establishment of multifunctional gardens for women's groups;
- The realization of boreholes equipped with solar panels of the multifunctional gardens of Diaye Tougouné, Fardalel, Gavinané and Diaye Coura;
- The distribution of seedlings of various species (10 719 seedlings of 11 species) to local communities for individual plantations and reforestation of places of worship, schools, and health centers;

- Capacity building of local actors (50 participants) on adaptation to climate change in the Nioro Circle; plant production techniques of members of cooperatives in the communes of Nara (172 producers), Diarrah (100 producers),
- The organization of women in the gardening perimeters of Gavinané and Diaye Coura (300 women);
- Identification, mobilization, and training of two hundred (200) volunteers on smart technologies for sustainable land management (SLM);

The establishment of a Consultation Framework resulting from the CLOCSAD (Local Committee of Orientation Coordination of Follow-up of Development Actions) for the GGW in Mali in the Nioro Circle; Diffusion of information on climate change and good SLM practices through two (02) local radios of the Nioro circle (more than 7 000 targeted listeners).

2.3 Capacity building

In 2013, the Ministry of the Environment, Sanitation and Sustainable Development conducted the study on the identification and materialization of the layout of the GGW in Mali through a consulting firm to establish the situation of reference with the support of HELVETAS Swiss Inter Cooperation Mali and the NGO « Rights and resources initiative - RRI.

In 2014 forest inventory studies were conducted in the regions of Kayes, koulikoro, Sikasso and Ségou.

As part of the Natural Resources Management and Climate Change Project (PGRNCC) in Mali financed by the GEF / World Bank, a study was conducted on the inventory of sustainable production and consumption patterns (MPCD), ecotourism potential, a diagnosis, a management and management plan, training in Integrated management of bushfires and production of adapted plants in the communes of Guiré and Yéréré (regions of Kayes and Koulikoro).

3. SOCIOECONOMIC IMPACTS

The expected impacts, pending the evaluation report, will focus on:

- Diversification of livelihoods, sources of income and production;
- Reducing food insecurity and malnutrition;
- The dynamics of strengthening protection and social integration;
- Community-based risk management and capacity building for people to alleviate the impact of risks and reduce their vulnerability.

4. OTHER ACTIVITIES

- Three (03) regional consultation workshops and awareness were organized in Timbuktu, Gao and Koulikoro with stakeholders for their mobilization and effective participation in the implementation of the GGW in Mali;
- The document on the National Strategy and the Five-Year Plan of Action of the GGW-Mali was developed and validated through a national workshop in November 2012;
- An implementation program for the Great Green Wall of Mali comprising five (5) projects has been established;
- Development of one thousand (1000) cards and communication boards in the GGW in Mali.

5. DEVELOPMENT OF FUNDING AND PARTNERSHIPS

5.1. National Financing

The fund's annual grant for investment by the State within the Special Investment Budget framework (SIB) for the period 2016-2018.

The UGGW benefited from a budgetary inscription in the TIP (Triennial Investment Program, domestic financing) of 850 million francs as a support to the Project to enable the Implementation of the Great Green Wall. From this, $ 214 million is invested between 2016 and 2017 and $ 57 million is available for the first half of 2018. In total, there are seven (7) projects, including that of the UGGW, grouped under the program "Nature Protection and Conservation", as part of the fight against desertification in the GGW route, which benefited from an endowment on domestic financing of a total of 1,950 million of which 722 million are allocated for the first half of 2018. Expenditures in investment represent 418 million in the first half of 2018, 58% of the total appropriation and the rest is operating expenses of services and the rehabilitation of the Training Center of Water and Forestry Technicians.

5.2. International Financing

External resources mobilized or in the process of mobilization from the Technical and Financial Partners for the implementation of the IGGW of Mali are:

- Project FLEUVE: 2017-2018 for an amount 406.4 million FCFA.
- Project GEDEFOR-2: Decentralized Forest Management for a 1,500 million FCFA.
- The AU Commission project funded by FAO for 5 countries (TCP / RAF / 3302 (D) already closed;

- the Natural Resources Management and Climate Change Project in Mali (PGRNCC) of US $ 20.4 million financed by the GEF and the World Bank (IDA Fund) under the Sahel and West Africa Program (SAWAP Project) started in March 2014;
- Reviving the partnership with UEMOA to support the countries involved in the GGW including Mali, through a meeting between the PAGGW and this institution;
- The Global Alliance for Climate Change (GACC) which will contribute through the afforestation and reforestation to the realization of the GGW in the region of Kayes;
- the project Burkina-Mali-Niger cross-border GGW model of the Millennium Seed Bank Partnership KEW Garden in Bankass (Mopti Region) in progress;
- The partnership with HELVETAS Swiss Inter cooperation with the financial support of « Rights and Resources Initiative «(RRI) for the realization of 2 ha plantation of Acacia senegal (gum) in the village of Kaloumba in the Circle of Nara;
- The signing and implementation of activities under the Convention signed between DNEF and the NGO RRI / Helvetas Swiss Inter Cooperation for the years 2013, 2014 and 2015;
- The signing and implementation of activities under a contract signed between DNEF and IUCN for the implementation of the project « Local Environmental Front for a Green Union "(FLEUVE) in two GGW communes of the Kayes region for the period 2016-2018.
- The project « operationalization of the concept of the millennium villages on pilot sites of the Great Green Wall of the CILSS countries also led by CILSS and the West and Central Africa MDG Center (Millennium Development Goals), whose endorsed document is in search of funding.

6. Constraints

The implementation of the Mali GGWI is subject to numerous constraints that could slow down the successful implementation of the GGW program. The constraints are as follows:

- Institutional: The non-creation of the National Agency of the Great Green Wall (NAGGW) for management autonomy;
- Monitoring of completed or capitalized activities: insufficiency of human, material, and financial resources for proper monitoring of activities;

- The absence of motivation for the agents of the Unit which delays the establishment of the team (some executives having to change the Department).

7. Perspectives for 2020

At the end of the first Five-Year period, which was a phase of setting up the institutional mechanism, structures and frameworks for consultation, implementation strategy and the beginning of the program's implementation, the post-2016 period will prioritize in the operationalization of the UGGW. These include:

- the operationalization of the national alliance of the Great Green Wall around the Ministry of the Environment for Sanitation and Sustainable Development (MEADD) through the organization of a high-level event that must be marked by the signature of the charter;
- has the further implementation of the project activities « Environmental Front for a Green Union «(FLEUVE) ongoing in two GGW municipalities: Gavinané and Diaye Coura of the Kayes Region Nioro Circle, funded by the European Union through the UNCCD Global Mechanism;
- The realization of nurseries and reforestation in partnership with the GRNCCP project;
- The planting of woody species, soil remediation across the border project Burkina-Mali-Niger's Millennium Seed Bank Partnership KEW Garden;
- Operationalization of the Great Green Wall Management Unit by the effective establishment of the team at the national level and the formalization of the relays at regional, local, and municipal level;
- The development and implementation of structuring projects by Mali in the bilateral and multilateral framework;
- The development of regional action plans and cross-border projects and / or common interests with neighboring GGW countries in Mali;
- The formalization of the National Alliance of the GGW through the signing of the charter by the different members to lift the three challenges in the Sahel-Saharan zone: the challenge of security, the challenge of governance and the challenge of development;
- Developing partnerships and mobilizing resources;
- Promoting internal and external communication around this major program in Mali;
- Development and signature with the Government of a performance contract for 5 years and its financing from the national budget;

- Put in place an effective monitoring and evaluation system of the UGGW and partners;

The Great Green Wall Management Unit in Mali (UGGW-Mali) will become the National Agency of the Great Green Wall in Mali (NAGGW-Mali).

VI.MAURITANIA

Executive summary

The implementation of the GGW in Mauritania is mainly focused on the accomplishment of a baseline within the intervention zone in 2014. The main activities conducted include the establishment of a GGW forestry station with a high seed production capacity, the recovery of degraded land in the priority intervention zone of Trarza at 07 sites, and the reinforcement of the capacity of 25 technical agents, GIS managers and financial resources management.

These various interventions have contributed to the reinforcement of the organization of the populations (Trarza Region enlarged with Brakna), the improvement of the women's income through the installation of a key project FACI / Mauritania of Naim, vegetable gardens, and community shop that promote the process of setting up inter-village development poles. The NAGGW of Mauritania aims in perspective at the establishment of the National Alliance GGW, the implementation of the Program of Continental Wetlands on the GGW route, the acceleration of the implementation of the GGW in the communes of Trarza and Brakna, the development of regional plans and cross-border projects.

1.CONTEXT

1.1 Country Profile

Mauritania is a vast territory, covering 1,030,700 km2 with more than 2/3 desert, a 700 km maritime facade and a Sahel belt to the south in the Senegal River valley. The annual rainfall is low, usually less than 300 millimeters on average. The population of Mauritania is estimated at 3 500 000 inhabitants with a growth rate of 2.77%. About 60% of the rural population lives on agriculture and livestock. The rural sector occupies 64% of the national workforce (WCPA, 2005).

GDP is 4, US $ 157 billion current (2013) and GDP per capita of 1 430 US (Source MAED). The agricultural share was 15.10% in 2014. The Gross National Product is 4.947 billion US dollars (Source MAED).

1.2. Intervention zone

The NAGGW takes part in six (06) wilayas: Trarza, Brakna, Tagant, Assaba, Hodh El Gharbi and Hodh Charghi in a crossing route (15) Moughataas, forty-five (45) communes in Mauritania, populated with 481260 inhabitants in addition to the department of Chami, Chinguitti and the green belt of Nouakchott. Also, forty -five communes and 1 242 localities with approximately 481,000 inhabitants.

Fig. 14 : Map of the Great Green Wall route of Mauritania

1.3. Institutional Framework

Mauritania proceeded in 2014 by the appointment of the Agency's managers (Director and Deputy Director) and the members of the Board of Directors, then the physical installation of the NAGGW structure (rental of headquarters for the agency in Nouakchott and office supplies and computer equipment);

Adoption by the Board of Directors of an organization chart of the NAGGW and a Staff Regulations in 2015;

Realization of the final identification study of the GGW Trarza route, the intervention sites and priority actions with populations and decentralized structures.

In 2016, the Board of Directors of the NAGGW adopted the project of providing the organization chart of the NAGGW, by the appointment of 2 Heads of department and managers.

Capacity building of 25 technical and managerial staff in geographic information system and management of financial resources. Participation of the Agency in several exchange workshops at national and regional level.

Establishment of 4 functional regional offices in 2017: in Trarza, Brakna, Chami and Chinguitti, to better cover the areas of intervention;

The decree appointing the members of the Board of Directors of the NAGGW took into consideration 11 ministerial departments, to contribute to the sustainable management of the NAGGW resources. The Agency also involved all the decentralized technical services, the elected representatives, the populations and

the local authorities in the design, validation, and implementation of the actions of the Green Wall in Trarza and Brakna. The partnership approach with civil society, youth organizations, and local people's organizations has also been identified. From 2017, we have linked a partnership with G5 Sahel and Oxfam is still in progress. It has been planned to organize in 2018 a national workshop for the establishment of the National Alliance of the Great Green Wall which will include all public and private actors.

2. OVERVIEW OF ACHIEVEMENTS

The activities of the GGW in Mauritania during the first five-year period 2011-2015 focused mainly on consolidating and capitalizing on the achievements of other ongoing projects. This is the Special Protection Project of the City of Nouakchott (PSPVN) which has been running for four years and is a prelude to the implementation of the activities of the GGW on its route. These achievements will serve as a basis for the realization of the GGW.

2.1 Field operational activities

The main activities centered on the identification study and characterization of the GGW layout in Trarza which is the intervention pilot area. A baseline was implemented in this area of intervention that focused on past or current experiences for Natural Resource Management (NRM), the organization of the population, main actors in the implementation of future activities.

At the central level

Achievements centered on the development of the PK 17 forest station to produce seedlings;

The strengthening of the Nouakchott belt by the establishment of 2400 plants with a production of 1 300 000 plants of 22 different species.

Mauritania has finalized and adopted the GGW strategy and action plan, 2014-18 and 2014, and the Government has undertaken various legal provisions to strengthen the sustainable management of natural resources in a path aligned with the imperatives of good environmental governance. This strategy has been developed with reference to the conventions and laws cited below.

At the central level:

- Development of the PK17 forest station by setting up:
  - 2 offices and accessories, 1 store, 2 guard posts
  - An irrigation system consisting of a water tower of 10 m 3 , a pool of 60 M 3 and equipment necessary for the supply of solar energy.

- Development of one hectare of nursery at PK17, with a production of 630 000 plants including 10 forest species and 12 fruit species.
- Strengthening of the Nouakchott Green Belt by 2400 plants during the World Environment Day.
- Strengthening the nursery of Ten soueilim
  - The nursery preserves 352,000 plants distributed among 15 species
  - Nursery production in 2017 of 130,000 plants (Tamarix, prosopis, etc.)
  - Provision of 750,000 seedlings between 2014 and 2017 for the reforestation actions of the Nouakchott green belt, Chami, Chinguitti, civil society organizations, schools, public bodies established for areas of public interest.

Picture 22: Development of nursery at PK 17

Pictures 23 & 24 : Production of plants

Board N ° 9: Establishment of a Forest Station

Trarza sites

The Agency pursues these actions of protection and conservation with Trarza:

5 mechanical dune fixation sites are received, 3 in progress on 8 sites in total planned.

In the route at the Trarza level, there are 3 FACI sites being set up:

- Miftah el kheir: there was a vegetable gardening production in 2017 and a forest nursery of 64000 plants distributed among 5 species.
- Naim: Installation of the first option of Integrated Farm Community Farm (FACI), with 65620 forest seedlings divided into 4 local species, a vegetable gardening production, and a henhouse under development.

- Legweissi and Boutalhaya sites are under development and production is planned for 2018.

Site of CHAMI:

The NAGGW has improved the watering system of the Chami Green Belt, allowing the maintenance of 9126 seedlings, planting 2400 seedlings on World Desertification Day and the production of 46000 Prosopis and Leucena plants in nursery.

Site of Chinguiti:

-The Agency proceeded by extending the nursery from 400 m² to 2400 m²

- Nursery production of 45 000 plants distributed between 12 local and ornamental species.
- Organization of volunteering activities with NGOs, CSOs and schools.
- Installation of 5 ha of wattle and 15 ha of fence.
- Provision of 20,500 seedlings to schools, NGOs, and incorporated bodies for the reforestation of public interest sites.

L'Agence a produit en 2017 un total de 1 300 000 plants repartis entre22 espèces.

Brakna

The agency has conducted studies in the region of Brakna leading to geo referencing the route, identifying villages, priority actions and participatory validation of the document. The layout of the GGW in Brakna and the actions were validated during a workshop which brought together on August 22nd, 2017, all stakeholders including local authorities, local elected representatives, decentralized departmental services, associations, and local NGOs.

2.2 Community Development

The action of community development and local governance (income generation, family farming, education, and health) in the GGW intervention area have been implemented so far by the sectoral departments.

- Acquisition of a 10,000 € project for the initiation of the Integrated Agricultural Farming (FACI): Support Project for Food Security and Integrated Natural Resources Management in the Great Green Wall Zone in Mauritania Rkiz Municipality, Village of NAIM
- Establishment of a community shop, sales outlets for GGW products in addition to basic requirements, by the National Agency GGW of Mauritania with funding for the populations of Miftah El Khair and its surroundings.

Picture 25: vegetable garden of the women's groups of Miftah El Khair

Pictures 26 & 27: Miftah El Khair community shop

Board 10: Establishment of vegetable garden and Community Shop

2.3. Capacity Building

As part of the partnership with the University of Nouakchott, a research program on plant formations producing forest seeds is being conducted and experiments on the effects of mycorrhization on the growth of different woody species (Acacia sp..).

3. SOCIO-ECONOMIC IMPACTS

These various interventions contributed to the strengthening of the organization of the populations in the Wilaya of Trarza and Brakna, the improvement of the income of women's groups through the implementation of the pilot project FACI / Mauritania of Naïm, the vegetable gardens which promote the process of setting up inter-village development poles.

4. FUNDING AND PARTNERSHIP ACHEIVED

Regarding the partnership and mobilization of financing, the Ministry of Finance has, by Decision N ° 0845/14 / MF / DGB / 2014 authorized the payment of a grant of 50 700 000 MRO, representing the start-up budget of the National Agency of the Great Green Wall. For 2015, the NAGGW has been budgeted in the Finance Act up to 550 000 000 MRO of which 360 000 000 MRO for investment.

For the 2016 financial year a forecast of 592 035 000 MRO will be allocated to the NAGGW.

- Consultation with UNEP on the preparation of a project the GGW initiative entitled «Reducing Gaps in the Great Green Wall: Linking Sectors and Stakeholders to Strengthen Synergies and Scaling Up». This project aims to contribute to the implementation of the Great Green Wall Initiative.

- Development of partnership with FAO and IUCN (GEF implementing agencies) for the implementation of GEF funds in Mauritania. Project Improving Wetland Resilience to Climate Change in Mauritania.
- Project Proposal to Total Group, entitled: Contribution to population stability and Sustainable Management of Natural Resources of the Great Green Wall Trail in Mauritania Trarza and Brakna (amount 438000 €)
- Development of the partnership with the Forestry and Water Department of Turkey and China in the natural resources protection and development of GGW.

IUCN has been granted an agreement to create a project: « Improving climate change resilience of wetlands in Mauritania «Whose implementation will integrate the area of intervention of the National Agency of the Great Green Wall.

In addition, a tripartite partnership project agreement between the University of Technical Sciences and Medicine (USTM), the NAGGW and the Institute of Ecology in China has been determined based on the exchanges made by the three institutions. In this context, the partnership agreement project has already been drafted and is being negotiated between the parties.

5. CONSTRAINTS

The implementation of the GGW in Mauritania is subject to the following main constraints:

- The weak involvement of local authorities;
- The weak support for the rational and sustainable management of natural resources by the texts in force despite the request to seek appropriate solutions in this direction (decentralization, participatory development ...);
- The absence of a general baseline;
- The high cost of community investment;
- Insufficient logistical resources and financial means for carrying out and monitoring the activities of the Program throughout the entire strip of the route;
- security risks in the area.

6. POST -PERSPECTIVES 2015 (2016-20)

The first Five-Year cycle of the implementation of the Great Green Wall in Mauritania was established for the National GGW Structure, the development of the National GGW strategy, participation in all deadlines, identification, and the characterization of the route in the wilaya of Trarza and the capitalization of assets.

The post 2015 phase (2016-2020) during which the Agency's program in perspective will focus mainly on the following actions:

- The establishment of 14 nursery sites in the villages located on the Trarza GGW route;
- The production of 300 000 plants and fencing in 2016;
- The embodiment of 1500 h in 11 towns in Trarza;
- The complete installation of the NAGGW;
- The establishment of regional implementation structures for NAGGW;
- Embodiment of the baseline and construction of a GIS;
- Personnel Capacity Building in GIS;
- Training for the populations of the GGW on resilience to climate change and sustainable production techniques in rural areas;
- The organization of the consultation process with local partners and GGW implementation stakeholders and platform installation;
- Organization of meetings on the initiative to build a Mauritanian national alliance GGW;
- Stakeholders capacity building and particularly local actors and dissemination of results of scientific research;
- The search for resources to finance the GGW initiative;
- Definition of regional action plans and cross-border and / or common interest projects;
- Start and performance of the Inland Wetlands program on GGW drawn on GEF funding;
- The consultation between FAO and the Department of the Environment for the preparation of a natural resource management project in the NAGGW intervention area.
- Development and monitoring of actions initiated in Trarza, Brakna, Tagant, Assaba and Hodh Echargui

- Development of Integrated Community Farms or FACI in the other sites of the GGW
- Reforestation of the main sites identified in Trarza by local species.
- Route identification and activities at Tagant and Assaba
- Capacity building and partnership for fundraising and development.
- Start of the partnership project with the GEF, IUCN and NAGGW for the benefit of the Wilayas of Tagant, Assaba and Hodh Echargui
- Strengthening the Partnership with FAO and launching the Ecosystems Project and Sustainable Human Development.

VII. NIGER


Niger
International Boundary
Road
Minor Road
River
National Capital
City or Town
0 100 200 KM
0 100 200 MI
LIBYA
ALGERIA
MALI
NIGER
CHAD
NIGERIA
BENIN
BURKINA FASO
Niamey
Ouagadougou
N'Djamena
Madama
Dao Timmi
Agadez
Tahoua
Zinder
Maradi
Diffa
Nguigmi
Nokou
Mao
Ngouri
Bilma
Lake Chad
Gaya
Dosso
Birni
Tillia
Ingall
Arlit
Tchin-Tabaraden
Tessaoua
Keita
Dakoro
Mirria
Magaria
Gouro
Gueaqo
Kano
Matsaile
Sokoto
Tera
Say
Kollo
Tillaberi
Mangaize
Ouallam
Filingue
Ayorou
Gaya
Fada-Ngourma
Zorgo
Diapaga
Tenkodogo
Koupela
Bogande
Ouahigouya
Dori
Djibo
Gorom-Gorom
Sebba
Markoye
Gao
Ansongo
Menaka
Tin-Essako

Executive Summary

From 2010 - 2017, various projects have been carried out in Niger, notably on dune fixation (80 040 ha) ;soil restoration conservation of (310 310 ha) ;reforestation (364 615ha)

of gum trees and other forest species, 2 150 ha, the production of 40 150 km of firewalls, the production of 145 572,000 plants.

Community development activities focused on the production of 216 526 bales of straw per year, generating an average income of 43,305 200 FCFA for producers. It should also be noted that 265 heads of cattle are available to the 10 women's groups.

In terms of capacity building, more than 60training and recycling sessions to1,200 people have been completed on the techniques of production plants in the nursery, preparing CES/ DRS works, bleeding methods , collection and handling of the gum.

In terms of impacts, operational activities have contributed to the social cohesion strengthening and consolidation, solidarity and the culture of associative life, the creation of 21487 jobs, the increase of cultivable areas and fodder production. The SLM actions were favorable to a good biological recovery but also to a significant development of planted woody species.

In perspective, the strategyof strengtheningthe advocacy for the mobilization of the traditional and innovating funding as well as the scaling up of the SLM actions, the pursuit of the implementation of the projects, the establishment of a National Alliance GGW are envisaged.

1. CONTEXT

The Great Green Wall Initiative is seen in Niger as an opportunity to implement Communal Development Plans (CDPs) with an intervention strategy focused on achieving the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDG).

It aims, by 2035,to the development of local communities through an innovative and inclusive approach creating synergies between the actions against desertification ,a conservation of biodiversity, fight against climate change and support for strengthening agro- silvo- pastoral production systems . The objective is to reforest Niger and contribute to a sustainable food security of populations and livestock.

The National Implementation Action Plan developed and adopted in a participatory method since November 2011, places a special emphasis on the cooperation between the different partners and the collaboration with the projects and outstanding and future programs, for a fair and cautious distribution of interventions between the different municipalities.

The interventions included in the GGW implementation plan in Niger fall into various socio-economic domains, including agriculture, livestock, forestry, wildlife and fisheries, education, health and nutrition, renewable energies, transportation, and communications. Specifically, actions focus on: (i) conservation and enhancement of biodiversity ; (ii) restoration and conservation of degraded lands; (iii) diversification of production, exploitation systems and development of natural resources; (iv) meeting domestic needs for wood and non-wood products and promoting renewable energies ; the creation of basic socio-economic infrastructure and the promotion of income-generating activities ; and finally (v) improving carbon sequestration in plant cover and soils.

The strengthening of agricultural production is considered through the amplification of good practices in sustainable land and water management (SLWM) and the development of special ecosystems such as the Irhazer Plain, the Tarka Valley, the Oasian Cuvettes of the Manga, the Oases of Kawar, the Koramas and the various valleys of central Niger, etc. In this perspective, the flagship actions selected are part of the improvement of farming techniques and the mobilization of surface runoff and groundwater in accordance with the objectives of Niger's Economic and Social Development Program (PDES) and particularly the 3N Initiative.

1.1.CountryProfile

Niger covers an area of 1,267,000 km² of which 500 000 km 2 of real deserts. It is located between longitude 0 ° 16 'and longitude 16 ° E, and latitude 11 ° 1' and latitude 23 ° 17'N. It is a Sahel country characterized by low altitudes (200 to 500 m) with a relief marked by very old mountainous massifs in the North-west (Aïr massif), plains and plateaus in the South. The climate is tropical semi-arid, characterized by a dry season from October to May and a rainy season from June to September.

Four (4) agro-climatic zones make up Niger (fig 15) :

- the Saharan desert zone covers 77% of the country and receives less than 150 mm of rainfall on average per year. Irrigated crops are grown ;
- the Sahel-Saharan zone represents 12% of the country's area with an average rainfall of 150 - 300 mm per year. It is conducive to transhumant livestock farming ;
- the Sahel zone covers 10% of the country and receives 300 - 600 mm of rain on average per year; it is conducive to agropastoralism ;
- the Sahel-Sudan zone represents about 1% of the total area of the country and receives 600 - 800 mm of rain on average per year; it is conducive to agricultural and animal production.

From the pedological perspective, the cultivable soils in Niger are 80 to 85% dune and 15 to 20% hydromorphic and moderately clayey.

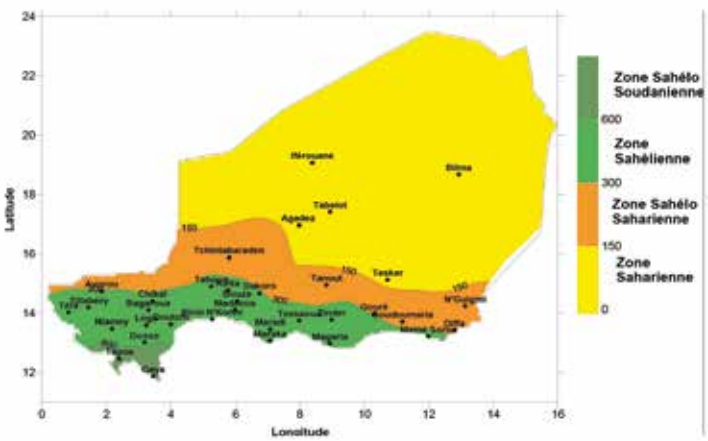


Fig. 15 : Climatic zones of Niger. *Source : AGRHYMET*

Niger is home to a diverse vegetation represented by several biogeographic stages. The flora of Niger contains about 2274 plant species (CNEDD, 2010). The area of forest land is estimated at 14 000 000 ha (EME / LCD, 2007). In the southern Sahelo-Sudanese fringe, there are gallery forests and wooded savannahs. Shrubs and grasslands characterize the Sahel zone. In the Sahelo-Saharan zone, contrasting vegetation formations such as shrub and grass steppes are the most represented. The fauna, rich and diverse, is composed of 3200 animal species including 168 species of mammals ; 512 species of birds ; 150 species of reptiles and amphibians ; 112 species of fish and many invertebrates, including mollusks, insects, etc. (CNEDD, 2009).

The total population of Niger is estimated at 17 807 117 inhabitants, 50.29% of whom are women (INS, 2014). Unevenly distributed, most of the population is concentrated in the southern band of the country, along the Niger River and along the border with Nigeria, where agricultural, pastoral, and economic activities are beneficial. The population of Niger is 84% rural with a growth rate of 3.3% per year. Niger's population is estimated at 18.3 million in 2015 and 21.7 million in 2020, with an urban population of 29.1% and 32.2% respectively. The demographic dynamics

observed should continue beyond 2020. In 2040, it is expected that there will be almost as many urban as rural.

Niger's economy is largely based on the primary sector (agriculture, livestock, forestry, wildlife, fisheries), which in 2010 was 45.2% of GDP and a narrow secondary sector (11.4% of GDP in 2010).). Between 2010 and 2013, the primary sector's GDP increased from 1021.27 billion CFA francs in 2010 to 1143.64 billion CFA francs in 2013, an increase of 10.7%, compared to 16.31% for all sectors (2295, 4 billion in 2010 and 2742.9 billion FCFA in 2013). This sector, along with exports of live cattle and certain agricultural products (onion, nutmeg, sesame), is the second largest source of export earnings after mining.

1.2 Intervention zone of the GGW

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 is spread over three (3) of the four climate zones from North to South (Fig.11) ; the Saharan zone, the Sahel-Saharan zone and the Sahel zone. It covers the regions of Diffa, Zinder, Maradi, Tahoua, Agadez, Dosso, Tillaberi and Niamey and covers two hundred and twenty-eight (228) communes. It is characterized by low altitudes (200 to 500 m) with a relief marked by very old mountainous massifs in the North-West (Aïr massif), plains and plateaus in the South.

Rainfall is characterized by a strong variation in space and time. In normal year, it allows groundwater recharge, the formation of water bodies and the development of land cover. But since the beginning of the 1970s, there has been a decrease in rainfall, which is reflected by a migration of isohyets towards the South (DMN, 2005, cited in Fodé, 2008).

The geographic range of the Great Green Wall or the green strip of 15 km wide and about 1500 km long (Fig. 16) is defined in the zone straddling the agricultural zone to the South and the pastoral zone to the North, with straps to take charge of the Irhazer plain and Lake Chad to create favorable conditions for the improvement of agro- sylvo-pastoral productions, the improvement of pastoral routes in the North and the prevention of land conflicts.

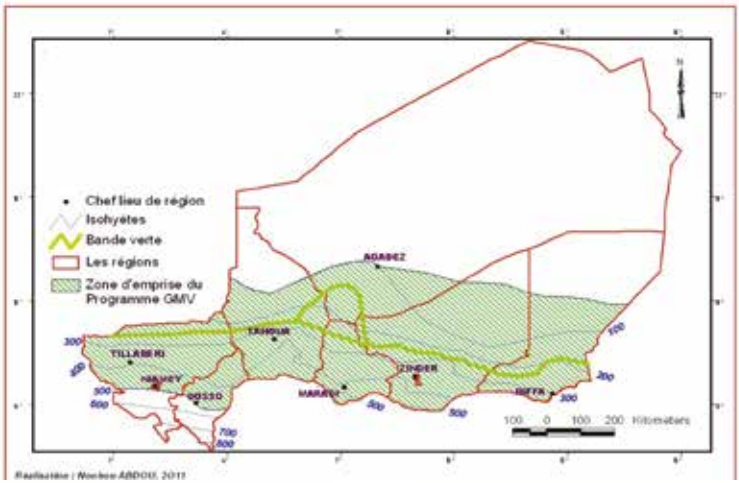


Fig.16 : Location of the GGW / Niger intervention zone

1.3. Institutional mechanism for implementation

The various stages of the establishment of the National Agency of the Great Green Wall of Niger are recorded in Table 12 below.

Signature of the agreement	Ratification	Mise en oeuvre de la Structure nationale GMV
June 17, 2010	Law No. 2012-016, of April 17, 2012	Stopped No. 0131 / ME / E / LCD / CEO / EF of 25 October 2010 : Creation of the Program Coordination Unit of the Great Green Wall Order No. 0168 / MHE / SG / DEF / EF of August 06, 2012 : Creation of the National Coordination Cell of the Great Green Wall Program
		Order N ° 0133 / ME / E / LCD / DGE / EF of October 26, 2010 modified the decree N ° 0168 / MHE / SG / DGE / EF of August 06, 2012 : Creation of the Steering Committee of the GGW Program
		Order No. 0132 / ME / E / LCD / DGE / EF of October 26, 2010 : Appointment of the National Coordinator of the GGW Program Coordination Unit
		Order N ° 0169 / MHE / SG / DEF / EF of August 06, 2012 : Appointment of the National Coordinator of the GGW Coordination Cell

		Law 2015-28 of March 26, 2015 : Creation of the National Agency of the Great Green Wall :
		Decree No. 2017-881 / PRN / MEDD of November 10, 2017 ; Adoption of the statutes of the staff of the National Agency GGW and organization chart

Table 12 : Implementation of a GGW

2. OVERVIEW OF ACHIEVEMENTS OF 2011-2017

For a better understanding of the resources of the GGW grip and an adequate planning of the various interventions, a cartography of the occupation of the Ground (COS) was created with the various landscape units and their vocations (agricultural land, vacant land, forest lands, sandy lands, pastoral areas, dwellings, uncultivated lands, or glacis, plans and rivers, roads, and livestock corridors).

Thus, 2.8 million hectares have been identified as multi-species and multi-users in reforestation areas and a need for seeds (ligneous and herbaceous) of 4.9 tons per year for an overall need of 223.4 tons for the effective implementation of this initiative in Niger.

Between 2011 and 2017, several activities including reforestation actions, protection, ANR, techniques of CES / DRS, training, development and support of research were conducted in the intervention area.

2.1.Operational activities: Reforestation, land restoration, conservation of natural resources

Since 2010, various operational activities have been carried out thanks to state funding and the financial support of partners. The achievements focused on SLM activities, recovery of degraded lands for reforestation and increased agricultural production; fixation of living dunes for the protection of cropland and socio-economic infrastructure (houses and roads) ; protection of biological diversity ; protection of particular ecosystems and improvement of grazing, etc.

Table 13 below gives a summary of achievements from 2011 to 2017.

Region/ Municipalities	Types of Physical Achievements (ha)							
	GMV	Gum Program	HIPC	PAC3 / Sawap	Biocar-bone	RIVER project	ACD	TOTAL
Agadez	180			1 102	0	0	0	10 112
Diffa	120	900	14 940	1 815	880	0	0	18 655
Dosso	200	500	21 360	9 426	543	900	500	33 429
Maradi	0	1 000	42 220	52 404	109	0	0	95 733
Tahoua	520	1 100	53 980	5 787	0	800	500	62 687
Tillabéri	550	1 050	90 810	6 127	888	0	0	99 425
Zinder	230	600	31 230	83	891	0	0	33 034
Niamey	70	0	2 260	9 210	0	0	0	11 540
TOTAL	**1 870**	**5 150**	**265 630**	**85 954**	**3 311**	**1 700**	**1 000**	**364 615**

Table 13 : Physical achievements made from 2011 to 2017.

From 2010 - 2017, it was carried out the following achievements : Dune fixation of 80 040 ha ; CES / DRS out of 310 310 ha ; Reforestation of 364615 ha of gum trees and other forest species ; ANR out of 2 150 ha ; 40,150 km of firewalls ; production of 145 572 000 plants were used for plantations in all the developed areas ; more 379900 H / days were used for these various achievements after more than 60 training and recycling sessions on the techniques used to build surface runoff collection structures.

In sum, the scaling up of SLWM best practices summarized in the table below resulted in the rehabilitation of 363 928 hectares, all projects and sources of financing combined. These interventions have allowed to strengthen agricultural, pastoral and forest production through the recovery, planting and seeding of these degraded areas.

As part of the implementation of the activities of the Biocarbon project financed by the World Bank, the populations of the clusters of the biocarbon sites and the technical managers benefited from a certain number of trainings, in particular :

- Technical training on the production of seedlings in nurseries, planting techniques, techniques of making CES / DRS works, pruning techniques, bleeding techniques, collection and handling of gum. 1200 people benefited from these trainings,
- The inter-site study trips of the members of the cluster management committee, i.e. 100 people.

As part of the communication, a study was conducted with the main purpose of developing communication tools to raise awareness on the conditions of access to carbon credits. Specifically, , it was about :

- The organization of meetings of exchanges with the populations on the objectives of the project and compliances of the access to the carbon funds,
- Identification from the meetings mentioned above, the main constraints and misunderstandings of the population in the process of obtaining carbon credits,
- The identification of the main awareness channels at the level of intervention clustered village,
- The development of a study report highlighting the entire process and results of the sequestered carbon of which the 200 000 to 418 000 tons carbon equivalent, which is a significant financial mass for the communities,
- The development of simple and comprehensible tools for raising awareness (radio recording, etc.) to respond to the problems raised during exchanges with population.

3. SOCIO-ECONOMIC AND ECOLOGICAL IMPACTS

The different actions of environmental preservation and desertification control have had positive impacts on the living conditions of the populations of the GGW intervention zone.

3.1 Social impacts

The socio-economic impacts generated in the implementation of some projects / programs are as follows :

• The realization ofAcacia senegalplanting actions within the framework of the Bio-carbon project has promoted: (i) the reinforcement of social cohesion, links of solidarity and the culture of associative life ;(ii) the strengthening of solidarity bonds and the culture of associative life, (iii) the creation of employment contributing to the reduction of the rural exodus and the stability of the households, (vi) the increase of the cultural spaces and the food security by the practice of the cultures spacers through erosion mitigation by improving water infiltration, (vii) silvo-pastoralism reinstatement. As part of the implementation of the Biocarbon project, the social impacts are among others :

- The creation of 21,487 temporary jobs mainly for young people and women through HMO work in CES / DRS, seedling production and planting, guarding, intercropping, pruning, bleeding, collecting gum, etc. ;
- Increasing the productive area by intercropping out of 830 ha for a cereal production of 247,379 tons per year on average;

- Large production of forage biomass : 216 526 bales of straw per year, an average income of 43,305 200 FCFA of income for the producers with an average cost of 200 FCFA per bales of straw sold.

As part of the implementation of the project FLEUVE, it should be noted the provision of 265

head of livestock to the 10 groups of women. An assessment conducted in late 2017, reports

the doubling of these animals and the multiplication of the number of beneficiaries.

The 30 tons of livestock feed put in place in 2 community shops are currently estimated at 45 tons in 3 input shops.

- The production and sale of straw and grass seed on the site of the Municipality of Simiri Tillaberi region is estimated at an annual revenue of 250 000 F to 350 000 FCF achieved by the Management Committee Site. The same revenue, even more, are also reported by the Management Committees of the other sites in the other involved regions.

3.2.Economic impacts

Land reclamation and reforestation activities have also contributed to increased agricultural production and pastoral production. The opening of anti-erosion structures (half-moons, benches, trenches, stony ridges, etc.) provides important financial income for the local population. It is an amount varying between 98,600 and 120,000 FCFA / hectare which is transferred to the population as part of the Labor High Intensity. This is about 80% of the amount of each SLM project that is distributed as Cash for Work for local people. For example, of the 21,336,791,625 FCFA emergency program of the year 2011, about 13,799,300,000 FCFA are distributed in the villages, which was used to reduce the cereal deficit (700,000 tons) of this poor campaign at height from 106 to 120 tons through the purchase of cereals, confirming that droughts should not be synonymous with famine in Niger.

The observed economic impacts are also related to the increase of agricultural and pastoral production on the restored sites. Thus, an evaluation of the production of intercrops carried out in 2014 on Bio-carbon sites gives the following important results: an increase of 273,179 tons of Mil ; 70.68 tons of Sorghum ; 54.92 tons of cowpea ; 78 tons of sesame ; 63.79 tons of peanut, etc.

3.3.Ecological impacts

The actions of the SLWM contributed to the biological recovery, but also a good development of planted woody species. Thus, the positive impact of SLWM operations are observed on the texture and structure of soils and on the biodiversity of land reclamation sites. The observations and floral surveys conducted in 2014

on the bio-carbon sites, and on the Sikieye Koira-Tégui (Kollo) site in 2015, 2016, and 2017, demonstrated a significant increase in the diversity of plant species, an important natural regeneration on the site, both for ligneous and herbaceous species. Wild animals, especially small wildlife, have returned to restored sites, often with damage to seedlings.

The intervention of the Acacia senegal plantation project allowed the return of plant species. The species that appeared with the project intervention are mainly : Monechma ciliatum , Pennisetum pedicellatum , Andropogon gayanus .Some species are increasing considerably. This is the case of Aristida pallida, and Pergularia tomentosa. Most herbaceous species that have appeared or are increasing are generally recognized as pioneer species on degraded lands that have been the subject of recovery actions.

Compared according to the conditions «with and without project. Biodiversity has a significant positive impact due to the advent of the Acacia Senegal planting operation as part of the Clean Development Mechanism (CDM).

- **Microfauna and Microflora**

Microfauna and microflora are also elements for improving biodiversity : CES / DRS structures as well as plant root systems at sites improve the infiltration and creation in the soil of an environment favorable to the development of microfauna and microflora.

- **Fauna**

Wildlife is linked to its habitat that is vegetation. The improvement of the latter has created the conditions for the return of wildlife and its installation. Several animals are seen on the recovered sites (biocarbon projects, Gum Program and Restoration Program (hares, squirrels, antelopes, warthogs, partridges, bustards, monkeys etc.)

4. MOBILIZED FINANCING AND PARTNERSHIPS CREATED

4.1. Funding

Table 14 below summarizes funding at national level and from technical and financial partners for the implementation of the GGW in Niger.

Funding	Projets	Objectifs	Montant	Période
National				
State	Great Green Wall	Support to the functioning of the coordination unit and the realization of field activities related to the amplification of the SLWM on 1 870 hectares	1.8 billion CFA ?	2011-2017
	Gum Program	SLM	FCFA 2.8 billion	2011-2017
State / Partners	Degraded Land Restoration Program (HIPC Fund) Breton Woods Institutions : Remission of debt	SLM Environmental protection in the context of maintaining young people in their land	CFAF 92.97 billion	2002 - 2016
	Program for Strengthening Resilience to Food and Nutrition Insecurity in the Sahel (P2RS-Niger). World Bank financing	- CES / DRS activities and AGR in 25 communes ; - Capacity Building	25.420 billion FCFA	2015 - 2019
	Bio-carbon project World Bank financing for WB projects in Niger	SLM, carbon sequestration and Arabic gum production	Financial Data Not Available	2005- 2030

International				
UNDP	Institutional support to the coordination unit	Make the coordination unit functional	10 million FCFA	2010
		Mapping of GGW area of intervention	10 million FCFA	2011
FAO	Elaboration of the GW Action Plan of 5 countries including Niger	Make available the reference Doc	400 $ 000	2010-2011
GEF, World Bank, State, beneficiaries	Community Action Program	capacity building of decentralized communities, local investments, M & E (124 Municipalities)	US $ 49 million	2013-2017
EU	Action Against Desertification Project	Combating desertification and protecting ecosystems	1.5 million Euros for 10 communes	2014 - 2019
EU	FLEUVE project	SLM	1.080 000 Euros for 9 target communes	2015-2018
German Federal Ministry / FAO	IKI project	FLR / SLM	400 000 million Euros for activities in the 3 Communes of Niger	2018-2022
French Environment Fund	FFEM project	FLR / SLM	500 000 Euros for field activities in the 3 target communes of Niger	2018 - 2022

PASOC / SAWAP projects	Forum on GGW / Civil Society	Strengthen the capacities of national NGOs in mobilizing funding for the implementation of GGW in Niger	25 million FCFA	2013
UNEP	Project Gap Reduction in GGW	Strengthen the capacities of actors	7 250 000 USD	2016-2019

Board 14: Projects / Programs to support the implementation of the GGW in Niger

4.2. Partnerships Development

Several partnerships have been developed at national and international level.

4.2.1. National

The GGW has a partnership with :

- The National Coordination Unit of the Community Action Program Phase 3 for the implementation of the SLWM component of the SAWAP program ;
- Coordination of the RUWANNU-IFAD Niger project for the implementation of the SLWM in 3 project intervention regions ;
- Coordination of the Program for Building Resilience to Food and Nutrition Insecurity in the Sahel (P2RS-Niger) with the signing of two Collaboration Agreements for : (i) the management, monitoring and supervision of soil water conservation and soil restoration and restoration activities(CES / DRS), and the sustainable management of natural resources in the 25 Communes of the project intervention of, and (ii) the beneficiaries capacity building for the effective implementation of planned activities.

4.2.2. International

Partnerships developed with international institutions are among others :

- FAO for the implementation of the regional project Action Against Desertification. The project is funded by the European Union for approximately US $ 50 million for 8 African countries including Niger. It focuses exclusively on the fight against desertification and the protection of ecosystems and their populations through the amplification of measures and practices of sustainable land management.
- The Executive Secretariat of the CCD for the implementation of the project Local Environmental Front for a Green Union (FLEUVE). This project is also funded by the European Union for an amount of 10 million euros for 5 countries members of the PAGGW including Niger. The overall objective of the project is to strengthen the capacity of civil society and local and regional authorities to integrate sustainable management of natural resources, land and climate risks into development plans at the local level, as well as mobilizing the resources needed for their implementation .
- UNEP is in progress for the implementation of the project to reduce the gap in the Great Green Wall for the Sahel and the Sahara for an amount 7 250 000 USD. It aims to strengthen the dialogue between African countries and international partners in a common effort to find long-term solutions to urgent problems of land degradation and desertification.

- FAO for the implementation of the FFEM Project financed by the French Environment Fund which aims to contribute to the deployment of the Forests and Landscapes Restoration/ Sustainable Land Management (FLR / SLM) in a holistic way, to sustainably provide multiple social, economic, and environmental goods and services and achieve the goal of land-degradation neutrality by 2030. Specifically, the project aims to : (i) Strengthen communal and national capacities in FLR / SLM in Niger, (ii) Implement FLR/ SLM actions and IGAs in the 3 target communes and Strengthen the enabling conditions for FLR / SLM ; (iii) Monitor, Evaluate, Capitalize, Produce and Disseminate FLR / SLM knowledge at sub-regional and international scales. The overall amount of this regional project is 1 800 000 Euros for Burkina Faso and Niger, including 900 000 Euros for each country for the implementation of field activities (500 Euros) and activities at the level of international coordination (400 Euros).

- FAO also for the implementation of the IKI Project « International Climate Initiative «. This is an initiative of the German Federal Ministry for Environment, Nature Conservation, Construction and Nuclear Safety (BMUB). It is a regional project whose objective is to strengthen the regional and national capacities for program scaling of the FLR, recognized by the Paris Agreement as an option to achieve the objectives set in the NDC, which allows the implementation of approaches aimed at adaptation to climate change and its mitigation. The total amount of the project is 4.8 million Euros over 5 years (2018-2022) of which 400 Million by country and the rest for the implementation of regional activities.

5. CONSTRAINTS

The main constraints and difficulties of the National Coordination Structure of the Great Green Wall in Niger are related to :

- The tedious capitalization of statistical data produced by the other concerned ministries to produce realistic annual balance sheets showing the Government's efforts in implementing the Great Green Wall Initiative in Niger ;
- The very difficult mobilization of the funds allocated to the National Agency of the Great Green Wall, enabling it to lead the activities of local communication, monitoring / supervision missions in the field, etc. ;
- Climatic hazards, particularly frequent droughts in Niger and floods that could jeopardize the success of plantations and built micro-dams ;
- Excessive pressure on natural resources from a population with very strong growth ;
- Poor natural resource management practices (overgrazing, deforestation, soil mining, etc.) ;

- Random participation of populations because of the prevalence and degree of poverty in the intervention areas ;

In the context of the biocarbon project, the difficulties were mainly in the following:

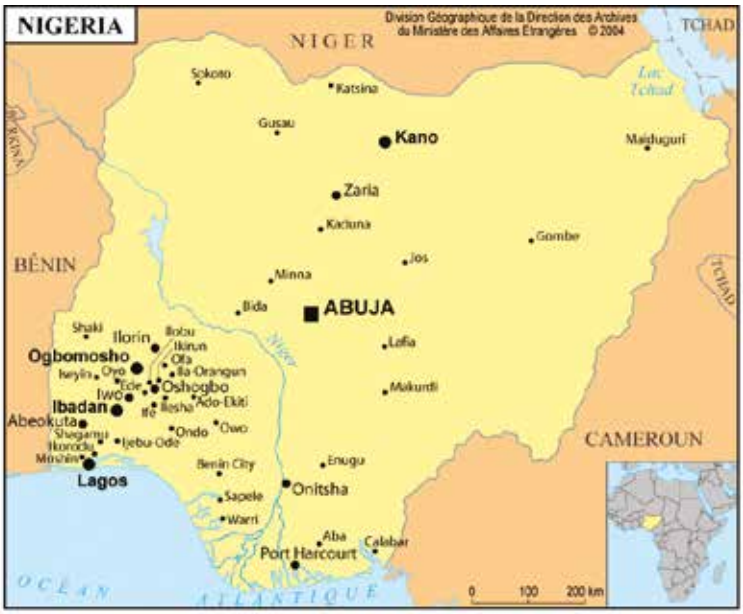
- Climatic hazards and the limits of the protection system in place, a mortality rate was observed ;
- The long delay in the development, validation, and registration of the Project Design Document (PDD) at the CDM Executive Secretariat level
- The long waiting for funds by the Communities due to sequestered carbon in their plantations,
- The non-production of gum by certain trees at the plantation level.

6. PERSPECTIVES

With the creation of the National Agency of the Great Green Wall, urgent actions include :

- The installation of the Agency s General Direction and its structures ; the Board of Directors and the Establishment Committee as provided by law ;
- Advocacy, negotiation of partnership and collaboration agreements with partners, projects and programs being implemented in Niger for the mobilization of traditional and innovative financing for an effective implementation of the Great Green Wall Action Plan in Niger ;
- The increased mobilization of national resources for the implementation of a significant program of scaling up SLM and increasing agricultural production with the opening of a Treasury Deposit Account to facilitate the mobilization of national financial resources and respond quickly to urgent needs.
- The implementation of the AFDB-PAGGW program to support the implementation of the Great Green Wall Initiative in all Sahel countries ;
- Continued implementation of the Action Against Desertification project ;
- Continued monitoring of the implementation of the P2RS program ;
- The signature of the agreements implementing the projects awaiting start-up, the FFEM and IKI projects ;
- The organization of a National Forum in 2018 with a view to setting up a National Alliance bringing together all the actors involved in the implementation of the Great Green Wall and mobilizing the necessary funds.

VIII. NIGERIA



Executive Summary

The implementation of the Great Green Wall in Nigeria has created vibrant rural communities. This thanks to strategic investments in social and economic infrastructures that have made a significant contribution to reducing rural poverty (Reducing the pressure on land resources and social conflicts and the exodus of young people). More than 6,000,000 plants were produced for shelterbelt, woodlots and community orchard, 200 000 palm seedlings were produced and distributed to local farmers. Community nurseries have been established in 92 communities and about 642.46 km shelterbelt has been established. To increase vegetation cover, provide sources of fuel wood and other forestry products for local communities 269.7ha community woodlot has been established, in addition 156 solar and wind-powered boreholes have been constructed. A total of 755 young people was trained and hired as forest guards in their communities for the management of windbreaks, woodlots, orchards and could establish nurseries. The Prospects are the investments of GGW in social infrastructure contribute significantly to the reduction of rural poverty, forced migration and social conflicts, the implementation of GGW Action Plan 2016-2020, the consolidation and scale up of achievements and the Synergy among stakeholders and Mobilizing finance.

1. CONTEXT

One of the main objectives of GGW is to serve as catalyst for rural development that could improve the living conditions of the affected communities in the Sahel Saharan region of Africa. Rural development however, must be environmentally sustainable to have an enduring impact on the rural poor. The growing interest in environmental sustainability to support rural development include among others a strong concern to conserve and enhance the agricultural resource base which is being threatened by degradation through deforestation, soil erosion, desertification. In Nigeria, the economies and livelihoods of virtually all communities in the dry region depend largely on soil, water and vegetation cover and these are increasingly threatened by phenomenon of desertification and recurrent droughts creating multi-faceted ecological challenges that are threatening the socio-economic development of the dry region of the country. The intervention of GGW tailored to gender rural development and improve the living conditions of the affected communities will be preventing or reversing ecosystem degradation and enhance service delivery.

1.1 Country profile

Nigeria, covering an area of about 923,768 sq km lies between latitudes 4° and 14° North and longitudes 3°and 15°East in Western Africa, has a population of over 180 million people with a growth rate of 2.8%. The country operates a federal system of government with 36 States and Abuja as the Federal Capital. The Gross Domestic Product (GDP) in Nigeria was worth 405.10 billion USD in 2016 and 30.5% of the population depend on farming and other agricultural related activities for their livelihoods.

Nigeria is characterized by wide variety of ecological zones from north to south and these include, the northern savannah, lowland tropical forest, freshwater swamp forest, mangrove forest and coastal vegetation and along the eastern border with Cameroon, a mountain forest zone.

1.2. GGW Implementation area

The Nigerian GGW Program is being implemented in eleven (11) frontline states of Adamawa, Bauchi, Borno, Gombe, Jigawa, Kano, Katsina, Kebbi, Sokoto, Yobe and Zamfara (Fig. 17). These states with population of over 40 million people and occupying about 43% of the total land area of Nigeria are the most threatened by recurrent droughts, land degradation and desertification.

Fig. 17 : Nigeria GGW Operational Area and Shelterbelt Route

1.3. Institutional arrangement

The following institutional arrangementis in place for effective coordination and implementation of the GGW in Nigeria:

-National Council on the Great Green Wall (*NCGGW: This is the governing body for the Agency and provides policy guidelines for implementation. Membership of the Council includes an Chairman appointed by the president, representatives drawn*

from line Ministries, Agencies, Sectors and NGOs.

- Administrative Structure: For effective supervision, coordination and facilitation of implementation, there are technical and supportive departments in addition to the Office of the Director General/Chief Executive Officer. The Departments and supporting units are:

  - Administration and Finance;
  - Planning, Policy and Coordination;
  - Afforestation and Land Management;
  - Resource Mobilization and Partnership Building;
  - Rural Development and Extension Services
  - Legal Services Unit;
  - Internal Audit Unit;
  - Procurement Unit;
  - Press and Protocol Unit; and
  - ICT.

2. ACTIVITIES CONDUCTED IN THE GGW ROUTE

2.1.Operational activities: Landscape Restoration, Conservation, and Sustainable Management of Natural Resources

2.1.1. Seedling Production

About 6,032,015 seedlings of various species were produced for shelterbelt establishment, woodlots, and community orchard between 2013 - 2016. In addition, 200,000 improved date palm seedlings were produced and distributed to local farmers (Table 15).

S/No	State	Quantity of seedlings Produced	Species
1	Kebbi	1,153,871	Neem, Eucalyptus, Mango, Cashew, Citrus, Date palm and Guava
2	Sokoto	866,74	"
3	Katsina	876,526	"
4	Jigawa	834,170	"
5	Yobe	818,756	"

6	Zamfara	392,812	"
7	Borno	647,687	"
8	Kano	849,133	"
9	Bauchi	350,494	"
10	Gombe	593,032	"
11	Adamawa	413,761	"
Total		**7 610 532**	

Table 15: 2013 - 2017 Production of Seedlings by States

2.1.2. Community Nurseries

Community nurseries have been established in 92 communities to decentralize seedling production and distribution, and reduce problems associated with seedling transportation. Each community nursery with capacity of producing 50,000 tree seedlings per annum has been fenced and provided with solar powered borehole as a source of water. The community nurseries are to produce more than 40% of the required seedlings for shelterbelts, woodlots, orchards, and agro-forestry. The community nurseries receive materials and technical support from the GGW Program, while the local communities contribute with workforce and management.

2.1.3. Establishment of Contiguous Shelterbelt

One of the key components of the Nigerian GGW program is the establishment of 1,358.62km contiguous shelterbelt from Kebbi State in northwest to Borno State in the northeast. The main objective of the Contiguous Shelterbelt is to serve as windbreak and achieve among others the following:

- Halt the Southward advancement of Sahara Desert;
- Rehabilitate degraded lands;
- Protect and improve the quality of farmlands;
- Increase vegetation cover;
- Improve Biodiversity;
- Combat Climate Change;
- Protect human settlements and other infrastructure;
- Stabilize shifting sand;
- Enhance rural livelihoods.

From 2013 – 2017, about 642.46 km Shelterbelt using mainly Neem, (Azadirachta indica), Acacia senegale and Eucalyptus has been established along the defined contiguous shelterbelt route (Table 16).

S/No	States	Shelterbelts (km)					Total (km)
		2013	2014	2015	2016	2017	
1	Kebbi	42	22	30	-	22	116
2	Sokoto	10	22	31	-	22	85
3	Zamfara	10	5	25	-	14	54
4	Katsina	34	10	30	-	20	94
5	Jigawa	28	22	30	-	20.5	100.5
6	Yobe	37	22	27	-	15	101
7	Borno	20	7	21.66	-	15.3	63.96
8	Kano	6	22	-	-	-	28
Total		187	132	194.66	-	128.8	642,46

Table 16. Shelterbelt Establishment

2.2. Community Development

2.2.1 Community Woodlot Development

To further increase the vegetation cover of the GGW operational area and rehabilitate degraded lands, community woodlot development has been one of the priority focus of the Nigerian GGW program. In addition, the woodlots provide sources of fuelwood and other forestry products for the Local Communities. A total of 269.7ha community woodlot has been established from 2013 – 2017 (Table 17).

S/No	State	Established Woodlot (ha)					Total (ha)
		2013	2014	2015	2016	2017	
1	Adamawa	20	20	33	-	35	108
2	Gombe	15	10	20	-	15	60
3	Bauchi	-	20	4	-	35	59
4	Kano	-	-	17,5	-	25,2	42,7
Total		35	50	74,5	-	110,2	269,7

Table 17 : Community Woodlot Establishment (2013 – 2017)

2.2.2. Establishment of Community Orchards

Des vergers ont été établis dans les communautés participantes pour fournir un revenu supplémentaire à la population et augmenter le couvert végétal. Un verger communautaire total de 298 ha a été établi de 2013 à 2016 (tableau 18).

N°	States	Orchard established (ha)	Species planted
1	Kebbi	13	Mango, Citrus, Guava and Date Palm
2	Sokoto	29	Mango, Date palm, Guava and Citrus
3	Zamfara	10	Mango, Citrus, Guava, Pawpaw
4	Katsina	27	Mango, Citrus, Guava, Date Palm, Cashew, Moringa, pawpaw
5	Jigawa	21	Mango
6	Yobe	46	Mango, Guava, Citrus
7	Borno	9	Mango, Guava
8	Kano	35	Mango, Cashew, Guava, Moringa and date Palm
9	Bauchi	26	Mango, Moringa, Guava, Cashew
10	Gombe	46	Mangue, noix de cajou et goyave
11	Adamawa	36	Mangue, goyave

Table 18 : Community Orchard Establishment (2013 - 2017)

2.2.3. Water Security Enhancement

Water scarcity is one of the critical problems in the drylands of Nigeria, militating against sustainable livelihood activities. To improve water security in the affected communities, the Nigeria GGW Program since inception in 2013, has been constructing boreholes to serve as sources of water for the people and their livestock. In 2015, 64 solar powered boreholes and animal water drinking through were constructed. These boreholes provide water to over 40,000 people and 150,000 livestock (Board 11). From 2013 – 2016 about 156 solar and wind-powered boreholes have been constructed.

2.2.4. Farmers' Assisted Natural Regeneration

LFarmers' Assisted Natural Regeneration is considered as one of the best options to enhance land productivity, combat land degradation, strengthen food security, enhance resilience to climate change and combat rural poverty among others. In 2015, about 550 farmers were selected for pilot project on Farmers' Managed Natural Regeneration. In November 2015, about 55 local farmers from various communities were selected and travelled to Niger Republic on study tour to

appreciate the value of the Natural Regeneration program in terms of increasing the productivity of farmlands and combating land degradation. The tour also availed the local farmers opportunities to exchange ideas with their Niger counterparts.

2.2.5. Promotion of Alternative Livelihoods and Youth Empowerment

Support for alternative livelihoods is an important component of the GGW Program in Nigeria with the following specific objectives:

- Diversification of income for the affected communities
- Reduction of rural poverty
- Generation of employment
- Reduction of pressure on land resources and land degradation
- Enhancement of rural economy
- Curtailment of social unrest and forced migration

To support and promote alternative livelihood activities in the participating communities, in 2015 five skill acquisition centers were constructed to serve as hubs for the training of unemployed youths in various off-farm activities such as carpentry, welding, knitting etc. It is envisaged that these centers will be training over 2,000 people annually on various trades.

2.2.6. Development and Promotion of Vegetable Gardening

To diversify the income of the affected communities, especially women, in 2015, the Nigeria GGW Program commenced a pilot project on promoting vegetable gardening with the following objectives among others;

- Diversification of income for the affected people, particularly women
- Enhance food security
- Reduce social unrest
- Strengthen the rural economy

A total of 22 ha vegetable garden was established in 2015 (2ha per state) as pilot project. Each garden has been provided with solar powered borehole and drip irrigation facilities. The people use the gardens to produce vegetables like cabbage, lettuce, tomato, onion etc. Over 400 women are currently benefitting from the program (Board 11).

2.2.7. Promotion of Alternative Rural Sources of Energy

It has been estimated that over 95% of the people within the dry region of Nigeria rely heavily on traditional biomass-based fuels such as fuelwood, crop residues and animal dung) for meeting their energy needs. The overreliance of the growing population on biomass-based fuels contributes significantly to deforestation, land degradation and desertification in the affected areas. In 2015, a pilot program on promoting the use of improved woodstoves and other energy saving cooking devices was kick – started in the GGW Operational Area. In 2014 and 2015, a total of 2,300 stoves were distributed to women in Arugungu LGA of Kebbi state and Gusau LGA of Zamfara State.

Photo 28: Water point provided by GGW at Fajiganari, Yobe State

Photo 29: GGW Community Vegetable Garden at Katsina

Board 11:Vegetable garden development and basic social services

2.3. Capacity building

2.3.1. School Outreach Program

Awareness rising among youth is central to the success of GGW implementation. Against this backdrop, the School Outreach and Catch Them Young Initiative has been initiated to mobilize the Secondary and Primary school students towards the implementation of the GGW Program in Nigeria. 22 Schools were selected in 2015 for the pilot school outreach program. In each of the selected schools, GGW Clubs have been formed and 2ha woodlot and orchard established.

2.3.2. Training and Engagement of Forest Guards

In 2015 a total of 450 unemployed youth from the GGW participating communities were recruited, trained, and engaged as Forest Guards to manage and protect the established shelterbelts, woodlots, orchards, and other field investments. The Forest Guard Program is specifically aimed to reduce youth unemployment and rural – urban migration especially in the dry seasons.

Photo 30 : Student Planting a Tree under the school outreach program

Photo 31: GGW Forest Guards

Board 12:Student Awareness and Youth Training Programs

2.3. Other activities

2.3.1. Public Awareness and Information Dissemination

Success of the program implementation depends on concrete strategy for public awareness campaign, complete with campaign messages and strategy for information dissemination. To sensitize the public, particularly the affected communities and mobilize them towards the program implementation, the following activities are being carried out:

- Information dissemination through the GGW developed Website
- Sustained Radio and TV jingles in English and local languages
- Feature articles in Newspapers
- Development and distribution of IEC materials including posters and handbills
- Production of documentary films on the impact of desertification and GGW achievements
- Advocacy visits by Hon. Minister, Permanent Secretary and Director General (NAGGW) to participating states and local communities

2.3.2. Monitoring and Evaluation

Monitoring and Evaluation is core to the success of the program. To strengthen the monitoring and evaluation process, the following are currently, being undertaken:

- Development of M& E framework and Key performance indicators (KPIs)
- Establishment of GIS laboratory
- Establishment of automatic weather stations within the GGW corridor
- Publication of implementation reports

3. SOCIO-ECONOMIC IMPACTS

To reduce pressure on the critical ecosystem for rural energy which more than 95% of the rural communities in the dry region depends upon, five (5) Skill Acquisition/ Livelihood Support Centers have been constructed (Kano, Katsina, Bauchi, Gombe and Yobe) with the aim of training the rural community members on improved wood stoves and other alternative energy devices such as solar cookers and biogas stoves.

To meeting the water needs of over 160,000 humans and 1,507,000 livestock in the region, the Agency has successfully provided 159 solar and wind powered boreholes to ensure uninterrupted and sustainable water supply. In the communities provided with boreholes, water stress has reduced in areas of intervention and women and children no longer walk far distances in search of this necessity of life.

4. FUNDING AND DEVELOPED PARTNERSHIPS

4.1 National

The Federal Government of Nigeria (FGN) provided a take-off grant resource at inception of the program; and in 2017, N525.161Million was release from the approved National Capital Budget appropriation for the implementation of GGW activities.

4.2 Partnership

Based on the Letter of Agreement (LoA) endorsed between Nigeria and the Food and Agriculture Organization (FAO) of the United Nations/ European Union (EU), about N9.3Million has been released for the implementation of Action Against Desertification (AAD) project which centered mainly on land restoration in 2017.

As a result of the partnership with FAO/EU and consequent upon the utilization of the resources; the following achievements were recorded:

- 38 community members drawn for the participating States were trained on large scale restoration techniques, seedlings production and management;
- About 484 ha of degraded land was ploughed and native tree species sown directly for restoration purposes in three states (Bauchi, Jigawa and Sokoto);
- About 191 community members were engaged as daily paid workers (job creation) in direct planting of native species;
- Community consultation and sharing of experiences leading to greater understanding and cooperation on project implementation and directions;
- Formation of community Association/Groups on NTFPs (Apiculture and Livestock Improvement for livelihood support program in AAD Projects States,
- Articulated plans and result based Work-Plan developed for the implementation of 2018 activities.

5. PLANNED ACTIVITIES AND TARGETS (2016 – 2020)

The 2016 – 2020 strategy for the implementation of GGW Programme has been prepared to consolidate past achievements and realize the vision of the GGW Initiative and National priority. The main objective therefore of the 2016 – 2020 planned activities is to achieve the following:

- Generate employment
- Enhance food security
- Enhance National Security and reduce social conflicts
- Combat Rural Poverty
- Increase vegetation cover
- Promote Gender Equality
- Strengthen Climate Change mitigation and adaptation
- The major Priority Action Programs for implementation from 2016 – 2020 include the following:
- Establishment of 1,610km shelterbelt
- Establishment of 1,464ha community woodlot and 296ha woodlot through school outreach program
- Improve the productivity of 125,000ha land through FMNR
- Stabilization of 240ha sand dune
- Increasing vegetation cover of 5,625ha of land through life fencing, riparian plantation, and road side plantation
- Distribution of 1million improved woodstoves to rural women
- Construction of 360 boreholes and 187 tube wells to enhance water security and promote dry season farming
- Construction of 35 earth dams
- Construction of flood water harvesting structures in 40 communities
- Popularization of compost manure in 825 communities
- Establishment of 800ha community fodder farms
- Rehabilitation of 52 oases
- Recruitment of 4,000 forest guards
- Engagement of 550,000 unemployed youth in Afforestation and other field activities
- Training of 15,000 young people in alternative livelihood activities

CONCLUSION

The vision of the Nigerian program of the Great Green Wall is to create dynamic, equitable and sustainable rural communities through strategic investment in social and economic infrastructure. This will enable rural communities to meet their basic needs while engaging in economic activities. The minimum investment in social infrastructure can contribute significantly to the reduction of rural poverty, forced migration and social conflicts.

The implementation of the Program in Nigeria is however not devoid of some critical challenges, but these challenges can be surmounted with adequate funding and an important synergy among stakeholders

IX. SENEGAL


SÉNÉGAL
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MAURITANIE
Richard Toll
Dagana
Saint-Louis
OCÉAN
Louga
Matam
Linguère
Guédiawaye
Tivaouane
Thiès
Mbaké
Bakel
DAKAR
Rufisque
Diourbel
Mbour
Fatick
Guinguinéo
Joal-Fadiout
Kaolack
Kaffrine
MALI
Tambacounda
ATLANTIQUE
GAMBIE
Velingara
Bignona
Kolda
Sédhiou
Ziguinchor
Kédougou
0
100 km
GUINÉE-BISSAO
GUINÉE

Executive summary

In Senegal, the operational activities of the GGW have been carried out since 2008 and are mainly focused on the IGAs restoration and development. The review of the achievement efforts indicates that almost half of the route has been completed. This is due to a major effort with 18,299,424 seedlings produced, 42,452 ha reforested, 13,250 km of developed firebreaks and 13,000 ha protected. Adequate communication strategies and tools are also being developed, as well as the introduction and implementation of multifunctional gardens that have allowed women to be more independent.

The implementation of the GGW has created a very good associative dynamic with the involvement of various categories of actors. The development of various IGAs (NTFPs, community multifunctional gardens, forage valorization, etc.) has led to the reinforcement of food security in the area and the emergence of female leadership.

The prospects are the mobilization, the partnership and the creation of employment in the soils ;the development of a charter for the sites, the coherence of the programs of the different technical departments ;completion of complementary studies of reference and capitalization; the implementation of the 2018-2021 performance contract.

1. CONTEXT

In Senegal, to face environmental challenges, much has been done to improve people's ways and means. Despite some successes and good practices that must be capitalized and valued, we must recognize that the results require to be amplified to cope with the ongoing degradation of natural resources in the face of the phenomenon of climate change.FAO estimates indicate the annual loss of 35,000 hectares of forest cover.

Thus, with the extension of arid and semi-arid zones towards the South and the emergence of salinized and / or acidified homes, we are witnessing a concentration of populations in small spaces, living with limited natural resources, difficult to develop. because of the high operating pressure.At the socio-economic level, the drop in agricultural production in these areas has drastically reduced people's incomes, which, coupled with the lack of sustainable alternative sources of income, explains the persistence of poverty in rural areas.One of the responses often provided by vulnerable populations is to migrate to «new» areas for new clearings to the detriment of forests or other relict formations.

At the organizational level, for more rationality, efficiency and effectiveness in the fight against this phenomenon, a National Strategic Investment Framework for Sustainable Land Management (NSIF/ SLM) has been put in place. This sustainable land management framework, which is in line with the vision and strategic orientations advocated by the Emerging Senegal Plan (ESP), is developed with the

aim of making the missions and interventions of SLM stakeholders more consistent to halt definitively the duplication between institutions and to guarantee more efficiency and effectiveness in the SLM development actions in Senegal.

Indeed, for Senegal, a country in the Sahel whose population is more than 60% rural, sustainable development means firstly «conservation of renewable natural resources and ecosystems» and «consolidation and diversification of production systems». Thus, in Senegal, under the Great Green Wall Program, the immediate challenge is to create the conditions for restoring the foundations of food and energy security and maintaining biological diversity in line with the creation of green jobs in the intervention area. In short, the establishment of development poles with the active participation of all actors.

With a view to regenerating productive capacities, the activities developed revolve around major themes such as the production of seedlings, planting, protection and fight against bush fires, horticultural productions, defensive management and the fight against erosion, forage harvesting, and the establishment of a community nature reserve. Communication, sharing and capacity building have accompanied the activities that preceded whenever necessary, through basic studies or other necessary mapping.

1.1.Country Profile

Senegal covers an area of 196 722 km². It is a Sahel country composed of five (5) agro-climatic zones: Sahel zone, Sahelo-Sudanese zone, Sudanese zone, Sudan-Guinean zone, Guinean zone. The rainfall pattern is characterized by a rainy season from June to October with a peak in August, September, and variable according to the latitude. Senegal receives between 150 and 800 mm of rain on average per year following a North-South gradient. The total population is estimated at 13,508,715 inhabitants including 72.42% rural with a growth rate of 2.34% per year (ANDS, RGPHAE 2013).

The national economy is largely based on the fishing, tourism, and services sectors. GDP is 14, 11 billion US dollars in 2016, the primary sector contributes 15.6% of GDP, the tertiary sector contributes 60.3% of GDP (ANSD, Economic and Financial Report).

1.2.Intervention zone

The length of the route of the GGW in Senegal is 545 km for an area of approximately 817 500 ha. The zone of construction of the GGW is dominated by pastoral activity with extensive breeding and agricultural activity, despite an average annual rainfall of between 100 and 400 mm. The right-of-way covers three (3) administrative regions (Tambacounda, Matam and Louga), five (5) departments and sixteen (16) communes (Fig. 18). The population benefiting from this project is 322 221 inhabitants (Table 19).

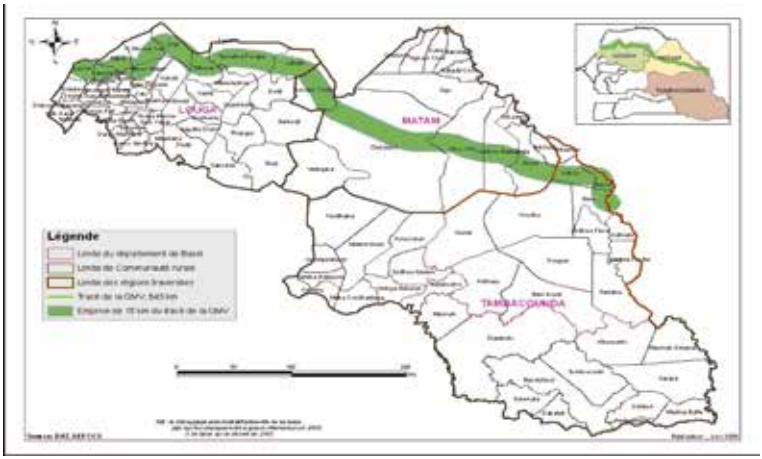

Fig.18 : Map of the route of the Great Green Wall of Senegal

REGION	MUNICIPALITY	MAN	WOMAN	TOTALE
LOUGA	LEONA	16386	16402	32788
	NGUEUNE SARR	6533	7342	13875
	SAKAL	11625	13412	25037
	KEUR MOMAR SARR	13843	13674	27517
	SYER	3611	3493	7104
	MBOULA	3953	3909	7862
	TESSEKERE FORAGE	4392	4607	8999
	LABGAR	3339	3536	6875
MATAM	LOUGHERE THIOLY	1727	1573	3300
	OUDALAYE	13331	13574	26905
	OURO SIDY	18475	18832	37307
	NDENDORY	15406	16776	32182
	AOURE	16203	18933	35136
TAMBACOUNDA	GABOU	9659	9343	19002
	BALOU	10639	10707	21346
	BELE	8489	8497	16986
TOTAL		157 611	164 610	322 221

Board 19: Distribution of the population of the GGW route according to the municipalities

2. OVERVIEW OF ACHIEVED ACTIVITIES

Senegal has started its activities for the implementation of the Great Green Wall since 2008, year of creation of the National Agency of the GGW.

The activities involved all the axes of the strategic planning. Forest activities for seedling production, reforestation and soil restoration predominated at the beginning of the project, to restoring soil productivity. Nevertheless, community development activities have been developed through the creation of detention basins, multifunctional gardens, communication activities involving vulnerable groups, particularly women and young people, and partnership.

2.1. Operational Activities

The operational activities of the GGW have been focused on seedling production, reforestation, and bushfire control. The assessment of achievement efforts between 2008 and 2017 reported 18,299,424 seedlings produced, 42,452 ha reforested,

13,250 km of developed firebreaks and 18,500 ha protected. Table 20 below summarizes all the annual operational activities carried out between 2008 and 2017.

ANNEES	Number of plants produced	Reforestation (ha)	Firewall Length (Km)	Defensiveness (ha)
2008	2 500 000	5000	240	13000
2009	2 200 000	3000	2 100	
2010	2 700 000	3700	2 200	
2011	1 650 000	4000	2 560	
2012	1 950 000	3900	1 200	
2013	2 025 000	5000	1 500	
2014	1 380 624	4000	1 500	
2015	1 733 800	4700	1 500	
2016	2 160 000	5350	450	5500
2017	1 406 439	3602	-	
TOTAL	**18 299 424**	**42 452**	**13 250**	**18 500**

Table 20 : Annual operational activities carried out on the GGW of Senegal between 2008 and 2017

2.1.1.Restoration, conservation and sustainable management of natural resources and biodiversity

For some years, seedling production is relatively low compared to other years. In fact, during these years, the focus is rather on consolidating and preserving achievements instead of deployment in new areas. This is the case in 2017 when nine (9) forest nurseries were set up in the different sites. 1, 406,439 plants were produced on a forecast of 1,710,000 plants, a rate of 82%.

Picture 32 : Plant production

Picture 33 : Opening firewalls

Picture 34 : Reforestation

Board 13: Recovery and Restoration and Conservation Activities

To produce seedlings, the diversification of species was considered according to the availability of seeds and according to the demand of the populations. The main species produced are: Acacia nilotica, Acacia raddiana, Acacia seyal, Acacia Senegal, Balanites aegyptiaca, Zizyphus mauritiana. Other species have also been produced, including: Delonix régia, Anacardium occidental, Manguifera Indica, Moringa olifera, Acacia mellifera, Citrus limon, Cordia.

In terms of fighting against bush fires, the burned area in relatively remote areas of reforestation plots were circumscribed contributing to the decline in burned area. A total of 13 250 km of firebreaks has been opened and maintained.

Appropriate communication strategies and tools (information, training, awareness, etc.) are developed to control the bushfires. Areas of collaboration are defined with the research structures for a smooth control of early fires in different framed areas.

2.1.2 Improvement and strengthening of production systemsn

The introduction and implementation of the multifunctional gardens by market gardening and fruit production activities are developed with the installation of the drip irrigation system, fed from the surplus drilling. These multifunctional gardens include the provision of farmland by municipality officials.

Vegetable and fruit activities take place at the multifunctional gardens of Widou, Téssékéré, Labgar, Mbar Toubab, with areas planted with mango and other fruit trees (mandarins, zizyphus, guava trees, etc.). It is at the level of these gardens installed in the zone of the Great Green wall that the market gardening productions are developed.

Other multifunctional gardens were implemented in Kadiar, Syer, Koyli Alpha, Mbaye Awa, Mboula and Kodialal since 2012. Beekeeping was initiated at Koily Alpha in association with the community multifunctional gardens since 2014. To this end, twenty (20) hives have been installed with a production of 60 liters in 2016 of which thirty (30) were sold (Board 14).

Picture 35 : Community multifunctional gardens

Picture 36 : Harvesting of garden products

Board 14: Promotion of Income Generating Activities for Women

The market gardening activities have enabled the women to dispose of the productions, part of which has been shared among the members of the various groups and to support certain local populations for the households' self-consumption. The marketed part generated revenue shown in Table 21.

YEARS	Production of community multifunctional gardens (Kg)	Revenue (FCFA)	Production of NTFPs: Balanites fruits (Kg)	Revenue (FCFA)	Fodder production (Nr of Carts)	Revenue (FCFA)
2011	12 250	3 054 800				
2012	15 891	3 346 040				
2013	40 578					
2014	6 681,5	1 560 400	10 439	1 530 850	130	9 000 000
2015	8 950	2 334 405	ND	9 016 000	ND	
2016	3260	800 570				
2017	4179	1 086 385				
Total	**91 782**	**12 182 600**		**10 546 850**		**9 000 000**

Table 21 : Productions and revenue of multifunctional gardens and collection products

2.2 Community Development and Local Governance

The exploitation of forest resources by the valorization of the collection products has been developed mainly for:

- Meeting local needs for collection products. It ensures a significant contribution to local food, especially during critical periods during which the reduction of harvested products stocks imposes to fall back on natural resources in which collection authorizes on welding power supply;
- Feeding supply chains to urban and rural markets for economic value. The volumes and diversity of products involved are enormous. The income generated, and the sums of money appear consistent.

2.3.Capacity Building

The success of such program lies in the collaboration of all the actors involved in the implementation. As such, the University Cheikh Anta Diop (UCAD) of Dakar, the Ministry of Youth, the youth of Tendouck, the Association Sukyo Mahikary, take part every year in the month of August in reforestation camps.

Around these activities, with the contribution of the University, an observatory has been set up to measure the various impacts of the Great Wall on the environment.

In addition to the National Center for Scientific Research (NCSR) and the University of Dakar, partners from the business world have shown their interest in this initiative.

The Klorane Institute, which finances the production and planting of Balanites aegyptiaca and supports theses of young Senegalese researchers around the Great Green Wall.

For five years, following the citizen camps of Cheikh Anta Diop University, the village of Widou Thiengoly, one of the main sites of the GGW, hosts the events organized by the Observatoire Homme Milieu (OHM) of Tessékéré in collaboration with its partners UCAD, CNRS.

In addition, a program of the UCAD called Summer University is designed to provide answers to the problems posed by the Great Green Wall project in terms of the well-being of populations and the protection of Ferlo's ecosystems.

The trans-disciplinary character of the GGW is also perceived by the different profiles of students from various academic institutions to do an internship at the Agency as part of their final dissertation or research work.

Due to its multi-disciplinary character and because of its vocation for the socio-economic development of the GGW, several feasibility studies and diagnoses have been carried out :

- the diagnosis of the Balanites sector in 2013 ;
- the study on the dynamics of vegetation regeneration and the establishment of a monitoring framework in the GGW zone ;
- the feasibility study to develop ecotourism in the GGW action area ;
- diagnosis of beekeeping sector to develop income-generating activities.
- In terms of capacity building, a training of apicultural stakeholders and support for the realization of apiaries tests was given around the multifunctional gardens.

3. SOCIO ECONOMIC IMPACTS

The activities developed in the intervention areas of the GGW Senegal, the various market gardening, fruit, and non-timber forest products through the diversification of the sources (community multifunctional gardens and harvesting, forage valorization, etc.) have had repercussions socio-economic impacts for the beneficiaries :

- the introduction of multifunctional gardens at Ferlo has greatly contributed to improving the daily lives of the populations benefiting from these spaces developed for vegetable and fruit production by the qualitative change of the population's diet and strengthening food security in the area, but also by increasing women's income and standard of living. Each garden is, in fact, a node within the spatial, social, economic, and political system that constitutes its village of implantation ;

- at the level of Mbar Toubab, Koyli Alpha Widou and Sakal, the populations organized themselves into management committee with the support and supervision of the forest agents of these localities. Access authorizations have been issued to them to harvest fodder in the fenced parcels. The first plots, reforested and fenced in, have become, thanks to the setting aside, real reserves of fodder opened on the occasion for the harvest of straw. This has limited seasonal migration for some families, allowing more children to attend school. In addition, harvests have helped satisfy domestic needs for wood and non-wood products. As an example, the forage valorization at Mbar Toubab has generated revenues of up to 9,000,000 CFA francs over an opening period of only 30 days at the rate of 100 carts of fodder harvested per day. ;
- the valorization of wood products and non-wood forest products has allowed, on one hand, the satisfaction of domestic needs in ligneous and on the other hand, the harvest of products Fruits of Balanites aegyptiaca is organized by the local populations under the supervision of Waters and Forests technicians. As such, the production of 10,439 kg of Balanites fruits harvested generated revenues of 1,530,850 FCFA in 2014 and a value of 9 016 000 F CFA for all forest products in 2015;

Generated revenues from the diversification of activities (multifunctional gardens, collection, etc.) have led to the emergence of a new female leadership and the implementation of a local microcredit and revolving credit policy, offering opportunities for diversification of activities (small business, farmhouse ...) . In terms of health, the populations of the Great Green Wall area have been able to benefit from free consultations and the distribution of medicines organized for five (05) years (Summer University) thanks to a partnership with the UCAD-OHM which allows by its medical component, to ensure health coverage, to the populations of the Great Green Wall area.

4. OTHERS

Also, to mention the participation of rural communities in the realization of firewalls, by the purchase of fuel worth 6,800, 000 FCFA, since the start of activities.

The setting up of a 1000 ha National Wildlife Refuge in the village of Koyli Alpha, Mboula commune. This reserve should allow the development of ecotourism by reintroducing extinct species from the area.

5. DEVELOPMENT OF FUNDING AND PARTNERSHIPS

The Government of Senegal has started implementing its GGW component with national resources, but other external funding opportunities are to be mobilized from the international community.

Regarding the development of partnerships, the National Agency of the Great Green Wall has signed memorandum of understanding with several national institutions namely:

- The Department of Waters, Forests, Hunting and Soil Conservation (DEFCCS);
- The Institute of Environmental Sciences (ISE),
- The Lou-Ma-Kaf Food Security Support Project (PASA);
- The Sukyo Mahikari Association ;
- The Agir Association for the protection of the environment;
- The Center for Ecological Monitoring (CSE)
- The Senegalese Institute for Agricultural Research (ISRA).

Since 2008, the reforestation program of the Senegal component of the GGW, is conducted with several partners. As an illustration, more than 1000 people are mobilized for the plantations for an area of 5000 ha including 3300 ha of new plantations and 1700 ha of replenished and distributed in the five communes of Syer, Tessékéré, Mboula, Labgar and Louguéré Thioly. This is also the case of:

- The Ministry of Youth, which mobilizes over 150 volunteers for 15 days in the framework of «citizens' holidays»;
- The «Sukyo Mahikari» Association with speakers from different countries in Europe, America, Asia and Africa;
- The Cheikh Anta Diop University of Dakar (UCAD), which has distinguished itself in a program called the Summer University of Widou Thiengoly;
- The association «Planting together» gathering various nationalities;
- The youth of Tendouck which has been part of GGW development since 2010;
- The deputies of the National Assembly also stayed in Widou to participate in the reforestation of the Great Green Wall;

To this diversity of stakeholders, it is necessary to add the presence of the Senegalese and French armies which assure each time a good part of the coordination during the length of the field activities and participate in the plantation.

6. CONSTRAINTS

The implementation of the GGW program is mainly confronted with a lack of financial resources in relation to the immensity of the challenge for carrying out the activities of the GGW..

7. POST –PERSPECTIVES 2015 (2016-2020)

The Priorities of the GGW Senegal for the period 2016-2020 are among others :

- The establishment of the faunal reserve ;
- Conducting technical operations (integrated rural development, improvement, support for local initiatives) ;
- The establishment of forage farms to support dairy production ;
- The development of the different sectors of local products ;
- Training, Awareness, Communication ;
- Mobilization, partnership, contribution to the local workforce ;
- Additional baseline studies and capitalization (in socio-economic, organizational matter, biophysics, mapping, land ...) ;
- Support for the development of a GGW building charter ;
- Strengthening the cooperation between the technical departments (agriculture, livestock, water ...) for alignment of programs ;
- the implementation of the 2016-2018 performance contract and the Emerging Senegal Plan (ESP);
- the implementation of FLEUVE projects and “Action Against Desertification “.

X. SUDAN


SUDAN
EGYPT
SAUDI ARABIA
CHAD
ERITREA
ETHIOPIA
CENTRAL AFRICAN REPUBLIC
SOUTH SUDAN
NORTHERN
RED SEA
NILE
NORTHERN DARFUR
NORTHERN KORDOFAN
KHARTOUM
KASSALA
WESTERN DARFUR
SOUTHERN KORDOFAN
SOUTHERN DARFUR
SENNAR
GEDAREF
BLUE NILE
Khartoum
Omdurman
Port Sudan
Asmara
Addis Ababa
(Addis Ababa)

Abstract

The activities around the Great Green Wall are mainly: Production of plants (19 669 00 plants), Restoration (85 000 ha), Protection of regeneration Land (25 square kilometers), Firewalls Realization, Sand dune fixation in the northern states; Collection of rainwater for animals. Within the GGW area, subsistence activities provide employment opportunities for rural populations and contribute to the reduction of poverty. They participate in the organization of associations of Arabic gum collectors for improving the quality of the gum, the women consolidation around common activities of market gardens, crop production in community forests. Involvement of researchers always in the form of advice for data development or the development of methodologies to achieve certain activities such as water harvesting, soil conservation or other. Education and training centers that contribute to the implementation of the GGW. The Prospects are the consolidation and scale up of GGW achievements and the synergy among stakeholders and Mobilizing finance.

1. CONTEXT

The Great Green Wall for the Sahara and Sahel Initiative (GGWSSI) aimed at addressing desertification, land degradation and drought in the Sahara and Sahel. Within this context the GGWSSI is supported by stakeholders at regional and international organizations, national institutions, local authorities, communities and civil society and development partners.

In Sudan, the GGWSSI involves the development of local communities through the establishment of an innovative and inclusive approach to synergize actions in the fight against desertification, land restoration and conservation of biodiversity, development of agricultural, forestry and pastoral sustainable production systems, development of basic socioeconomic infrastructure and wealth creation through income generating activities in order to contribute to a stable food security and recovery of sustainable economic growth.

Most of Sudan's land is composed of vast stretches of arid plains interrupted by few widely separated ranges of hills and mountains. Provision of water supply could be achieved through three main sources, namely the Nile system and its tributaries, groundwater, rain water harvesting. The country is characterized by a variety of vegetation and plant cover. The northern part is characterized by the growth of dwarf Salam trees (Acacia ehrenbergiana) on the impoverished clay and sand soil, and Marakh (Leptadenia pyrotechnica) and the perennial grass Panicum turgidum on sand dunes. On the clay soil in the semi-desert and poor savannah to the south, the tree vegetation typical consists of stands of Acacia thorn trees (Acacia millifera, A. raddiana, A. nubica, A. seyal, and A. tortilis). These are presently confined to wadis, where there is sufficient moisture to support their growth. The ground layer of vegetation, which provides grazing, has also deteriorated through the years because of excessive grazing and the breakdown of the traditional land use management system.

In the Sudan, the government efforts to address desertification has taken a mosaic of natural resource management programs and projects with the goal to demonstrate the potential of sustainable land management to boost food security, improve community livelihoods and build the resilience of the land and the people to the changing climate. These included the sustainable land and water management models, exploitation of ground water for re-generation of green cover and food production, establishment of shelterbelts around potential farming and residential settings, empower and building capacities of local communities for appropriate management of their natural resources base…etc.

However, Sudan is facing numerous environmental challenges including desertification and land degradation, water pollution, deforestation, soil erosion and deterioration of biodiversity. Climate change is accelerating in Sudan. All these developments have serious negative impact on the livelihoods of the poor, particularly those that depend on NRM and rain-fed agriculture. The long civil wars in Sudan and neighboring countries and rapid demographic changes have directly or indirectly contributed to the degradation of the environment. Some conflicts have been rooted on disputes over ownership and use of natural resources, for instance the clash over resources by farmers and pastoralists. The uncertainty over ownership and use and the related conflicts lead to the degradation of the environment.

1.1 Country profile

Sudan is the third largest country in Africa, located in the northeast of Africa. Its overall territory encompasses an area of about 1.9 million km2 and stretches over land between latitudes 10°N and 23°N and longitudes 21°45˝ E and 38°30˝ E, accommodating a population of 39 million people. It is. The territory borders the Red Sea and seven African countries (Eritrea, Ethiopia, Kenya, Central Africa, Chad, Libya, and Egypt). Governance structure of Sudan is composed of a federal government, 18 states and 176 local authorities. Each state has its own constitution, but local governments are governed by the Law of Local Government (LLG), enacted by the federal government. Federal and state constitutions and the LLG emphasize the principle of autonomy to the different levels of government and the need for mutual respect for autonomy.

As in other countries of the Sahel, Sudan livelihoods depend heavily on environment and natural resources base from land, water, and vegetation. It is estimated that agriculture (crops, livestock, and forestry) accounts for 35-40% of GDP (with the livestock up to 50% of production) and employs over 80% of the total population. Traditional rain-fed agriculture represents 60 to 70% of agricultural production and is largely of a subsistence production based on shifting cultivation and livestock. Sudan fauna presents a rich base of biodiversity in addition to its rich mineral resources. However, drought, which is a common phenomenon, compounded by a range of human pressures, create a state of vulnerability to climate impacts in the country, and a troubling picture of the livelihood risks.

1.2 Intervention zone

The different interventions are covering the dry land area between 100 – 400 mm/annum starting with GEF/WB funded Sudan Sustainable Natural Resources Management Project (SSNRMP) in three states (Gezira, Kassala and White Nile). The project is to empower communities to adopt improving sustainable agricultural practices and environmental conservation and biodiversity restoration. Future extension of this project will be implemented in another six states which are highly affected by drought and desertification and where livelihoods of local communities need to be improved. These States are: North Kordofan, North Darfur, Norther State, River Nile, Khartoum and the Red Sea State.

The GGW layout in Sudan is located above latitude 14 degree north, covering an area of 22,800 square kilometers. It extends from west to east at about 1520 km and 15 km wide, as it was adopted by the African Union (Fig. 19). It is in the form of integrated rural development activities that aim towards achieving the objective of building resilience to desertification, drought, and land degradation (DDLD). Inclusion of people into these activities has been granted in all stages, from planning to execution, these activities include forestry, mountainous lands, protected areas, land degradation, desertification, water harvesting and collection, etc. The engagement and involvement of local communities will ensure the protection and recovery of damaged areas. The population in the areas targeted by the GGW has over 8 million people working in various livelihoods such as agriculture, nomadism, forestry, beekeeping, etc.

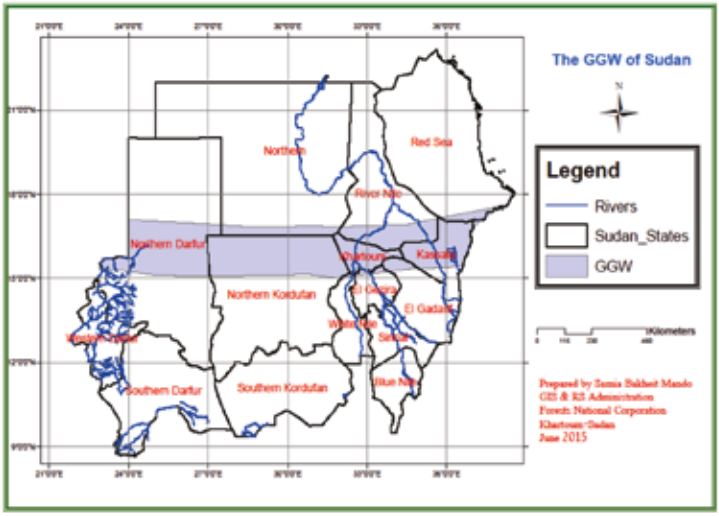

Fig. 19: Route of GGW

The GGWSSI in Sudan has conducted different consultations and awareness raising sessions for different stakeholders from the public and private sectors to reflect the importance of addressing environmental issues and reduce the threats of desertification. Working with development partners has resulted in the establishment of country-driven criteria by which to monitor and evaluate the progress development of capacity building functions and enhancement of policy, program, and institutional integration, as part of the GGWSSI priority activities.

Priority projects is including sustainable management of natural resources with components on forestry, agriculture, livestock and rangeland restoration, in addition to improved water harvesting.

1.3. Institutional arrangement

The convention of the Pan-African Agency of the Great Green Wall was ratified in November 27, 2011 by the National assembly.

The national Agency of the Great Green Wall was established in October 16, 2010 and renewed again in 2014.

2. ACTIVITIES CONDUCTED IN THE GGW ROUTE

2.1. Sudan Sustainable Natural Resources Management Project (SSNRMP)

The SSNRMP is part of the Sahel and West Africa Program (SAWAP). It was approved by the Global Environmental Facility (GEF) in December 2013 and signed by the Government of Sudan and World Bank (WB) in March 2014 and became effective in May 2014 with a closing date of June 2019 and budget US$ 7.73 million.

The SSNRMP is the only project in support of the Great Green Wall Initiative (GGWI) in Sudan. It has been conceptually perceived to cover areas considered as priority areas with regards to natural resources degradation. It is located in three states (Kassala, Gezira and White Nile), contained between isohyets 100 mm/annum and 400 mm/annum the area most affected by climate change. That means when addressing desertification and land degradation in these areas, the issues of natural resources and climate change will have to be addressed. That is where the synergy between the UNCCD and UNFCCC is possible and indispensable. In this regard, any action in combating desertification and environmental degradation should achieve:

- Halting desert creeping and stop land degradation
- Supporting sustainable management of natural resources
- Protecting biological diversity
- Contributing to environmental sustainability
- Contributing in poverty reduction.

SSNRMP Development Objective is to increase the adoption of sustainable land and water management (SLWM) practices in targeted landscapes. The components of the project are as follows:

- Institutional and policy framework;
- Community-based sustainable management of rangelands, forests, and biodiversity
- Project management, monitoring and evaluation and safe – guard'

2.2. SSNRMP Progress and Key achievements:

- Area brought under biodiversity protection 89% of target (17,400 ha)
- Direct project beneficiaries 80% (27% female) of target (50,000 household)
- Capacity building of 16 institutions (federal. State and local levels) e.g. GIS, Remote sensing, M&E, Procurement, water harvesting, community action plan;
- Afforested area 89% of target (17,400 ha)

- Gazetted forest by the project 100% (2,400 ha);
- Total rangeland area rehabilitated 63% (target 1,000 ha);
- Landscape management plans incorporating the SLWM and biodiversity conservation practices designed and currently under implementation 114% (target 7 plans);
- The SSNRMP project has been subject for 5 evaluation missions by the World Bank, the latest was in last (29 Nov. – 8 December 2017) that rated the project as satisfactory (Board 15).

Picture37: Seeding production

Picture 38 Forestry activities

Picture 39: Capacity Building

Board N°15: Key achievements GGW activities

2.3. ACHIEVEMENTS ON WATER HARVESTING IN THE PERIOD (2010-2016)

During the period from 2010 – 2016, the DIU implemented 741 projects distributed in all states of the Sudan and include dams, excavations, and wells, harvested 125.5 million m3 of rain water which has been added to the number of other water services projects.

Detailing of these projects are summarized as follows:

1.Excavations: The implementation of 448 Haffirs with total capacity of 25.15 million m3

2.Dams: The implementation of the 28 dams (17 new and 11 rehabilitation) with a total capacity of 89.175 million m3.

3.Wells: The implementation of the number of 277 wells. (In 2016 alone, the number drilled amount to 200 wells in various states of Sudan and annual production it is estimated at about 14.4 million m3).

3. SOCIO ECONOMIC IMPACTS

The activities of the GGW permitted to create many jobs for the rural people and contribute to poverty reduction. They resulted in the organization of associations of collectors of gum Arabic to improve the quality of the gum and the income of women. The consolidation of the social relations around commons activities of market gardening, crop production in the community forests.

4. CAPACITY BUILDING: TRAINING COURSES, CONFERENCES AND WORKSHOPS

External beneficiaries: 49 and 1667 internal beneficiaries

- Technical studies
- Political frameworks, capacity building,
- Needs assessment,
- Natural resources management,
- Integrated land management,
- Water recovery, biodiversity,
- Water harvesting, biodiversity, wildlife assessment

5. FUNDING AND PARTNERSHIPS DEVELOPED (ADD)

The main source of funding of the GGW is the national budget.

The funding from partners are:

- 7,73 million US $ grant from GEF for the Project Management of Natural Resources in Sudan, where the start took place on May 15, 2014. This project covers the States of Kassala, Gazera, and the White Nile. The achievements have focused on the rehabilitation of forests, range lands, protected areas, wildlife protected areas, livelihood activities, water harvesting and capacity building. An additional grant of 8 million US $ from GEF has helped to expand the project to 3 other States;
- US $ 4 million for Soudan Integrated Carbon Sequestration Project on the part of IFAD. It has been already under effectiveness since May 2015;
- US $ 3 million from GEF within the framework of the REDD pilot project;

These projects are also supported by the Ministry of Finance and National Economy in a form of a local component.

6. CONSTRAINTS

After the separation of the Southern Sudan, the country is considered as a dry area. It is a large country (18 States), the GGW implementation needs more projects to cover these large areas, taking into consideration that Sudan suffering from drought and desertification.

7. PERSPECTIVES

The GGWI- Sudan Action Plan to Combat Desertification (GGWI-SAP):

The GGWI-SAP is a comprehensive program to combat desertification and falls under the major issues of combating desertification which include:

- Prevention measures which are implemented in productive drylands that are not degraded yet.
- Corrective measures which are implemented in productive drylands that are moderately affected by desertification.
- Rehabilitation measures which implement comprehensive programs of direct rehabilitation measures in all productive drylands.
- The priority areas programs

The priority areas programs include the following:

- The establishment of the National Coordination Body (National GGWI Agency) that should shoulder the responsibility of coordination of different programs and set the priority areas to be tackled. This coordination body will solve the problem of the structure of NDDCU and promote it from a small section under the Under Secretary of the Minister of Agriculture and Forestry to the Secretariat of the National GGWI Agency.
- The establishment of the National Desertification Fund (NDF) which should mobilize the resources and secure funds for the priority programs and projects over all affected states.
- The mainstreaming of the GGWI-SAP in the main strategies and plans of the government specially those of the SDGs such as poverty alleviation. The National GGWI Agency should be a focal point for all strategies which require very high state of political commitment and support.
- Programs and activities related to capacity building and human resource development such as environmental public awareness, promoting, and developing alternative renewable energy sources.
- Programs and activities related to priority areas programs at state levels.
- Pilot projects.

- Traditional knowledge and its impact on sustaining livelihoods of the affected communities.
- Research on desertification.

Next Steps

1. BRIDGES project developed under the FAO-Turkey Forestry Partnership Programme for the GGW (budget of 3 million USD, Eritrea, Mauritania and Sudan).

Access to financial institutions was affected by the unilateral economic sanction imposed on Sudan by the USA for the period Sep. 1997 – Oct. 2017, (e.g. IDDRSI, CAADP, and NAIP).

1. Although funds provided by the SSNRMP was limited but the impact is considerable;

- good practice 5 success stories on different fields achieved by the project that can be replicated scaled up and serve as good advertisement for donors:
- additional Funds of 5.5 million USD provided by GEF for phase II adding another 3 new states;

2. Establishment of the national agency of GGW in Sudan;

3. Enhancement of private sector involvement;

4. BRIDGES project developed under the FAO-Turkish Forestry Partnership Program in support of the GGW all (budget 3 million USD; Eritrea, Mauritania, and Sudan).

5. Gum Arabic afforestation project by private sector and community

6. BIONAS BITC– Sudan Government partnership agreement to rehabilitated 500 000 ha with Jatropha and Gum Arabic trees

7. Secure funding for 7 projects submitted to the multi- stakeholder workshop, held in Abidjan in October 2017, in preparation of a round table of financial and technical partners to be organized in the margins of the Heads of State Summit of the PAAGGW.

- 6 of the projects in the areas of DDLD/ SNRM / Gum Belt Rehabilitation / Integrated Livelihood; Beneficiaries: 100 000 households; Budget 22 Million USD
- A Regional Observatory Centre Project (ROCP) to serve the GGWCs (budget 1.7 million USD).

CONCLUSION

Implementation of the GGWI-SAP priorities such as the establishment of the national coordination body, the establishment of the national desertification fund and mainstreaming of the GGWI-SAP in the national development programs in the center and states.

Raising awareness at community level to succeed their participation and involvement in combating desertification.

Each state should locate a special fund to implement the GGWI-SAP within its territories.

Each state should develop legislation and/or enforce laws that prohibit over exploitation of natural resources and encourage the protection and conservation of terrestrial natural resources.

Raising awareness and capacity building of institutions and organizations that deal with the natural resources.

Traditional knowledge and research should be oriented in each state to address the problem of desertification.

Monitoring the status of desertification needs networking with different institutions and organizations and capacity building and sharing of information, so it is recommended that networking between the states and center and relative organizations should be built urgently.

XI. CHAD


TCHAD
LIBYE
Bardaï
Tibesti
Zouar
NIGER
Faya
(Largeau)
Fada
Biltine
SOUDAN
Mao
Abéché
Bol
Ati
Lac
Tchad
Massakori
Massaguet
NDJAMENA
Mongo
Goz Beïda
NIGERIA
Melfi
Am Timan
Bousso
Zakouma
Bongor
Pala
Kélo
Laï
Sarh
Moundou
Doba
CAMEROUN
CENTRAFRIQUE
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Executive summary

In Chad, achievements focused on the creation of (06) large nurseries with a production of more than one million plants (1,000 ,000) of all species;thereforestation of 994 ha and the fixation of dunes on more than 12000 ha in the Lake and Kanem regions, the setting aside of 1,787 ha for a ANR and the installation of irrigation systems on family farms of 900 m2. The promotion of IGA has created significant socio-economic benefits for women and the development of micro-projects has led to the creation of3070 jobs and securing young people. We must also note the improvement of promising sectors such as dates and the demonstrated interest of the private sector. The prospects are the search for additional resources, the operationalization of the GGW Alliance, the investment in fundamental and applied research around the GGW, the development of a communication and advocacy strategy for a strong involvement of decision-makers and TFP.

1. CONTEXT

For nearly five decades, Chad, like African countries in the Sahel-Saharan region, has been facing the adverse effects of climate change, which is causing accelerated degradation of land and biodiversity, with the consequent disappearance of vegetation cover, lower levels of agricultural and fodder production and food insecurity, famine, malnutrition, human and animal migration including wildlife. The scale of this phenomenon requires large-measure actions. Faced with this situation, several country-level initiatives have been taken through programs and projects to reverse the trend. But, the results obtained so far are below expectations. It is in this perspective that Chad is engaged in the dynamics of the Great Green Wall for the Sahel and the Sahara Initiative (GGWSSI) whose overall objective is the fight against desertification and the contribution to capacity building. Adaptation and Resilience of Communities and Local Populations in the Face of Climate Change.

In Chad, the implementation of the GGWSSI through the National Agency is part of a complementary dynamic of interventions to achieve the objectives of natural resource development, environmental protection, the increase of agricultural production, strengthening of basic social infrastructure, enabling the reduction of poverty.

1.1. Country Profile

Chad is a landlocked country with an area of 1,284, 000 km2 located in the heart of Africa and is subdivided into 23 administrative regions including the city of N'Djamena and 63 departments. It is located in Southern Libya, Eastern Niger, Nigeria, and Cameroon and Northern Central African Republic and Western Sudan. Populated with approximately 11,039,873 inhabitants (RGPH 2009) with an average annual rate of intercensal growth of 3.6%, i.e. a potential doubling of the population in less than 20 years. Considering this projection, the current population of Chad is estimated at 13 821 921 inhabitants in 2016.

As a continental country, Chad has three main agro-climatic zones from North to South (i) The northern Saharan zone covering almost 47% of the total area of the country is characterized by irregular rainfall <300 mm; (ii) The Sahel zone where rainfall is between 300 and 600 mm per year in the center of the country. It covers about 28% of the total area and its population represents 51% of the total population ; (iii) the Sudanese zone, characterized by rainfall exceeding 600 mm per year (and sometimes reaching 1,200 mm towards the southern point), occupying 25% of the total area.

The average rainfall of the country is about 322 mm / year, unevenly distributed over the area. Chad has arable land estimated at 19 million ha (Vaïdjoua, 2003) and the cultivated area was estimated at about 3.63 million ha in 2002, less than 3% of the total area of the country and about 15% of the total area, of which 3.60 million ha are arable land and 0.03 million are permanent crops.

Forest resources are estimated at 32.4 million ha or 25% of the country's area. The plant formations are composed of 0.6 million ha of classified forests, 0.4 million ha of national parks and 11.1 million ha of forest reserves. The country alleges a degradation of the lands of the order of 140 000 ha per year.

1.2. Intervention zone

The layout of the Great Green Wall of Chad is located in the portion of the national territory between the isohyet 100 mm and 400 mm. The length of this route is about 2000 km consisting of two braces (to better cover the sensitive area) on an average width of 15 km. The intervention zone of the GGW covers eight (08) administrative regions (Batha, Bahr El Ghazal, Borkou, Ennedi East, Ennedi West, Kanem, Lake, Wadi Fira). But with the studies on the potentialities and the characterization of the intervention zone conducted between 2015 and 2016, the new route proposed for adoption will also affect the Ouaddaï region, making a total of nine (9) regions (Fig.20). The influence of the GGW abounds with a floristic richness of about ten species distributed among six (6) families: Asclepidiaceae, Balenitaceae, Mimosaceae, Arecaceae, Capparaceae, Rhamnaceae.

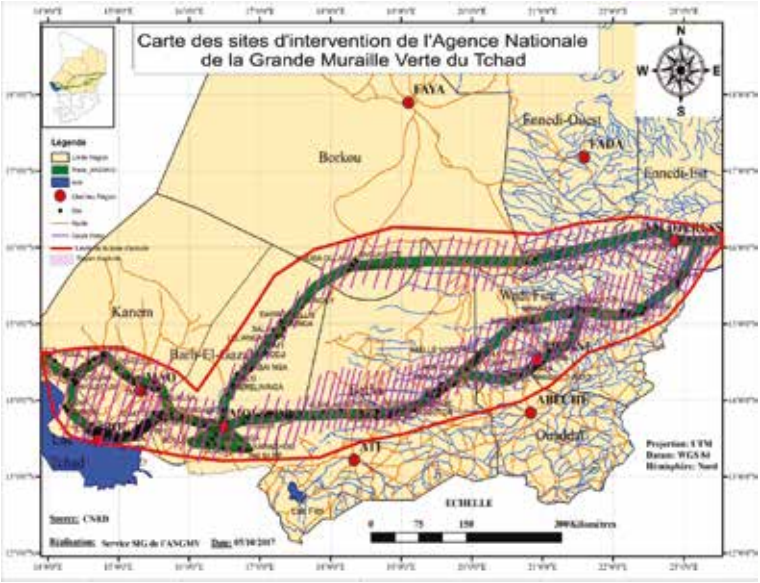


Fig.20 : National map of GGW in Chad

The settlement of the GGW area is low density. According to the general census of the population and the habitat (RGPH2, 2009), the population in the zone of grip of the GGW is of 2,359,658 inhabitants whose distribution is defined in table 22 below.

Regions	Sedentary		Nomads (%)	Urbain	Rural	Total
	Male	Female				
Batha	253706	273325	7,1	71668	455363	527031
Bahr El Ghazal	140128	120737	48,6	30972	229893	260865
Borkou	51892	45359	8.6	33436	63815	97251
Kanem	172172	182431	2,8	36396	318207	354603
Lac	227290	224079	3,6	11228	440141	451369
Ennedi	95172	78434	16,0	10152	163454	173606
Wadi Fira	237735	257198	3,2	67361	427572	494 933
Total	1126203	1181563	12.84	261213	2098445	2359658

Table 22: Population in the route area
Source : INSEED, RGPH2, 2009

1.3 Institutional Aspects

- Creation of the NAGGW

Article 5 on the Convention Establishing the Pan-African Agency of the Great Green Wall stipulates that : « in the framework of the application of the Convention, the PAGGW is relayed at the level of each country by a national structure created according to the internal legislation with the mission to undertake the realization of the Great Green Wall «. To this end, Chad created and instituted the National Agency of the Great Green Wall (NAGGW) by Order N ° 004 / PR / 2012 of February 06, 2012 and ratified by Law N ° 03 of April 23, 2012. The National Agency of the Great Green Wall (NAGGW), under the supervision of the Ministry in charge of the Environment and has a legal entityand a financial and management autonomy.

- Administrative and functional organization of NAGGW

The National Agency of the Great Green Wall (NAGGW) has two (2) statutory bodies namely the Board of Directors and the General Management. Board of directors is the supreme decision-making body created by Decree No. 895 / PR / PM / MERH / 2012 of 4 June 2012 determining the organization and functioning of the NAGGW. The main mission of NAGGW's Board of Directors is to guide and monitor the implementation, including the adoption of the activity plan, the organization chart, the program, and the activity report. In addition, it approves the budget, donations and bequests, financial accounts, implementation manuals, the operating rules of the Agency and the financial and accounting regime. The Board of Directors is made up of eighteen (18) members appointed by Order No. 3860 of 14 August 2012 / PM / MERH / 2012 appointing the members of the Board of Directors of the Agency. The General Management is the executing agency of the decisions and implementation of the activities created by Decree N ° 895 / PR / PM / MERH / 2012 of June 04, 2012 determining the organization and functioning modalities of the NAGGW. The Agency is placed under the authority of a General Director appointed by Decree and selected from the category A officials of the Ministry in charge of the environment.

In accordance with the organization chart adopted by the Board of Directors, the General Management comprises :

- A Department of Technical and Scientific Operations ;
- A Department of Planning, Monitoring and Evaluation and Geographic Information System ;
- The Administrative, Financial and Accounting Department ;
- Regional Antenna Offices.

To ensure the regularity and genuineness of the technical and scientific aspects dealt with by the NAGGW, a Scientific and Technical Committee (STC) is set up which is an advisory body for coherence in the interventions. It is composed of fourteen

(14) members nominated from national or foreign personalities according to their scientific technical and administrative competence. This is because a multitude of disciplines and experiences will be required in the implementation of the GGW.

2. OVERVIEW OF ACTIVITIES CARRIED OUT

Various resilience programs and projects have been developed and implemented under the GGW. The activities of the NAGGW were undertaken in the Lake, Kanem, Borkou and Ennedi East regions. These activities are carried out with state subsidies and support from technical and financial partners.

2.1 Operational activities

To better understand the local context, the definition of the baseline situation and the judicious planning of interventions and the monitoring system, various activities were carried out. These activities focused on the production of nine geo-referenced land use planning maps, one (1) per site (village) in agreement with the communities concerned. This is the mapping of villages in the following regions :

- Kanem Region : The sites of Fouo, Barrah, Badianga, Blah Toukouli, Tarfet Fouskey, Tafet 2 ;
- Lake Region : Tall site ;
- Barh El Ghazal region : Efeta site ;
- Region from Borkou : Kouba Olanga site ;
- East Enndi Region : Karyari site.

Furthermore from 2012 to 2017 in the Kanem region, six (6) memoranda of understanding were concluded in six (6) intervention villages that are Blah Toukouli, Tarfet Fouskey, Trafet 2, Badianga, Barrah and Fouo.

Realization of studies and other reference documents

Various studies have been conducted. These include :

- The completion of a feasibility study on the promotion of palm tree cultivation in the Sahel on the initiative of the PAGGW and the Islamic Development Bank (IDB), the Kingdom of Saudi Arabia and the United Arab Emirates;
- Realization of a feasibility study in 2015 on agroforestry systems adapted to the local context and the reference situation in the national route of GGW in Chad thanks to state subsidies and the support of the National Representation Office of FAO in Chad ;
- Preparation of five-year national strategy documents (2013-2017) harmonized with that of the Pan-African Agency (2011-2015) and that of the resource mobilization with support from FAO ;

- Realization and documentation of the reference situation of the Local Environmental Project for a Green Union (FLEUVE) in 2016 implemented in the Kanem Region.

2.1.2 Conduct of pilot technical programs of regional management and improvement of the production system

The achievements focused on:

a) Pilot technical programs of local management

The NAGGW currently implements in the regions of Kanem, Lake, Borkou, Bahr El Ghazal of Ennedi East pilot programs of soils and lands sustainable management through techniques and technologies such as primary fixation or sand dune mechanics, secondary fixation or reforestation, Assisted Natural Regeneration, agroforestry, CES / DRS techniques, etc. (Table 23).

- The production of plants : Six (6) different high capacity central nurseries (on average 1,000,000 plants) with all necessary equipment and infrastructure are established in five (5) pilot regions. Thus, from 2012 to the present day (2017) a total of 1. 103. 856 plants were produced (Table 24). These are essentially : Acacia tortilis, Perkinsonia aculaeta, Prosopis chilensis, Acacia mellifera,Zizyphus mauritiana, Prosopis juliflora, Acacia senegal and Balanites aegyptiaca (photo) .

- Assisted Natural Regeneration : Assisted Natural Regeneration (ANR) of woody and non-woody forest and forage species in the project intervention area consists of defending a space by the fence installation with sustainable materials (fences and barbed wire), materials local communities or for conventional advocacy carried by the communities for themselves. From 2012 to 2017 about 1819 ha were put aside.

- Reforestation of the plants : Given the context of the Sahel, which does not favor the direct sowing of seeds, the NAGGW favors the planting of seedlings produced beforehand in the nursery (Board16). Thus, from 2012 to 2016, about 994 ha of perimeters were planted, i.e. around 618 809 plants planted in land. This represents 65% of the total production of the considered years.

- The mechanical or physical fixation of the dunes : During the years 2012 to 2016, the NAGGW was able to install about 12,755 ha of palisades on dunes which dangerously threaten the production areas, the residential areas, the perimeters of plantation, etc. the work of fixing the dunes prevents the de-sanding of the sand for a sufficient time allowing the establishment of the natural vegetation or the fixation of the planted trees.

Picture 40 : Sensitization,

Picture 41 : Production of plants

Picture 42: Reforestation

Board 16: Sustainable land and land management activities

YEARS	RECOVERED AREAS(ha)	REGIONS	OBSERVATIONS
2013	11746,9	Kanem and Lake Chad	NAGGW, PNSA
2014	1 992	Kanem, Lake, Bahr El-Ghazal, Borkou	NAGGW, PNSA
2015	593,00	Kanem, Lake, Barh El-Ghazal and Ennedi East	NAGGW, PNSA, FSE
2016	1 236,00	Kanem, Lake, Ennedi East	NAGGW, ESF, SOS Sahel, FLEUVE and FAO
Total	15,568		

Table 23 : Situation of reclaimed degraded land from 2013 to 2016 (NAGGW-Chad)

Land reclamation in Chad consists of a series of activities combining several techniques and technologies of Sustainable Land Management. So, the 15568 ha of reclaimed land (Table 19) between 2013 and 2016 consists of :

- The installation of palings based on palm branches and other branches for the mechanical fixation of dunes ;
- The planting of forest tree species with high ecological and economic value in the perimeters of the dunes and the perimeters of plantation ;
- Defending ecological areas degraded or threatened with degradation by natural factors or the effect of human activities.

All these practices have helped to substantially recover large areas in the five (5) pilot regions and improve the state of vegetation cover, protect endangered species of flora or fauna and their natural habitats.

Year	Production of produced plants	Reforestation (ha)	Length (km) hedges	Average recovery rate (%)
2012	50 000	0	0	
2013	701 756	412	22	75%
2014	75 000	88	5	65%
2015	109100	476	32	60%
2016	6000	17,5	1	60%
2017	162000	-		
TOTAL GENERAL	**1 103 856**	**994**	**61**	**65%**

Board24: Production of seedlings, reforestation and establishment of hedgerows in the GGW area (Chad)

The production process of the seedlings goes from the acquisition of the inputs (pots, substrates, seeds, etc.) and others which enter the production of the plants. The species most often produced are: Acacia tortilis, Parkinsonia aculaeta, Prosopis chilensis, Acacia mellifera, Zizyphus mauritiana, Prosopis juliflora, Acacia Senegal, Balanitesaegyptiaca; as well as some eucalyptus. To this must be added recently the introduction of Moringa.

b) Improvement and sustainable management of agricultural production systems

The NAGGW undertook the concrete achievements of this activity from the year 2014 with the following results :

- The exploitation of 8,326 m² of agricultural land in the Ouadi of Andra (Kanem) for the benefit of 94 producers distributed in seven (07) groupings ;
- Technical support and water supply on family plots respectively of 500 m² and 400 m² in the Ouadi of Barrah (Kanem region).
- The planting of five hundred (500) feet of date palms in a plot of 12 ha in Koubba Oulanga (Borkou).

c) Livestock promotion

In the field of livestock, the Agency's interventions focused on the construction of two watering points for watering animals in Kouba Oulanga (Borkou Region) and Fouo (Kanem Region). To this must be added the construction of straw mills in the Bahr El Ghazal Region.

2.1.3 Development of basic socio-economic infrastructure and local governance

These activities ensure the necessary conditions for an integral and harmonious development. They include in particular:

a) Income Generating Activities (IGA

In the Kanem region, a group uses the forest inputs, infrastructure and equipment set up by the NAGGW to produce seedlings through the purchase of seedlings produced. The price paid to the group, which was 75 CFAF per plant produced and resold, corresponds to the costs of the labor deployed to produce these plants. Thus, at the end of the 2014-2014 production campaign, the group was able to sell a total of 64,000 plants and cash 4,800,000 CFA francs. This allows the members of the group to improve their standard of living relatively.

b) Access to domestic needs and basic socio-economic services

These needs are assessed during the participatory diagnostics sessions and the baseline situation studies carried out. Thus, from 2012 to 2016, emphasis was placed on the construction and rehabilitation of drinking water points. These include :

- Rehabilitation of a water tower for communities in Kouba Olanga (Borkou);
- Realization of two (2) new PMH drilling and the completion of two (2) old ones. To this must be added the construction of a small water tower with multiple public fountains in four (4) villages in the Kanem region : Blah Toukouli, Barrah 1 and 2 and Fouo.

A management committee oversees the effective management of these basic socio-economic infrastructures.

2.2. Community development

NAGGW has supported the preparationof five (5) local development plans for the five-year period in four (4) of the eight (8) administrative regions that comprise the national route of the GGW to facilitate the return to soils by the development of good local governance. These are the development plans of Garangou (Lake region), Barrah and Fouo (Kanem region), Efeta in the Bahr El Ghazal region, and Kouba Olanga in the Borkou region.

2.3. Capacity Building

The program implemented during the 2012 to 2016 fiscal year is the «Training, development and exchanges». As part of training and development, the Agency has funded young researchers and strengthened the capacity of its staff.

2.3.1. Enhancement

As part of the support for university and doctoral training, the National Agency of the Great Green Wall has welcomed ten (10) students and recent graduates in academic and advanced training from higher institutes in environmental science and technology. The Agency also supported a PhD student at Cheick Anta Diop University in Dakar (Senegal), who received a research support contract in 2014 from the PAGGW. His work has focused on the characterization of morphological units on the Great Green Wall in Chad.

2.3.2. Exchanges

Regarding the exchange of experiences, the Agency took part in several meetings at national and international level, in particular:

- Exchange trips during the year 2014 in Israel as part of improvement of the strategy of diversification and intensification of agricultural production;
- Trip to Bonn in Germany for an exchange meeting with the Management Committee of the Global Mechanism regarding the Project " FLEUVE «2014 ;
- Organization of the African Drylands Week second edition in Ndjamena (Chad),in collaboration with the Commission of the African Union (25 to 29 August 2014) ;
- Exchanges of experiences on the fight against desertification, held in Konya, Turkey from 3-8 July 2017 ;
- International Training on Desertification Technologies, organized by the Xinjiang Institute for Ecology and Geography sponsored by the Chinese Academy of Sciences in Urumqi, People's Republic of China, from July 30 to August 12, 2017.

2.3.3 Training Programs

LThe NAGGW deploys a great effort in building the capacities of the actors and the structures at the base by a work of participatory diagnosis and the support to the development of Local Development Plans (PDL). For example, the Community Coaching and Training Service has conducted training for community organizations on pilot sites currently in operation. The training programs (Table 25) focused on the following themes :

- Plant production techniques for 100 Community nurserymen;
- Installation techniques for palisades and plant maintenance in favor of 400 skilled workers;

- Technical itineraries for vegetable and palm production in favor of 150 producers;
- Training on the Arc SIG Software, handling of the plotter / A0 multifunction printer for five (05) in favor of 07 executives (May 2014)

Année	Agents	nursery	producers	skilled workers	producers	monitoring and evaluation (executive and agents)
2012		25			0	0
2013	7	50	100	175	100	0
2014		25	50	115	50	0
2015				110		1
2016						2
TOTAL	7	100	150	400	150	3

Table 25: Assessment of training courses carried out between 2012 and 2016 (Chad)

3. SOCIO ECONOMIC IMPACTS

It should be noted that effects experiencedby the programs implemented by the NAGGW are first ecological and then socio-economic :

• Ecological impacts :

Dune fixing has made a significant contribution to stabilizing the dunes that are progressing on Lake Chad. In addition, the wadis which are the main areas of agricultural and pastoral production are protected and this makes it possible to maintain the arable land. In addition, the plantations of species with high pastoral and economic value (Acacia, Balanites, Zizyphus) allows the forage production to be improved but also an increase of the sequestration of carbon, in addition to the fixation of nitrogen, which will improve the 15 568 ha of protected and recovered soils .

• Socio-economic impacts :

The GGW achievements through job creation and the installation of favorable conditions for production activities have contributed to the maintenance of young people in the soils who used to go to the cities in search of a better well-being. Income-generating activities developed especially for women, as well as micro-projects in agriculture and forestry, have helped to improve the income of the members of the groupings, particularly that of Barrah, who received 4,800,000 in one campaign. During the three-year implementation cycle, the Agency created

over three seven hundred (307) green jobs by making community members work as permanent or temporary community workers in the various nurseries and reforestation sites upon payment of food aid subsidy. In addition, the realization of drinking water supply through boreholes equipped with small castles played a crucial role for the well-being of about 5,000 people from different localities within the intervention zone. It should also be noted the improvement of the breeding system by the realization of water points for animals watering and support for the constitution of straw of bales of more than 10 tons taken from the protected areas for assisted natural regeneration;

The reception of trainees by the Agency is a great contribution in the training of Chadian executives, because during the period 2012 to 2017, the NAGGW was able to offer an academic research space and professional supervision to more than ten (10) young Chadians and expatriates interested in its various interventions.

GGW's achievements in promoting family farming systems and the improvement of promising sectors such as dates are opportunities for the private sector to initiate animal parks, modern farms, eco-tourism sites, etc.

4. PARTNERSHIP AND ACTIONS FUNDING

The Chadian state remains the main provider of funds for the financing of the GGW program in Chad, although a few financial partners complement it. Table 26 below shows the various sources of GGW funding.

Funder	2012 Fiscal year	2013 Fiscal year	2014 Fiscal year	2015 Fiscal year	2016 Fiscal year	Total Obtained	Payment rate
1. State subsidy	510 000 000	750 000 000	863 209 800	600 000 000	100 000 000	2 823 209 800	
2. PNSA funding	15 000 000	15 000 000	15 000 000			45 000 000	90%
3.Special Fund for the Environment	0	0	0	21 103 500	35 172 500	56 276 000	76%
4. Global Mechanism					127 613 155	127 613 155	38%
5. APGMV					15 000 000	15 000 000	100%
Total	**525 000 000**	**765 000 000**	**878 209 800**	**621 103 500**	**277 785 655**	**3 067 098 955**	

Tableau 26 : Bilan des financements reçus entre 2012 et 2016 (Tchad)

5.CONSTRAINTS

Despite the different achievements contributing to the improvement of the living conditions of the populations in the GGW area, some difficulties are being encountered, in particular :

- The scarcity of Official Development Assistance (ODA) ;
- Instability of the headquarters of the Agency ;
- Slow Community membership of the Agency's activities in certain regions ;
- The low grant funding by Ministry in charge of allocating resources and difficulties in the full disbursement of resources on time;
- The progressive budget restriction leading to the downward revision of the objectives of the Annual Work Plan, and the reduction of contract staff.

6. POST PERSPECTIVES 2015 (2016-2017)

Given the constraints observed, the consideration of some suggestions and recommendations by the statutory and functional bodies of the NAGGW, to the partners, the Ministry of the Environment and Fisheries, can be used to guide to improve the achievement of the objectives assigned. It is :

- Seek for additional resources for NAGGW investments outside the state subsidy ;
- Use resources to develop new projects, conduct necessary studies and workshops, operation, and maintenance of assets to preserve the scarce resources to maximize effort and avoid dispersal of resources both in several programs and in several regions ;
- Acquire technical staff and resources up to the challenges facing the African Initiatives ;
- Stress on the communication and advocacy with policymakers, technical and financial partners to secure their commitments to mobilize additional needed resources in an adequate manner to ensure full implementation of planned activities each year ;
- Increase awareness for community mobilization of local actors and beneficiary populations for ownership of the project. Local and community participation in the implementation of activities ;
- Invest sufficiently in basic and applied research, preliminary studies that can be sold to technical and financial partners ;
- Create a synergy of action (in the form an alliance around the African Initiative of the Great Green Wall) with all the ministries involved in the objectives of

the Agency in order to register additional financing possibilities in the budgets of the various departments in order to fill the budgetary gaps created by the insufficiency of the resources.

CONCLUSION

At the beginning of the tenth year of existence of the Great Green Wall Initiative and the eight years of existence of the Pan-African Agency of the Great Green Wall, we can observe the following significant positive facts: :

At the institutional level, the signature of the eleven and the ratification of ten of the eleven member states of the Convention ; the establishment of all the institution's management tools ; the creation of five (5) National Agencies GGW with administrative and financial autonomy (Senegal, Chad, Niger, Nigeria and Mauritania) ; the certification of all the accounts of the Agency ; the adaptation of the Manual Procedures by its revision and the development of a resource mobilization strategy; the progressive recruitment of staff according to the organization chart.

On the 2030 path, the major institutional challenges remain the accreditation of the PAGGW with the International conventions and the various funds as well as the integral financing of the programs and projects submitted to the Technical and Financial Partners.

In terms of physical achievements on the ground : Although varying from one country to another, physical achievements have shown (i) significant advances in the appropriation of the GGW approach to implementation ; (ii) conclusive results in terms of operational activities, despite the obsolescence of logistical means ; (iii) in each country, a particular emphasis has been made with the creation of many IGAs through mainly women's groups and the valorization of non-ligneous forest products through the sale of fodder, honey, various market gardening products ... which provide financial resources directly to individuals ; (iv) the capacity building is noticeable both at the Agency level where in the context of bilateral collaboration ,training programs in various fields are carried out (FAO, Turkey, China ...) or at the national level involving technicians or producers. Through its Program of Support for Training and Research, the PAGGW has initiated the momentum that will be pursued with greater impetus.

The challenge on the 2030 path remains the acceleration of the implementation process. The financing is expected so that in each country the rate of restoration allows the achievement of the Neutrality. The implementation of the Integrated Farms Community will create real wealth for individuals and contribute to the national GDP of the countries. The achievements will have a very positive effect on biodiversity with the repopulation of extinct animal resources. State staff and producers will have full control of the GGW Approach that can be labeled.

From a Communication perspective, advocate and promote the development of a Strategic Communications Plan a in the different regional and international workshops.

Also, given the immensity of the task, the major constraint is the weakness in mobilizing the resources needed to accelerate the implementation process.

PART III

CONTRIBUTION OF THE GREAT GREEN WALL INITIATIVE TO THE INTERNATIONAL COMMITMENTS OF THE MEMBER STATES

INTRODUCTION

It is important to remember that in Africa in general and in Sahel lands in particular, the pressure exerted on natural resources, linked to the effects of climate change and aggravated by anthropic activities have hindered the sustainable development of these soils. For more than five decades, several approaches and actions have been tried in the Sahel soils without lasting solutions being obtained.

It is in this perspective that responding to these challenges, African Heads of State and Government created the African Great Green Wall Initiative. It is an appropriate response by its approach and consists in the conciliation between the socio-economic development of its lands where many people continue to resist and the preservation of natural resources.

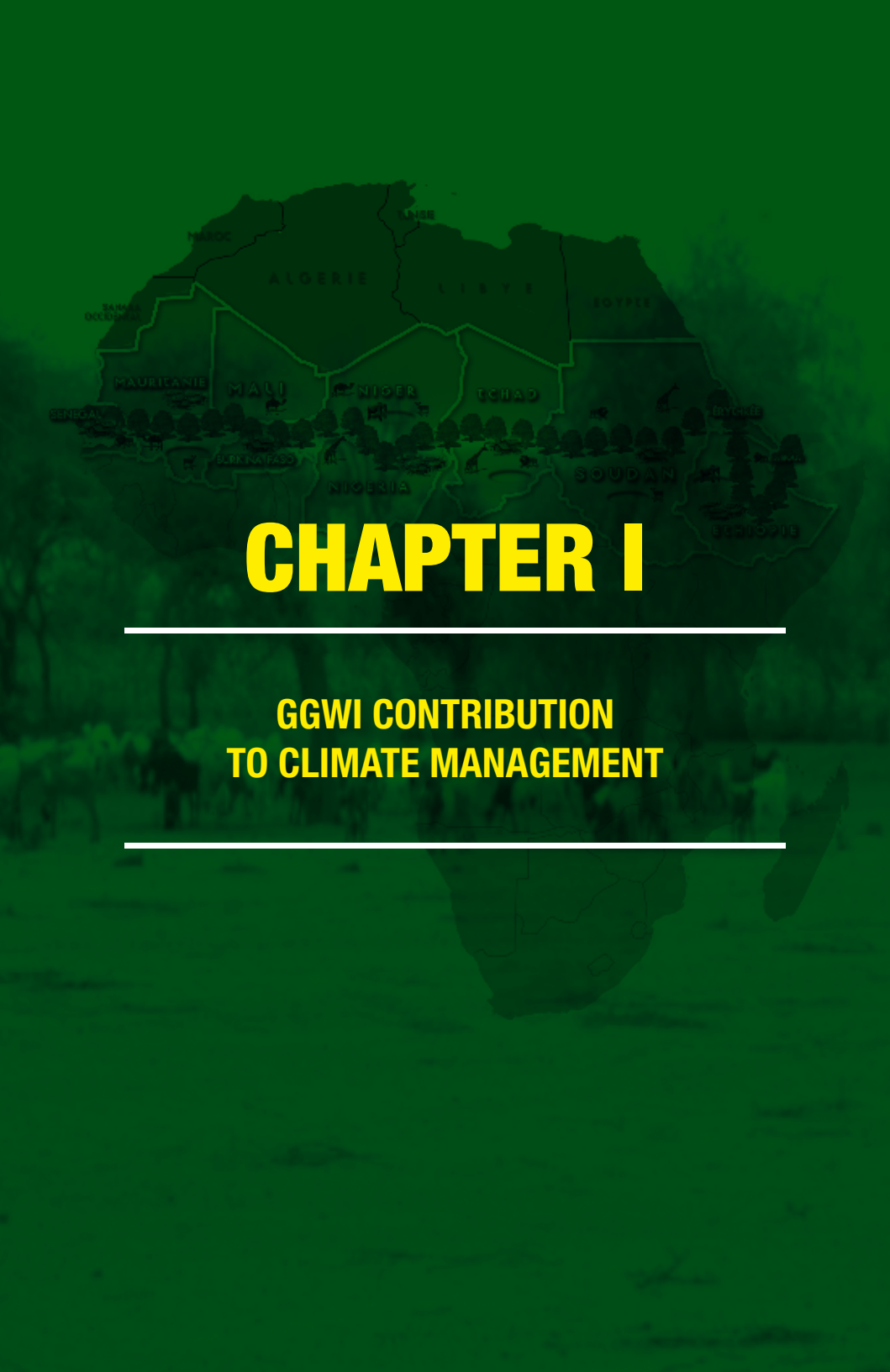
The contribution of GGW member states to national and international commitments comes from their vision to achieve the Great Green Wall, which combines the objectives of the three (3) major international Conventions on Climate Change, Desertification and biological Diversity. In this sense, the Rural Poles of Production and Sustainable Development that will come from them, well-structured and integrated into the national system of Sustainable Local Economic Development ensure the appropriate conditions for the eradication of poverty, food insecurity and malnutrition as well as the realization of the social demand in term, of jobs, of access to basic social services and the establishment of efficient local governance in the terroirs.

From this vision, there are objectives of the GGW which allows to fight against the desertification for the achievement of the Neutrality in terms of Degradation and the reconstitution of the Natural Capital and to contribute to the reinforcement of adaptation capacities and resilience of the Communities and local populations in the face of climate change. Ultimately, to establish a set of flagship actions, the conditions conducive to the construction as of 2020 of Rural Hubs of Economic Emergence in the GGW zone and the establishment in 2025 of Rural Hubs for Sustainable Development Production strongly contributing to the achievement of the SDGs.

The GGW is developing a multi-sectoral approach, holistic, eco-systemic and inclusive based on the availability of reliable data for multifunctional platforms featuring experimental perimeters and incubators of development projects of products « labeled GGW «. It associates upstream and downstream populations of soils, hence the slogan “For Populations and By Populations”.

The Great Green Wall, a unifying project for resource conservation and land development is the answer for the arid and semi-arid zones of the Sahel. The GGW member states, like other states in the world, have made international commitments by signing and ratifying the main international conventions, as well as by the Nationally Determined Contributions (NDCs).

Part III provides an overview of the contribution of the Great Green Wall Initiative to countries' international commitments, challenges, and perspectives on the 2030 path. On the contribution of the GGWI, the main areas are analyzed below: Climate change, Desertification, Biodiversity, SDGs and Migratory Flows.



CHAPTER I

GGWI CONTRIBUTION TO CLIMATE MANAGEMENT

1.1 DIFFICULTIES AND CHALLENGES

Climate management is currently one of the most important issues for the world's states and the most vulnerable in the Sahel. In the Sahel soils, there are two main climatic characteristics linked, on one hand, to the low rainfall (located between 100 mm in the north and 600 mm in the south) and a high inter and intra-annual and spatial variability. This makes these soils the most vulnerable and least resilient to climate change.

How does the Great Green Wall Initiative contribute to global climate management? The GGW concept itself is innovative and considers this problem. The Globally Harmonized Strategy Implementation has enabled to show at this stage that the fundamental bases being laid in the first five-year cycle, the option of acceleration following large-scale restoration to fix degraded soils and the local community development constitute the nerve center of the GGW approach allowing the emergence of production centers and the creation of Rural Hubs for Sustainable Development Production. The achievement of Neutrality, in terms of degradation, and the local economic development advocated in the Vision, given the decades of development attempts, constitute the cornerstone of this GGWI contribution to climate management.

1.2 EXPECTED CONTRIBUTIONS TO CLIMATE MANAGEMENT

GGWIs contribution to climate management can be explained by the commitment of States within the framework of their Nationally Determined Contributions (NDCs). This ranges from the adaptation and resilience of communities and populations subject to hazards to the efforts of states to mitigation and transition to a green economy.

1.2.1.Adaptationand Resilience of Communities and Local Populations

First and foremost, the contribution of the GGWI is by its approach the stakeholders empowerment. This is the capitalization of their local knowledge based on the principle of local initiatives that for centuries have allowed these communities and populations to resist different hazards. This capitalization also concerns the use of the current best techniques in terms of resource management and sustainable land management acquired by these populations.

In the various GGW countries, in the face of dwindling arable areas on the GGW Initiative slogan « By Populations and For Populations '. A management model based on the construction of a homogeneous space that will evolve. The key criteria for the success of this construction are geographical, social, cultural, and economic viability, essential criteria for the adaptation of communities and populations in so-called entities. Community and Integrated Units for Sustainable Development (UCIDD) .

This form of organization will have the comparative advantage of putting stakeholders at the beginning of the process by promoting concerted practices and rules for the natural resources management. These rules are defined and validated by user groups and local institutions for managing

common or community resources. These management rules are also used to create local wealth. So that these Community and Integrated Units benefit from a legitimacy recognized by all, support from Support Centers for Territorial Development (CADT) is anticipated.

Geographical homogeneity is important because it allows stakeholders living in a common space as small as it is, to be loyal while transcending social and cultural values that promote social cohesion, securing access for different users to land and natural resources as part of agricultural development. The aim here is to reinforce the traditional management rules by formalizing them with the recognition of the various applicable rights, property rights, right of use, right of passage, grazing rights, etc.

The GGW implementation model is based on community grouping. This form of social organization is supported by a common ideal of reconciling socio-economic development and the preservation of biodiversity through fair and equitable sharing, between stakeholders, especially women and young people, on the benefits of using it. One of the major challenges is that « At the social level, the question of the integration of women into economic systems stumbles on cultural constraints despite their important role in the management of the system. «(A.M. Zougoulou and all, 2017).

To meet the challenges, it is necessary to take into account the actors as a whole and to develop diversified farming techniques that are local but adapted to local environmental constraints. These technical models range from the development of new agricultural practices including the establishment of multifunctionals gardens or nutritious gardens that can create in the short term, local wealth while promoting community approach and the use of varied ecosystems and diversified crops as well as the agriculture-livestock-forest association. These are systems combining in the same plot, species with different cycles and trophic needs.

The success of the GGW model, initially promoted on a small scale, will have the benefits of securing the precariousness of vulnerable populations, of pushing towards the recovery of land through reforestation, the setting aside of the medium-term perspective, the creation of economic emergence hubs in the soils.

1.2.2 Mitigation and Transition to a Green Economy

The key agro-ecological parameters in Sahel, arid and semi-arid lands remain rainfall, soil fertility and climate variability, while the certain leverage for development remain the sustainable management of natural resources, livestock, and agriculture on which the populations directly depend.

To mitigate the effects of climate change, an appropriate model is needed. The GGW model is based on the principle of spatial characterization with an emphasis on land reclamation and the implementation, for the benefit of the population, of tools and mechanisms (reforestation, protection, ANR, etc.).

Among these tools there is above all, the concept of indicative route. This route is conceptualized based on key criteria to curb desertification from areas including the inclusion of the 100-400mm isohyet, the adaptability and acceptability of plant species to ensure Local Economic Development. For 100-400mm rainfall isohyets, these are national priority zones defined at the level of the Member States which may contain zones with braces or rights-of-way.

« Adaptability and acceptability of plant species is fundamental for soil fixation. The species are essentially autochthonous and have multiple functions and uses, selected for their resistance to water stress, their economic and ecological value, and their acceptability by the local populations. A. Tidiane BA 2010.

This approach will give a better value to the management of the interfaces between its various components and to ensure an inclusive development on the scale of the GGW soils. They are integrated and implemented in the eleven (11) countries of the GGW. They also allow the creation of income-generating activities on several speculations through a valorization of the soils products, such as the non-wood forest products, which will enable to build the economic emergence hubs in the GGW area. FACIs operate in a circular economy where several rural production systems are interdependent. By knock on effect of a marked area, the desired emergence hub will be created.

Mitigation and transition to the green economy in the GGW area is provided by resilience mechanisms that provide conflict management, production, and dissemination of relevant information so that stakeholders can rebuild strong peasant economies and intervene in the markets during crises to limit their impact.

1.2.3 Nationally Determined Contributions (NDCs)

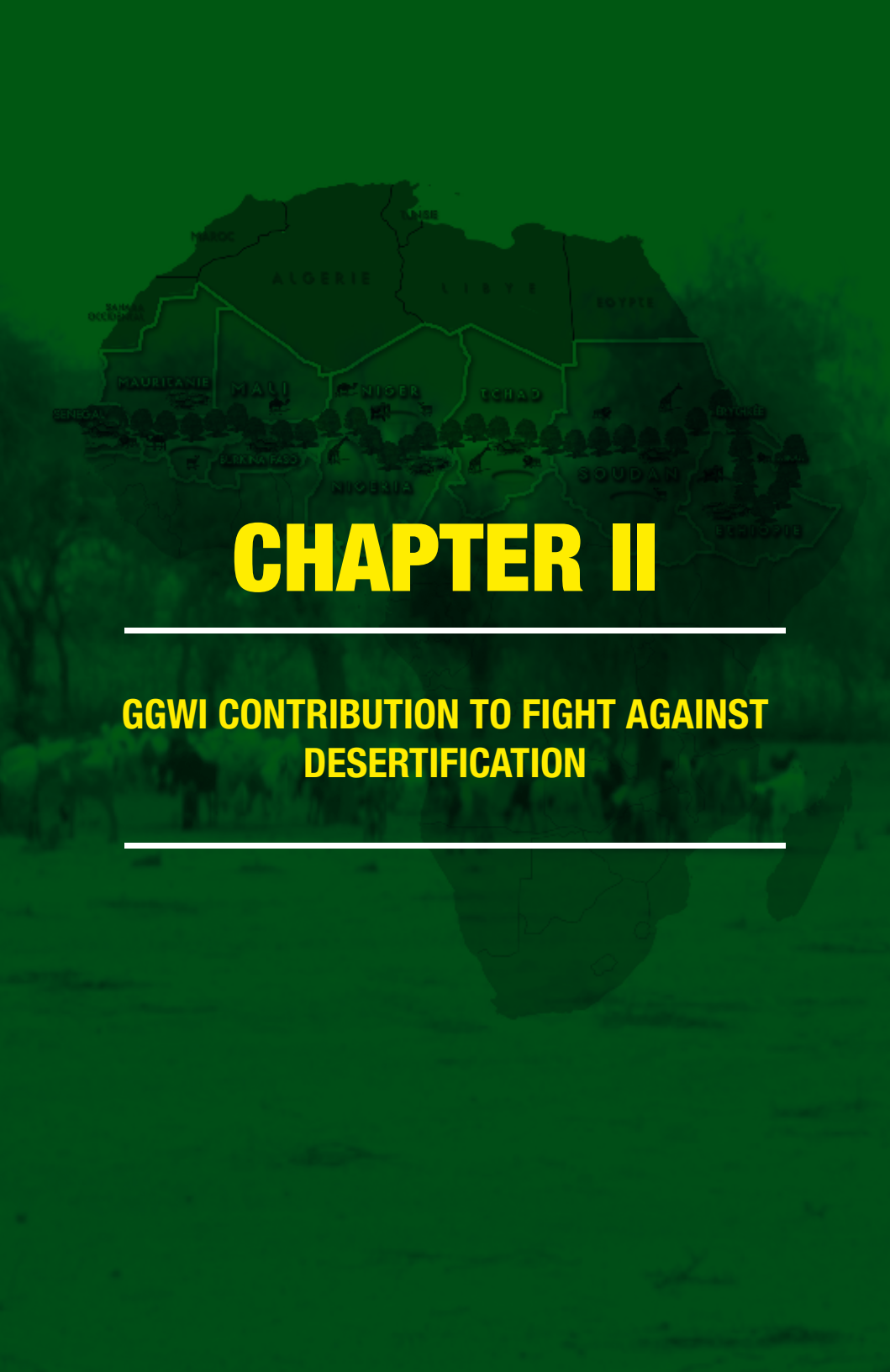
The Nationally Determined Contributions are an opportunity for States in general to strengthen their climate actions and to bring the climate agenda into line with pre-existing political agendas, such as the SDGs. As part of the Universal Agreement of Paris (COP21) on climate change, African countries have clearly signaled their commitment to achieving low carbon development and resilience to climate change. This is an endorsed commitment in their respective NDCs.

Like other countries in the world, GGW member states have developed and adopted their conditional NDCs that target climate change mitigation and adaptation. This conditionality is in fact an obstacle to the acquisition of the necessary funds. The principle is that the recipient states of these funds have an obligation to ensure that climate change is integrated into all dimensions of development planning. As on the other hand, donor countries and partner institutions must harmonize their aid to meet the priorities of recipient countries.

In fact, the countries develop substantial efforts, generally on own resources or at least on not significant financing given the real needs. Globally, less than 2% of what has been announced has been released to countries which explains the low impact of anticipated contributions.

The Great Green Wall Initiative, by considering aspects related to land reclamation and development, contributes to the national objective sought in each of the Member States. Estimates by FAO give a loss of land in the Sahel of nearly two million hectares annually.

As part of the target setting program for Land Degradation Neutrality (LDN), the GGW member states have all established a preliminary baseline situation in terms of national land degradation. The compilation of the reports shows their extreme vulnerability. For example, in Burkina Faso, the national report reveals that 5.16 million hectares were degraded between 2002 and 2013, i.e. 19% of the national territory. This corresponds to an annual degradation of 470 000 hectares. This degradation results from deforestation in 11 years, by the loss of 2.4 million ha or 9% of the national territory) in favor of savannas or cultivated land. This situation in Burkina Faso, with a significant annual loss of land without the possibility of compensation for achieving neutrality, is the major challenge in the issue of climate management.



CHAPTER II

GGWI CONTRIBUTION TO FIGHT AGAINST DESERTIFICATION

2.1. DIFFICULTIES AND CHALLENGES TO THE 2030 PATH

In the GGW Sahel terroirs, land degradation and desertification constitute a brake on sustainable development and have a strong impact on the environment, food security, the provision of services by agro-ecosystems and the living conditions of local populations. The traditional farming systems of natural resources, agricultural and pastoral, suffer the increasing consequences of this phenomenon which affects 70% of the dry agricultural lands. By 2020, FAO predicts that 135 million environmental refugees (including 60 million in sub-Saharan Africa) will leave their land because of desertification (Malagnoux et al, 2007). More than 2 million lands are lost annually according to an FAO study in 2006. The degradation of natural capital thus leading to a deterioration of human capital and social capital. Economic losses due to land degradation could reach severalpercent of agricultural GDP per year (3 to 10%) Bied-Charreton, Requier-Desjardins (2006).

Thus, the economic, social, and environmental consequences of land degradation and desertification are likely to jeopardize the survival of local populations. The phenomenon must be fought at all levels and more specifically at the local level the battle must be won. The major challenge is the recovery, enhancement, and boost of the natural capital potential and productive bases (arable land, water resources and ecosystems etc.).

Through its vision of transforming Sahel lands into areas of economic prosperity for the benefit of communities and rural populations by 2025 and contribute strongly to the Sustainable Development Goals in 2030, the overall goal of the GGW is to overcome this challenge. It is a question of fighting against desertification for the attainment of Neutrality in terms of land degradation and the reconstitution of Natural Capital in the Member States. This objective closely associates the local populations that are the most affected and contributes to the strengthening of their adaptation and resilience capacities in the face of climate change. Implementing flagship actions to combat degradation and desertification «By and for localPopulation « allows to establish favorable conditions to the construction as of 2020 of Rural Hubs of Economic Emergence in the GGW zone andto the establishment in 2025 of Rural Hubs Production and Sustainable Development (RHPSD).

The operationalization of the GGW multisectoral and inclusive approach is based on the fundamentals « Conservation, Protection, Restoration, and Development « and is translated in the field by the application of the best techniques of Sustainable Land Management (SLM) through the implementation of programs / projects with the objectives of conservation, restoration and protection of natural resources as well as the socio-economic transformation of GGW's areas of influence through community development and local governance actions.

Despite the efforts and political will showed and converted by the Member States to fit into a dynamic that will culminate in to the achievement of the objectives and vision of the GGWI and the contribution to the fulfillment of the commitments made

by the states of PAGGW vis-à-vis the Rio conventions among others the neutrality in terms of land degradation and the SDGs by 2030, it must be noted that many challenges are to be faced. These include the following:

- the fight against desertification and land degradation is the achievement of 50% recovery of degraded lands by 2030;
- the strengthening of the logistical capacities (supplies and equipment) of the technical and scientific structures of the GGW in the Member States for a better control of the achievements and an empowerment of the populations and local communities for the development of a more durable solutions (management of the wood resource, recovery of agricultural waste, improvement of energy efficiency and development of renewable energy and alternative energy sources) and
- the application of the landscape approach favoring the resilience of local populations.

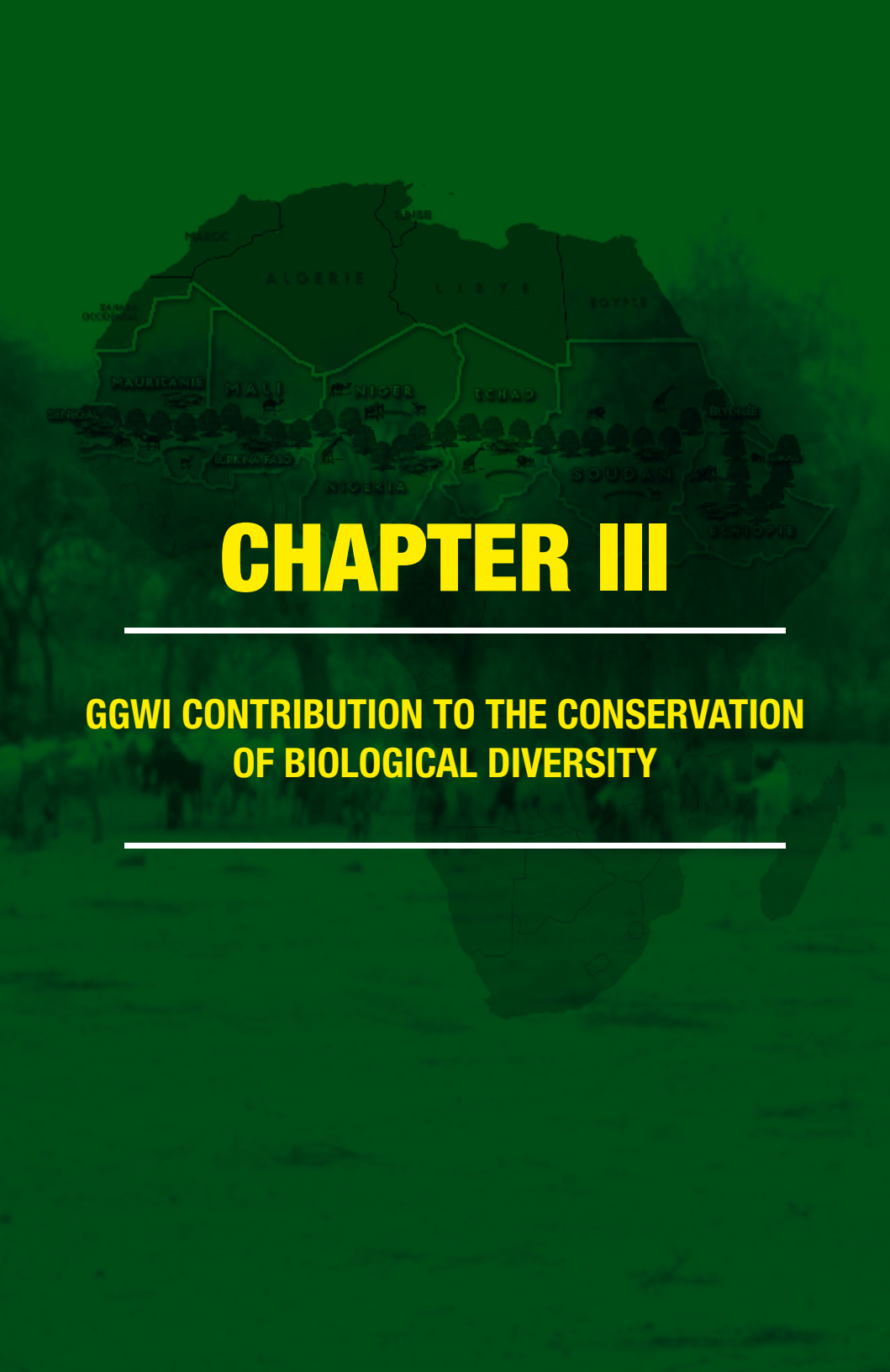
2.2 EXPECTED CONTRIBUTIONS

The fight against desertification and land degradation which strongly impact the main leverage of local economic development, social cohesion, economic stability, and security in the Sahel-Saharan States soils form the basis of interventions by the Great Green Wall Initiative.

2.2.1. Restoration and Protection of Natural Capital Neutrality in terms of Land Degradation (NLD)

The different achievements in the Member States aimed at the activities protection, land conservation and restoration with local populations and communities at the center of all interventions.

Thus, during the first operational phase 2011-2015 and the first two years 2016-2017 of the second five-year cycle 2016-2020 of the Globally Harmonized Strategy, we can note tovarying degrees, various significant achievements in the fight against land degradation and desertification to achieve Neutrality in terms of land degradation (target 3 of SDG13). Efforts centered the establishment and consolidation of forest nurseries to produce 1317188000 plant species adapted to climatic and edaphic conditions and adopted by local populations. ; production and distribution of 184,514 tons of seeds, reforestation on 575,889 hectares of degraded plots ; defending restoration plots on 63,159 ha ; the recovery of more than 1 060 545 ha of degraded land; the establishment of 2,816.6 ha of hedgerows ; dunes fixation on more than 92 900ha by weaving and biological fixation activities, the realization of 53,400 km of firewalls ; the subsoiling of 15 000 ha for the installation of herbaceous vegetation, the establishment of 3460 km of windbreaks ; the development of 550 300ha in stony cords and bunds ; 3675 ha of Zaï, the cultivation of woody vegetable, the creation of plots of fodder banks ...



CHAPTER III

GGWI CONTRIBUTION TO THE CONSERVATION OF BIOLOGICAL DIVERSITY

3.1. DIFFICULTIES AND CHALLENGES

The Great Green Wall Initiative (GGWI) is embedded within a framework of national, sub-regional and regional coherence. At the country level, GGW actions are integrating and reinforcing national policies for development, promoting ecodevelopment and sustainable management of natural resources. the GGWI, in the founding principles of its vision and its strategic framework, adopts a holistic, ecosystem and multisectoral approach adapted to the local realities of the Sahel lands related to the GGW It also incorporates the orientations of the three (03) United Nations Conventions on Desertification, Climate Change and Biodiversity. It also relies on the appropriation by local populations as well as the valorization of local knowledge and techniques in the implementation process (Duponois & Dia, 2012). One of the criteria for determining the route that characterizes the GGW implementation area in all Member States was the selection of a range of adapted local plant species and plant species which are basically the raw materials used by local populations for the consummation of their energy, nutritional, food, and therapeutic needs (Duponois & Dia, 2010).

The GGW implementation was characterized by the fight against desertification, climate change, poverty, and food insecurity, and promoting ecodevelopment and the sustainable management of natural resources and the conservation of ecosystems and the achievement of the Sustainable Development Goals (SDGs). It is important to remind here that in all Member States implementation has not started at the same time and that a significant financial effort has been deployed by all Member States(from national subsidies which are the main contributors) thus showing their unwavering commitment. The achievements were motivated by the interests and specificities of each State as well as the needs and the demands of the Communities and local populations, left to their own resources.

3.2 EXPECTED CONTRIBUTIONS

In an attempt to achieving the targets of the indicators and the challenges set in the operational planning of the strategic objectives of the Action Plans 2011-2015 and 2016 and 2020 in the light of the assessment, the state of GGW implementation has demonstrated the importance of the Great Green Wall initiative and its impacts on the conservation and protection of the environment and climate resilience as well as the development of communities and local populations in the current areas of intervention. The achievements concerned activities of recovery of the degraded lands by appropriate techniques of assisted natural regeneration, protection, of DRS / CES, the creation of retention ponds has allowed the restoration of the biological diversity, rehabilitation, and conservation in situ species as well as local economic development activities. This is in line with the three objectives of the Convention on Biological Diversity.

3.2.1. Conservation of biological diversity

SLM activities through the recovery and development of conservation sites (ANR) and the creation and rehabilitation of dozens of GGW forests and reserves , conservation

of native species and ecosystems amounted to just under three (3) Million hectares, seed and plant production of various amounts exceeding one billion three hundred (1,317,188 184) all species combined with the deferral of more than 630 000 hectares. These achievements have allowed the natural regeneration of biological diversity in particular, the return of small wildlife in the GGW area, a fact that had not been observed for a long time as attested by local populations and reinforced by the results of University research and social economic surveys.

As such, the creation of forests in Sudan, the reintroduction of wild ungulates for their establishment in the GGW sites to the example of the community reserve of Koyly Alpha (Senegal) with dual objective of conservation and recreation, the reintroduction Oryx and Addax in Kanem (Chad) are among other successful examples of repopulation and conservation of the Biodiversity of the soils that deserve to be mentioned, as well as the reconstruction of the ecosystems that disappeared with the introduction of Acacia senegal and Barbary fig in Djibouti.

3.2.2. Sustainable use of biological diversity

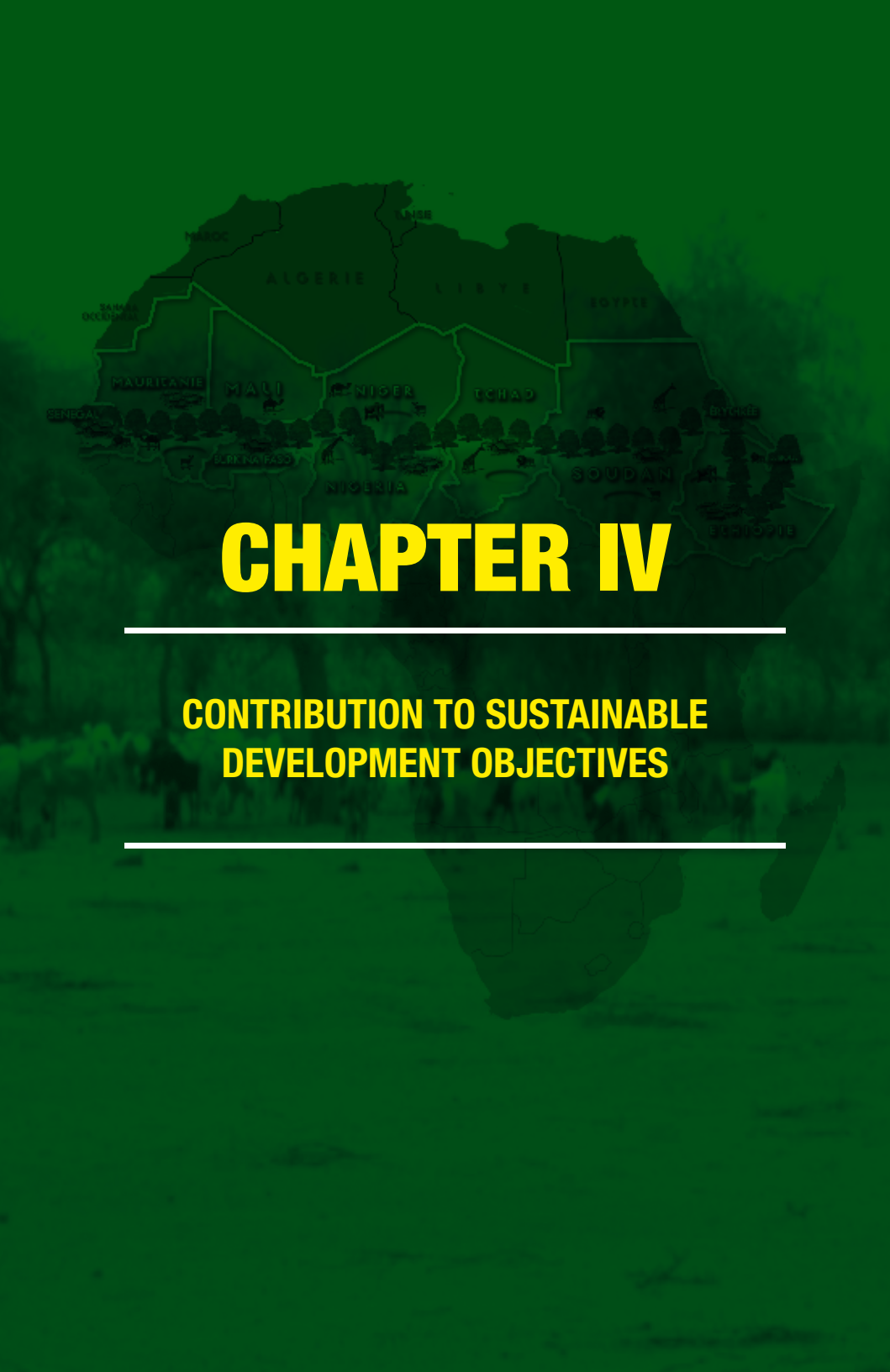
the inventory and valorization of traditional knowledge and capacity building through training / awareness-raising as well as the development of cooperation between local actors through the exchange of experiences and knowledge, laid the foundations for 'management and sustainable use of biological resources by the actors and populations of the GGW soils. As such, more than 95 000 GGW stakeholders have benefited from improvements for some and initiations for others to the techniques of land restoration, sustainable management , forest protection, agroforestry, pastoralism, local governance, forest products valorization. In addition, the establishment of local sustainable development committees responsible for the management of Community and Integrated Sustainable Development Units (UCIDDs), protection activities and concerted community management of woody and non-timber fodder and forest resources as well as school and community multifunctional gardens with defined rulesare all examples of good management and governance of the genetic resources in the GGW terroirs.

3.2.3. Fair and Equitable sharing of benefits from the use of genetic resources

Local economic development activities through the promotion of the GGW regional products and the diversification of the production sectors and their valorization had significant impacts and comparative advantages for the Communities and local populations. This is the introduction of fodder banks, a concerted initiative between populations for their use during the lean season, the introduction of new activities for the diversification of income sources such as the creation of the community reserve for conservation purposes. recreational and ecotourism biodiversity, such as the Koily Alpha community reserve in Senegal, the valorization of non-timber forest products (NTFPs) in almost all Member States. In seven years of implementation of the GGW, the use of resources and ecosystem services rendered by the natural

capital of the intervention zones has gathered more than 35 billion CFA francs or more than seventy-one (71) million US dollars for the populations benefiting from the terroirs of the GGW. This justifies both the motto of the Great Green Wall «For the Populations and by the Populations» which is in line with Article 8 (j) of the Convention on Biodiversity.

[1] Article 8 (j).In situ conservation :Subject to the provisions of its national legislation, respect, preserve and maintain the knowledge, innovations and practices of indigenous and local communities that embody traditional lifestyles relevant to the conservation and sustainable use of biological diversity and promote scaling up, with the agreement and participation of stakeholders of that knowledge, innovation and practice; and promoting the equitable sharing of benefits arising from the use of such knowledge, innovations and practices .



CHAPTER IV

CONTRIBUTION TO SUSTAINABLE DEVELOPMENT OBJECTIVES

4.1. DIFFICULTIES AND CHALLENGES ON THE 2030 PATH

The Great Green Wall Initiative with its strategy and vision of transforming dry areas of Sahel lands into real Rural Hubs for Economic Emergence (PEER) in 2020, to create Rural Hubs for Sustainable Development Production (PRPDD) in 2025 fits perfectly with the strategies developed by the United Nations to address the major concerns today, namely the achievement of the Sustainable Development Goals (SDGs) by 2030 .

4.2 EXPECTED CONTRIBUTIONS

Analysis of the results and figures over the seven (07) years of implementation show that the fundamental foundations have been laid, in particular the legal and institutional aspects, but also and above all the actions on the ground in each of the eleven (11) Member States of the PAGGW in the diversified operational domains ranging from the Sustainable Management of Natural Resources to Income Generating Activities (IGAs) through Capacity Building and Communication for the benefit of the Populations and Local Communities. These results indicate significant achievements and milestones as well as in terms of inputs for the contribution to the achievement of certain targets indicators SDGs among others:

4.2.1SDG 1. «Eliminating poverty in all its forms and around the world»

the establishment of sustainable management systems for natural resources and local governance through the development of agriculture, forestry and pastoralism through the installation of pilot projects of IGA (Community Multifunctional Gardens, Nutritional Gardens, FACI , small farms, etc.) to strengthen and diversify production chains (dairy, NTFPs, etc.) as well as their recovery have generated significant revenues of more than 35 billion CFA francs or more than seventy-one (71) Million US Dollar in only intervention areas where IGAs have been developed in some Member States . GGWI contributions to increasing incomes are appreciated by the people who have witnessed an improvement in nutritional quality, an increase in the children enrolment rate and the securing of families, most of them transhumant.

4.2.2 SDG2: «Eliminate hunger, ensure food security, improve nutrition and promote sustainable agriculture»

the start of recovery and strengthening of production systems and the development of community infrastructure to support the production and processing of agro-silvo-pastoral products and the development of IGAs in support of capacity-building activities; Adaptation and Resilience of Local Communities and Populations to Environmental Problems have helped improve production, nutritional quality, especially the most vulnerable groups (children, elderly and women) in vulnerable target areas in most Member States .

4.2.3 SDG 6. «Ensure access for all to water and sanitation and ensure sustainable management of water resources

4.2.4 SDG7. «Ensuring access for all to reliable, sustainable and modern energy services at an affordable cost» :

It is important to underline here, the noticeable improvement of the access to the basic social services, to the domestic needs including the renewable energies thanks to the development and the provision of infrastructures and appropriate tools to answer the requests. Communities and Populations in the grip of the GGW. In this sense more than 270 000 dams and watersheds and over thirty two (32) Million Water Points (Traditional wells and wells equipped with solar systems and motor pumps) as well as the manufacturing and distribution of 51 933 cookstoves were achieved during the period of GGW implementation.

In addition, the AFDB's declared support to the GGW Initiative as part of its Desert to Power programme is the development of renewable energies to support the expansion of the Integrated Community Farms (FACI), but also the implementation of renewable energies along the GGW corridor

4.2.5 SDG 8. « Promote steady, shared and sustainable economic growth, full and productive employment and decent work for all»

capacity building of more 95 000 GGW stakeholders as well as the promotion of local economic development activities (LED / IGA) and the introduction of micro finance through entrepreneurship and microcredit and cash for work have enabled the creation of more than 116 000 direct jobs. Other indirect jobs related to the activities of the GGW are created, but only a detailed socio-economic study of the spin-offs of the development activities would allow the evaluation of fair value of the direct and indirect jobs generated by the GGW.

4.2.6. SDG15.» Preserving and restoring terrestrial ecosystems, ensuring sustainable use, sustainably managing forests, combating desertification, halting and reversing the land degradation process and ending the loss of biodiversity» :

The efforts made in terms of SLM through the increase of reforestation perimeters, the production of seeds and seedlings, protection (ANR) and restoration and activities of rehabilitation, conservation and protection of natural resources and fragile ecosystems as well as the construction of dikes and bunds in all affected areas of the GGW of the eleven Member States and whose areas are mentioned above.

Given these positive impacts and repercussions of the implementation of the Great Green Wall, reviewed, nonetheless their summary assessment, it appears that its Strategy and its integrated approach make it both a unifying program for the sustainable development of the soils rural, a powerful input of Economic

Emergence Plans by rehabilitating the potential of the rural world, a reservoir of jobs for young individuals and a path to migratory inversion, peace, cohesion and harmonious integration. Further evaluation through a regional study of the benefits and opportunities created by the implementation of the GGW would help appreciate its true contribution in terms of achieving the targets of the Sustainable Development Goals indicators (SDG Indicators Report)., 2016).

CHAPTER V

GGWI CONTRIBUTION TO SOIL SECURITY AND MIGRATION FLOW MANAGEMENT

5.1. DIFFICULTIES AND CHALLENGES ON THE 2030 PATH

The Sahel soils are essentially agro-sylvo-pastoral. Socio-economic development, food security and domestic needs depend heavily on the availability of natural resources, including arable land, water resources, forest and pastoral resources and their management and governance models. Sahel soils have become a breeding ground for poverty, food insecurity, malnutrition and forced migration. This recurrent situation in the Sahel has exacerbated the risks of tension and social conflict due to the strong competition for relics and the lack of alternative solutions.

The GGW intervenes with its approach to curb this problem. In the GGW regions, climate change, desertification, land degradation and loss of biodiversity are well established and call for an integrated approach strategy. For the sake of securing Sahel communities and populations, the GGW model is more adequate, more operational and allows the construction of Local Economic Development integrating the dual climate and environmental challenge in which the Great Green Wall contributes greatly.

5.2. CONTRIBUTIONS EXPECTED

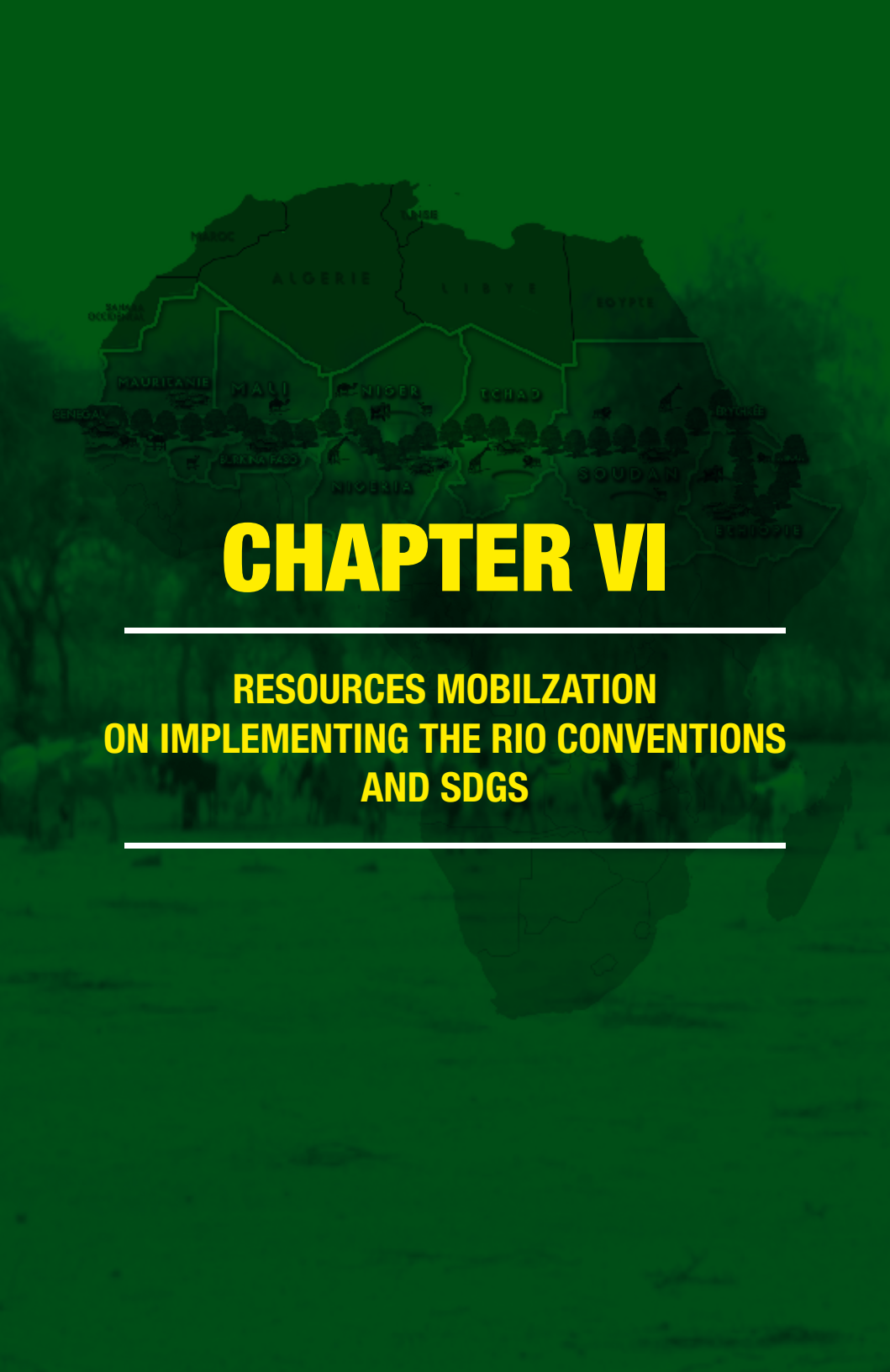
In what way is the GGW an element of land security and allows the management of migration flows?

The implementation of the GGW is an opportunity for the communities and rural populations of Sahel lands. In these circumscribed spaces (isohyets 100-400mm), the implementation of the GGW is based on support and development mechanisms including the Support Centers for Territorial Development (CADT) and the Integrated Agricultural Farms (FACI) are promising mechanisms and tools.

CADTs are Multifunctional platforms of services and Councils implanted in the soils for the benefit of the UCIDD to complement the Local Economic Development. They are conceived as an operational nerve center for support to the development of the soil and a hub of techniques, skills, useful information, and support. They allow reinforcing the organizations management, the development of techniques of exploitation and management of natural resources (protection, regeneration of ligneous plants, harvesting tools, etc.), and economic valuation of protected resources (ecotourism, rural markets of wood, etc.) ;

FACIs have an integrated multi-sectoral approach and focus on the development of local population-level specimens (horticulture, apiculture, poultry farming, fish farming, sheep, and goat farming, etc.). These speculations are carried out according to a community approach and in a zone with economic, social, and environmental interest and in shared governance. They will evolve through the expansion of speculations in space and will be associated with innovative actions of energy management for water supply, training, and education of young people as well as local health centers.

The communities and populations living on the GGW route in the eleven (11) Member States have about 400 million inhabitants, a large part of which is made up of women and especially unemployed young people who, under the effects of climate change are the most often in cities seeking for employment. By its approach, the implementation of the GGW is the complete expression of African solidarity through regional cooperation. The GGW allows the agricultural development of the Sahel area, which reveals a large stock of natural capital and constitutes a pledge of local opportunities for socio-economic development. In each of the Member States, several direct and indirect jobs have been created. The major speculations that have led to the creation of jobs are those related to the development of market gardening, multifunctional gardens or nutritious gardens, the production of wood straw, the development of integrated community farms which are all opportunities which would allow the securing of the young people in the area.



CHAPTER VI

RESOURCES MOBILZATION ON IMPLEMENTING THE RIO CONVENTIONS AND SDGS

6.1. CHALLENGES ON THE 2030 PATH

To the needs of all GGW and PAGGW countries in terms of resource mobilization to address shortfalls in financial resources that remain an integral problem. The development and implementation of a strategy for the mobilization of financial resources, the setting up of an operational financial mechanism and the development of requests for co-financing of GGW programs and projects by the Member States and the PAGGW are all activities to lead the mobilization of financing through bilateral and multilateral cooperation.

- Capacity building of Member States in logistics (machinery, equipment) ensuring the acceleration of the operational activities of the SLWM and local economic development for achieving neutrality in terms of land degradation and human development that can fight against hunger, food insecurity, poverty, labor force unemployment, and so on. Facing this challenge will eventually allow:

  - The promotion of local development opportunities and the development of microfinance and the entrepreneurship of young people and women in these rural areas guaranteeing employment in the GGW area to encourage the return to the land. In this sense, exploit the new national programs on local development.

  - The development of the chain approach, the marketing circuits of GGW labeled products through the diversification of production and valorization channels and the creation of rural access routes are necessary for the establishment of rural economic development hubs;

  - The promotion and access of the GGW's soil products to marketing channels through a partnership with the local private sector: this will enable the populations to sell their products, increase their incomes and introduce a sustainable mechanism of GGW activities by local actors;

Reinforcement of the Communication which constitutes an important data of the GGW process for an even wider appropriation of the GGW approach with the various actors, especially towards the researchers by the capitalization of the data and the populations at the base by the popularization of research products;

The development of intersectoral synergies is one of the major challenges for accelerating the implementation of the GGW, in and between member countries, between programs and projects implemented on the route, on one hand, and between public-private development actors - NGOs and international institutions, on the other hand.

- Strengthening support for research and scientific and technical partnership and exchange of experiences:

- Support for research is proving to be a necessity for better support for technical teams and local actors in the application of results based on the availability of reliable scientific and technical data.
- The initiation of official visits between the rural communities of the GGW different sites and between the actors of the different Member States not only to inspire but also learn from good practices implemented by one another to establish an interstate exchange partnership in the GGW area.

6.2 A UNIFYING PROJECT:RESTORATION , DEVELOPMENT AND migration PROJECTFOR THE RESILIENCE INSAHEL(REDEMI/ RESSAHEL)

For more than three decades, climate change and its impacts have been at the heart of international negotiations under the auspices of the United Nations, notably through the Conventions on Combating Desertification, Climate Change and Biological Diversity, to which were added the Sustainable Development Goals (SDGs), new agenda for international development. The consequences of climate change have hindered, and in some cases undermined the social and economic development of various countries, particularly those in Africa

The fact is that Africa in general and the Sahel- Saharan states in particular are the most vulnerable undergoing more than any other, the adverse effects of this scourge through recurring droughts, land degradation, poverty, malnutrition, famine, and insecurity in all its forms including food, nutrition, climate ...

The implementation of the GGW is the subject of several often disparate interventions without a general framework of appropriate coherence. To bring coherence and capitalize the relevant initiatives and programs in the implementation of the Great Green Wall with the 2016-2020 Strategy of the PAGGW adopted by the Council of Ministers, a joint program is envisaged with these entities carrying these initiatives and Programs.

The major constraint encountered in the implementation of the GGW is the financing of the actions recommended in view of the important challenges and the limited financial resources of implementation of the Member States.

It is within this framework that a Joint Program has been elaborated on the key issues of Restoration and Sustainable Land Management, Local Economic Development, Migration and Security of Populations and monitoring and evaluation of the achievements and their impacts. . It is referred to as «Restoration, Development and Migration for Resilience in the Sahel. In abbreviated form REDEMI/RESSAHEL.

This Program, which is anchored on the Desert to Power Initiative developed by the African Development Bank through its Ten-Year Strategy and which also integrates other initiatives developed by the partners of the field, finds all its justification by the need to have a real convergence and coherence of the various Initiatives and the alignment of their programs with the major objectives in particular the problems related to climate change, the promotion of the rural and community development

opportunities as well as the creation of opportunities based on local natural resources.

The REDEMI is built around a broad partnership with the Pan- African Agency of the Great Green Wall and a consensual approach based on the various relevant inputs in the implementation of the GMV. It will be the solid foundation for the various activities to be developed in the Great Green Wall Initiative

The objectives of the REDEMI / RESSAHEL consist globally in creating a framework of synergy for all the interventions related to the implementation of the Great Green Wall. Specifically, it will: (i) build a multisectoral joint program involving various institutions based on a convergence of objectives, approaches, (ii) create the right conditions for a common understanding of the Great Green Wall including his vision and goals; (iii) combine efforts in the framework of a solid partnership based on the Scientific, Technical and Financial Support Platform; (iv) pool resources to better circumscribe interventions in the field and avoid duplication; (v) to make the implementation of the Initiative efficient and effective by the Federation of GGW Programs and Projects .

The following Main Outcomes are expected: (i) a common understanding of the Vision and Goals is shared for greater harmonization and synergy in interventions; a strong partnership including all the initiatives of the various partners is created around the GMV (iii) a Joint Program consolidating all the Regional Initiatives is developed and made operational; (iv) the resources for implementation are mobilized for this latter to be effective.

The program is worth approximately $ 2 billion (US) and consists of four (4) sub-programs and eleven (11) national and regional project portfolios from countries and various Initiatives.

The REDEMI governance is a key element in the implementation of the GMV. There will be several scale levels: (i) Political scale in accordance with the Great Green Wall Initiative to be led by the African Union and the Member States. The main role will be to mobilize the resources of the international community in agreement with the member states; (ii) Operational Steering scale, entrusted to the PAGGW in compliance with its missions recorded in the Convention signed by the Heads of State and Government which are the coordination, the follow-up of the implementation of the GGW and support to the mobilization of the necessary resources (iii) operational scale of implementation in the field, emerges from each agency or structure of the Member States dedicated to the GGW (iv) operational scale of the Partnership and the financial management in the framework of a Platform established with the strategic financial partners on the various types of support envisaged.

CONCLUSION AND PERSPECTIVES

The review of the state of implementation of the Great Green Wall shows that the Member States provide the most important efforts. No significant funding was directly provided. Given the achievements made despite the lack of financial resources, important lessons are to be learnt. Indeed, the year 2017 was a milestone, fundamental. Although varied from one country to another in terms of concrete achievements on the ground, the overall analysis of the major constraints and performance on the state of implementation and the capitalization of the experiences gained show, a platform of rather fundamental strategic orientations.

The second phase 2016-2020 aims to consolidate the achievements and set up the operational bases for a socio-economic and environmental transformation favorable to the emergence of Rural Hubs for Sustainable Development to boost development, implementation, and the valorization of local opportunities.

The numerous stated financial, organizational, and institutional constraints are not insurmountable. Opportunities exist and should help to boost implementation through concrete actions with high added value for the populations, a perfect visibility on the socio-economic development and a significant contribution in the transition towards the Sustainable Development Goals.

The Agency has throughout the first phase (2011-2015) implementation of GGW laid the basic institutional and management fundamentals. The second phase consolidated these achievements and is corroborated by the continuation of the many innovative actions including the signing of Partnership Agreements, the conceptualization of several important support tools for the GGW implementation. The technical aspects of land restoration, governance, community development, communication and advocacy activities are at the regional and country level.

The technical aspects related to the GGW implementation are tackled. The only major difficulty is the mobilization of resources, especially financial resources. For a greater GGWI contribution within the framework of the commitments made by the States, the following perspectives are consideredat the institutional level and of the governance, the communication, and the advocacy as well as in the mobilization of the resources:

- The accreditation process of the PAGGW to the various funds (Green Fund, Adaptation Fund ...) must continue and become a reality within a short time.
- The African Development Bank (AfDB), designated as Strategic Partner and Lead Partner, as well as FAO, lead the Technical Partners, is an excellent opportunity to resolve financial issues related to resource mobilization and implementation through concrete actions on the ground ;

- The implementation of the REDEMI Joint Program through the financing of Regional Structural Projects related to capacity building and coordination that can curb the obsolescence of the material resources of the GGW National Structures is very much expected.
- The Performance Contract between the Member States and the GGW National Structures used in Senegal must be extended to all States. It is a powerful model that brings credibility, gives more assurance and transparency in the GGW implementation.
- The realization of the diagnostic audit of local development opportunities (LDO) will highlight the potential and bring a significant added-value in the fight against poverty, famine, and malnutrition ;
- The establishment of GGW National Alliances for the pooling of resources is essential for a better GGW implementation.

REFERENCES

1. A.DIA and all,2017:Overviewof the climate and Socio economicenvironment profile of the Sahel Saharan Band (SSB);
2. A.DIA and Duponnois R. (2010) : The major African project of the Great Green Wall, concepts andimplementation. IRD editions 432p.
3. A. DIA and Duponnois R. (2012) :The Great Green Wall, Capitalization of research and valorization of the local knowledge. IRD editions 495p.
4. A.DIAandall,2017:Context,conceptual and institutional framework of the GGWI;
5. A.DIA and all,2017: Achievements of Pan-African Agency of the Great Green Wall;
6. A.DOULKOM and all,2017:Implementation of the Great Green Wall in Burkina Faso;
7. Pan-African Agency of the Great Green Wall (2016):2016-2020Strategyof the Great Green Wall Implementation:framework document p.60 and Programs and, projects Portfolio, www.grandemurailleverte.org;
8. Pan-African Agency of the Great Green Wall (2015) : Five-year balance sheet 2011-2015 of the GGW implementation;
9. Pan-African Agency of the Great Green Wall (2011) : Five-year Action plan 2011-2015 of the Great Green Wall implementation, Framework Document p.40 and appendices, www.grandemurailleverte.org
10. Agenda 2063, the Africa we want (popular version).
11. A.GONI and all 2017 : Implementation status of the Great Green Wallin Nigeria;
12. A.MAISHAROU and all, 2017: Implementation status of the Great Green Wall in Niger;
13. A.Mr.Haggar and all,2017 : Implementation Status of the Great Green Wall in Chad.
14. Sustainable livelihoods approach December 2007: quarterly newsletters COTA asbl ISSN: 0773-5510 I COTA vzw 7, rue de la Révolution 1000 Brussels I No. 117;
15. A.M Zougoulou and all, 2017: «Les Echos de la GMV»: Pastoralism, land issues and Sustainable Land Lanagement in the context of the Great Green Wall, Page 9-15;
16. A. Thioune, 2016 Land issues in the Sahel;
17. A. Tidiane BA 2010 : The Great African Great Green Wall Project, Concepts, and Implementation. IRD editions, 432 p.

18. ADB; 2012: Solutions for Climate Change: Response to Impacts in Africa;

19. African Development Bank: Feeding Africa, Strategy for the Transformation of African Agriculture 2016-2025;

20. Barber, E. & All, E., 2009. The Valuation of Ecosystem Services. In: Biodiversity, Ecosystem Functioning, and Human Well Being: An Ecological and Economic Perspective. Oxford: Oxford University Press, pp. 248-262;

21. Bied-Charreton M., Requier-Desjardins M., 2006. Evaluation of the economic and environmental costs of land degradation and desertification in Africa. AFD, Paris, 162 pp.;

22. C. GNAGNA et al, 2017: Implementation Status of the Great Green Wall in Senegal;

23. Chareun. M (2016) The «Sahelo-Saharan Band»: Polysemic Expression for a Strategic Region: FMES Institute, Toulon p.10;

24. CNEDD / Niger; National Council of the Environment for a Sustainable Development; 2009; Fourth National Report on Biological Diversity, 109p;

25. CNEDD / Niger, National Council for the Environment for Sustainable Development 2010; National Strategy and Action Plan on Biological Diversity, 2nd edition, 114p.

26. French Scientific Committee on Desertification (CSFD). 2012, Pastoralism in the dry zone, p.16.;

27. CREDD / Mali; Strategic Framework for Economic Recovery and Sustainable Development; Report (2016 -2018);

28. Ndjamena and Nouakchott Declaration on Pastoralism 2013;

29. Fodé Camara M.S. (2008). Ecology Environment: Sustainability of pastoral systems and dynamics of the herbaceous layer of pastures in the Sahelian zone of Niger (West Africa). Magister thesis 2 (draft), Houari Boumediene University of Science and Technology, Faculty of Biological Sciences (USTHB / FS) Algiers (Algeria), 117p.

30. FAO, (2011-2013): Risk management adaptation of information provided;

31. G. MOGOS and all, 2017: Implementation status of the Great Green Wall in Eritrea;

32. HERNAUX 2007, Note on the pastoral systems sustainability 40p

33. HIYA MAIDAWA Moustapha1, ANDRES Ludovic2, YAMBA Boubacar 1, LEBAILLY Philippe2: Pastoral Mobility Essay Synthesis in the Sahel and West Africa 12 p;

34. H. RIRACHE and all, 2017: Implementation status of the Great Green Wall in Djibouti;

35. I. ABDEL AZIM and all, 2017: Implementation status of the Great Green Wall in Sudan;

36. INS, Niger; National Institute of Statistics; 2014; Niger in Figures, Edition 2014, 32p.

37. INSD / RGPH: 2009 Report; Demographic projections from 2007 to 2020;

38. IPE-BURKINA; 2011; Final Report: Economic Assessment of the Environment and Natural Resources in Burkina Faso;

39. Jacques FAYE 2008; Land and decentralization, 58 p;

40. K. COULIBALY et al, 2017: Implementation status of the Great Green Wall in Mali;

41. Malagnoux M; Sene E.H; Atzmon N. 2007; Forests, trees, and water in drylands: a precarious balance / Unasylva 58; 229; 24-29

42. Malagnoux M; Sene E.H; Atzmon N. 2007; Forests, trees, and water in drylands: a precarious balance / Unasylva 58; 229; 24-29

43. Marty 2011; Pastoral livestock farming in Sahel: Between threats and assets 25 p44. MEE / LCD / 2007; Ministry of Water, Environment and Fight against Desertification; (2007). Study for the harmonization of patterns, development plans and natural resource management, in support of sustainable land management in Niger. 85p.;

45. Ministry of Land, Water and Environment. Eritrea's Five Years Action Plan for GGWI (2011-2015), 2012;

46. Nick Brooks: Discussion Note on the Global Initiative on Sustainable Pastoralism. (2006);

47. OECD / FAO (2016), OECD-FAO Agricultural Outlook 2016-2025, OECD Publishing, Paris. http://dx.doi.org/10.1787/agr_outlook-2016 United Nations Organizations (2015): Sustainable Development Goals (SDGs), 17 Goals to Transform Our World;

48. OUSOUBY TOURE 2015; Capitalization of pastoral land securement models in West Africa 40 p;

49. PNDES / BF, 2016-2020; National Plan for Economic and Social Development;

50. Roger Blein Joel upholsterer 2011: Pastoral issues and perspectives Production systems in the Sahel. document published by IED Africa 2006 05;

51. Pan-african Agency of the Great Green Wall Secretariat (2015): Five-year assessment (2011-2015) implementation of the GGW;

52. S. ABEBE and All, 2017: Implementation Status of the Great Green Wall in Ethiopia;

53. S. LEHLOU and all, 2017: Implementation status of the Great Green Wall in Mauritania;

54. Pan-african Agency of the Great Green Wall Secretariat (2011): Five-Year Action Plan 2011-2015 for the implementation of the Great Green Wall Framework document p. 40 and appendices, www.grande murailleverte.org

55. African Union (2015): Agenda 2063, the Africa we want (popular version) African Union (2015):

APPENDICES

Appendix I :Dates of signature, ratification and national structure of creation of GGW by country.

Country	Signature	Ratification	GGW National Structure
Burkina Faso	June 17, 2010	Decree No. 2015-748 / PRES-TRANS / PM / MAECR / MERH June 26, 2015	Joint Order No. 2015-075 / MERH of April 30, 2015 establishing the Capacity Building Program of the GGWSSI
Djibouti	June 17, 2010	Law No. 133 / AN /11/6thL, Promulgation May 18, 2011	Decree 2009-062 / PRE / MHUE (CIP)
Eritrea	June 17, 2010	In progress	In progress
Ethiopia	June 17, 2010	Proclamation No. 842/2014 the 11 th day of july 2014 (Juliet 2014)	Structure in place
Mali	June 17, 2010	Order No. 2011-009 / P-RM of 20 Sept. 2011 Decree No. 2011-684 / P-RM of October 14, 2011	Ord.N ° 2016/011 / PRG / P_RM of March 17th, 2016
Mauritania	June 17, 2010	Law No. 2013-022, Promulgation July 10, 2013 Decree N ° 164-2013 of 20 August 2013	Decree n ° 2013-156 establishing the National Agency GGW
Niger	June 17, 2010	Law No. 2012-016, Promulgation April 17, 2012	Order No. 0131 / ME / E / LCD / CEO / EF 25 October 2010 and Order No. 0168 / MHE / SG / DEF / EF of August 6, 2012
Nigeria	June 17, 2010	In progress	National agency created
Sénégal	June 17, 2010	Law No. 2014-04, Promulgation January 24, 2014	Decree No. 2008-1521 of December 31, 2008
Sudan	June 17, 2010	Presidential decree 2011, the 5th October 2011. 27 November 2011 by the Council of Ministers Decree No. 293/2011 and the National Assembly on November 28, 2011.	Decree October 26, 2010 and renewed March 4, 2014
Chad	June 17, 2010	Law No. 027 / PR / 2010, Promulgation, Dec. 15 2010	Decree No. 895 / PR / PM / MERH 2012

Appendix II : Basic indicators of GGW member countries

Country	Population (Number of inhabitants)	GDP per capita (US $)	GNP (billion US $)	Agricultural GDP(% of GDP)	Growth Rate Population (%)	Poverty indicator (%)
BURKINA FASO	18 450 494	696,5	6,2	30	3,10%	43,9
DJIBOUTI	872 932	2 040	2 244	4	5%	20
ERITREA	6 380 803	900,8	3.978	11	2,2	38,1
ETHIOPIA	89 857 727	861	94.76	46,6	10,30%	55,3
MALI	17 963 218	794	18.26	38,8	3,60%	60,2
MAURITANIA	3 537 368	1 284	4, 947	15,1	2,77%	31,0
NIGER	19 223 157	421	11.93	42,1	3,30%	59,5
NIGERIA	187 280 807	2 092,5	414.5	31,1	2, 8%	40,6
SENEGAL	13 508 715	998,2	25,4	15,4	2,64%	44,0
SUDAN	36 163 778	2917	97.21	37,5	3,16%	46, 5
CHAD	12 236 989	799	19.69	52,7	2,27%	57,9

Source : http://www.statistiques-mondiales.com/afrique.htm

Appendix III : Indicative lists of plant species adapted to the climatic conditions of the Great Green Wall in the 11 countries

List of woody species of GGW

The choice of species depends on the following criteria

- Local endemic species;
- Values, utilities, and multiple usages perceived by the populations ;
- High ecological plasticity and adaptability;
- Species with high timber and non-timber production;
- Species common to several contiguous countries crossed by the GGW route;
- Resistance to water stress (<400 mm of rain).

Species	Feed	Ecology	Distribution
Acacia ehrenbergiana	Fillings	300-400 mm ; sandy soils, clay	Niger, Cameroon, Sudan, Chad
Acacia laeta	Gum, fodder, energy wood, service.	250-750 mm ; sandy-clay, rocky, stony soils.	Burkina, Mali, Niger, Nigeria, Sudan, Chad, Eritrea, Djibouti
Acacia mellifera	fourrages, bois d'énergie, bois de service	250-500 mm ; sols argileux	Nigeria, Erythrée, Djibouti, Soudan, Tchad
Acacia nilotica	food, medicine, fodder, lumber, energy, service, fodder,	100-1000 mm soil deep soils, sandy-loamy (fossil dunes), clay	Senegal, Mali, Niger, Nigeria, Cameroon, Sudan, Djibouti
Acacia raddiana	Wood energy, service, fodder, medicines	50-1000mm, sandy soil, tropical ferruginous, sandy loams, lateritic scree	Senegal, Mali, Niger, Sudan, Chad, Eritrea, Djibouti
Acacia senegal	Gum, (food, cosmetics), fodder, wood energy, service	100-800 mm sandy, loamy soils (depression), lithosols	Senegal, Mali, Niger, Sudan, Chad, Eritrea, Djibouti
Acacia seyal	Gum, fodder, lumber, energy, service, medicine	250-1000 mm clay soils, stony, floodable depressions.	Senegal, Mali, Burkina, Niger, Nigeria, Sudan, Cameroon, Djibouti

Balanites aegyptiaca	energy wood, service, medicine, food	250-1000 mm ; large ecological amplitude, sandy soils, clay, stony, alluvial, margins ponds.	Senegal, Burkina Faso, Mali, Niger, Nigeria, Cameroon, Sudan, Chad
Boscia senegalensis	food, fodder, medicines	50-100 mm ; sandy-clay soils (consolidated dunes), clay, rocky, stony	Senegal, Mali, Burkina, Niger, Sudan, Chad
Boscia alicifolia	fodder, fuel wood, food	250-1000 mm ; light soils	Senegal, Niger, Sudan, Chad, Eritrea, Djibouti
Boscia angustifolia	fodder, energy wood, service, artwork, medicine, food	250-1000 mm ; rocky, clayey, lateritic soils, pond borders	Senegal, Burkina, Mali, Niger, Nigeria, Sudan, Djibouti
Cadaba farinosa	fodder, fuel wood, medicine, food	250-500 mm ; sandy soils (consolidated dunes), rocky, margins ponds.	Senegal, Burkina Faso, Mali, Niger, Sudan, Chad, Cameroon
Cadaba glandulosa	Fillings	250-500 mm ; stony soils	Burkina, Mali, Niger, Sudan, Chad
Calotropis procera	fodder, medicine, food	250-500 mm ; sandy soils, dunes	Senegal, Mali, Niger, Sudan, Chad
Capparis decidua	fodder, medicine,	250-500 mm ; sandy soils, stream banks, pond margins	Senegal, Burkina, Mali, Niger, Sudan, Chad, Djibouti
Combretum aculeatum	fodder, fuelwood, medicine,	250-800 mm ; sandy, clay, stony soils on termite mounds	Senegal, Burkina Faso, Mali, Niger, Sudan, Chad, Eritrea, Djibouti
Commiphora africana	fodder, fuelwood, service, medicine, food, insecticide	250-800 mm ; sandy, clayey, lateritic soils	Senegal, Burkina Faso, Mali, Niger, Nigeria, Cameroon, Sudan, Chad, Eritrea, Djibouti
Ficus ingens	Drug	250-500 mm ; rocks from sources	Senegal, Mali, Niger, Nigeria, Chad
Grewia bicolor	Medicine, fodder, food, energy wood, service wood	250-800 mm ; sandy, stony, lateritic soils, ponds	Senegal, Mali, Niger,

Grewia flavescens	Medicine, food, fodder	250-500 mm ; edge of pools, sandy, clay, stony, lateritic soils	Senegal, Mali, Niger
Grewia tenax	fodder, food	250-500 mm ; rocky soils, clay, margins ponds.	Senegal, Mali, Niger, Nigeria, Sudan,
Grewia vilosa	fodder, medicine, food, service wood	250-500 mm ; sandy soils, rocky, stony, breastplates, curbs	Senegal, Niger
Guiera senegalensis	Medical, forage, fuel, dyeing	250-500 mm ; sandy soils leached	Senegal, Burkina Faso, Mali, Niger
Hyphaena thebaïca	Food, medicinal	250-500 mm ; sandy soils, termite mounds, flood flats	Senegal, Burkina, Mali, Niger,
Leptadenia pyrotechnica	Fodder for medicinal food	250-500 mm ; sandy soils, dunes	Senegal, Mali, Niger, Sudan, Chad,
Maerua angolensis	fodder, service wood, medicine, food	250-800 mm ; sandy soils, dunes	Senegal, Mali, Sudan, Eritrea, Djibouti
Maerua crassifolia	fodder, service wood, medicinal, food, fruit	250-500 mm ; sandy soils, dunes	Senegal, Mali, Sudan, Djibouti
Salvadora persica	service wood, cooking salt, medicinal	250-500 mm ; banks of rivers, lakes, ponds	Senegal, Mali, Niger, Chad
Tamarix senegalensis	Medicinal, service wood	250-500 mm ; sandy soils (dunes), salty, brackish depressions, curbs	Senegal, Niger
Ziziphus mauritiana	Fruits, fodder, medicinal	250-500 mm ; sandy soils, rocky, margins ponds.	Senegal, Burkina Faso, Mali, Niger, Cameroon, Chad
List of herbaceous species			
Species	**Usages**	**Ecology**	**Distribution**
Brachiaria deflexa	Feed	250-500 mm, sandy soils, fallow land	Senegal, Mali, Ghana, Egypt, South Africa
Cenchrus biflorus	Fourrage	250-700 mm, sandy soils, fallow land	Senegal, Mali, Mauritania, Algeria

Chloruis prieurii	Feed	250-500 mm, sandy soils, fallow land	Senegal
Dactyloctenium aegyptium	Feed	250-500 mm, sandy soils, fallow land, fields	Senegal, North Africa, South Africa
Echinicloa stagina	Feed	250-500 mm, sandy soils, fallow land	
Schoenofeldia gracilis	Feed	250-500 mm, sandy soils, clay	Senegal

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