GEF-8 Program Framework Document (PFD)

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General Project Information

Project Title

Transformation Approach to Large Scale Investment in Support of the Implementation of the Great Green Wall Initiative-TALSISI-GGWI

Country(ies)	GEF Program ID
Regional Burkina Faso Chad Ethiopia Gambia Mali Mauritania Niger Nigeria Senegal	11455
GEF Agency(ies)	GEF Agency ID
UNEP	
Other GEF Agenc(ies):	Submission Date
BOAD	10/18/2023

Type of Trust Fund

MTF

Anticipated Program Executing Entity(s):	Anticipated Program Executing Partner Type(s):
National Agencies of the Green Wall (Burkina Faso; Chad; Ethiopia; The Gambia, Mali; Mauritania; Niger; Nigeria; and Senegal) The Gambia: NEA&Dept. of Forestry,	Government
Sector (Only for Programs on CC):	Project Duration (Months):
Climate Change Adaptation Sector	72
GEF Focal Area (s)	Program Commitment Deadline:
Multi Focal Area	6/30/2024

Taxonomy

Focal Areas, Least Developed Countries, Climate Change Adaptation, Climate Change, Biomes, Biodiversity, Grasslands, Desert, Ecosystem Approach, Sustainable Land Management, Land Degradation, Community-Based Natural Resource Management, Drought Mitigation, Integrated and Cross-sectoral approach, Land Degradation Neutrality, Carbon stocks above or below ground, Land Cover and Land cover change, Land Productivity, Influencing

models, Demonstrate innovative approache, Convene multi-stakeholder alliances, Strengthen institutional capacity and decision-making, Private Sector, Individuals/Entrepreneurs, SMEs, Stakeholders, Type of Engagement, Participation, Consultation, Information Dissemination, Partnership, Civil Society, Community Based Organization, Non-Governmental Organization, Academia, Communications, Public Campaigns, Awareness Raising, Behavior change, Strategic Communications, Education, Local Communities, Beneficiaries, Indigenous Peoples, Gender Equality, Gender results areas, Knowledge Generation and Exchange, Access and control over natural resources, Access to benefits and services, Participation and leadership, Capacity Development, Gender Mainstreaming, Gender-sensitive indicators, Sex-disaggregated indicators, Women groups, Capacity, Knowledge and Research, Knowledge Generation, Workshop, Training, Learning, Adaptive management, Indicators to measure change, Theory of change, Knowledge Exchange

GEF Program Financing (a)	PPG Amount: (c)
77,888,167.00	1,928,608.00
Agency Fee(s): (b)	PPG Agency Fee(s): (d)
7,009,934.00	172,073.00
Total GEF Project Financing: (a+b+c+d)	Total Co-financing
86,998,782.00	2,998,018,615.00

Project Tags

CBIT: No SGP: No

Program:

Other Program

Program Summary

Provide a brief summary description of the program, including: (i) what is the problem and issues to be addressed? (ii) what are the program objectives, and how will the program promote transformational change? iii) how will this be achieved (approach to deliver on objectives), and (iv) what are the GEBs and other key expected results. The purpose of the summary is to provide a short, coherent summary for readers. The explanation and justification of the program should be in section B “program description”. (max. 250 words, approximately 1/2 page)

The Great Green Wall is a pan-African initiative to restore and sustainably manage land in the Sahel- Saharan region in order to address both land degradation and poverty. It was first envisioned in 2005 by the former President of Nigeria, Chief Olusegun Obasanjo, and greatly advocated by President Abdoulaye Wade of Senegal. In 2007 the Initiative gained momentum when the African Union Declaration 137 VIII was adopted, approving the “Decision on the Implementation of the Green Wall for the Sahara and Sahel Initiative” (AU 2007) (from here on referred to as GGW).

The aim of the GGW was originally to create a 15 km wide and 8,000 km long plant barrier along the Sahel. In recent years this vision has evolved into an integrated ecosystem management approach, striving for a mosaic of different land use and vegetation systems, including sustainable dryland management, the regeneration of natural vegetation as well as water retention and conservation measures. The realization of climate change and the last famine of 2010 have provided strength to this initiative and caused a revived interest in Sustainable Land Management (SLM) in the Sahel and North of the Sahara in general. As a result, the geographical scope has broadened from the originally 11 Sahel-region founding nations to numerous

countries across Africa, who wish to take part in the regreening initiative. The broadening of the geographical area has been and is accompanied by varying views and expectations from the involved actors, the GGW countries as well as the national donors, with regard to what the GGW Initiative has achieved, so far, and will be able to achieve in the context of contributing to the implementation of the Rio Conventions and the Sustainable Development Goals (SDGs) by 2030.

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

According to the Executive Secretary of UNCCD (March 30th, 2023), 'The GGW is arguably one of the most inspiring Land Restoration Programme in the world. By its ambition, its size, its institutional set up with a dedicated Heads of State Summit, Ministerial Conference and Agencies (national and regional). It is politically endorsed by the continental body and is institutionally hooked to the African Union. The political support it has makes it unique and inspiring. Even more inspiring when one thinks that in the Sahara and the Sahel, we have one of the harshest ecological conditions, coupled with a very challenging socio-political and security situation. This makes it even more compelling'.

The activities under the GGW are structured around three main goals: the conservation, development and management of renewable natural resources and ecosystems, building the right infrastructures to maximize rural potential and, finally, consolidation and diversification of economic activities to improve living conditions of local rural communities. The GGW initiative focuses on combating land degradation and enhancing ecological resilience. It is strategically designed to implement targeted climate change adaptation strategies that are deeply integrated within its core objectives. This commitment extends to employing sustainable land management practices and pioneering climate resilience measures that are tailored to the unique challenges of the region. These strategies are not only aimed at improving immediate livelihoods but are also crafted to ensure the long-term sustainability and environmental stability of the Sahel-Sahara region. By leveraging these focused adaptation measures, the initiative seeks to provide robust solutions that address the pressing climate-related vulnerabilities of the communities it serves.

The effective implementation and coordination of GGW activities can only be successful if the right governance structure and institutional framework are in place, at all levels of intervention. At the regional level, the Pan-African Agency (PAA) of the GGW created in 2010 is responsible for the coordination and monitoring of the implementation of the GGW and for the mobilization of necessary resources in relation with the AU and the Member States. At the national level, Member States have created National GGW Agencies or focal points to supervise and coordinate the implementation of national GGW priority actions.

According to the assessment of the status of the implementation of the initiative by Climatekos (UNCCD, 2020), based on the available data, the above partners' initiatives together provide a considerable contribution towards its implementation, with 10.2 million direct rural beneficiaries, including farmers and land users were trained in Sustainable Land and Water Management (SLWM) practices. In their joint effort to fight land degradation, restore and conserve forests, together these Governments led initiatives have resulted in the production of more than 293 million plants, reforestation of 132,227 ha and conservation of at least 1.8 million hectares of land and forests.

The GGW is characterized by socioeconomic, structural and systemic and environmental challenges that have stifled the region's ability to develop. Given its fragility and vulnerability, the region has attracted different interest groups that include policy makers, the academia, the civil society organizations, development practitioners, the private sector and others. Focusing on different aspects, stakeholders have played important roles in addressing the socioeconomic, structural and systemic and environmental challenges. Institutions have also been created regionally and nationally, and partnerships have been mobilized and built to strengthen stakeholder engagement in addressing the challenges in the region. The political will has also been strengthened, and this is demonstrated through national and regional agencies, including the African Union's commitment to the region. Internationally, the United Nations Council to Combat Desertification (UNCCD) through the UNCCD Accelerator has also been actively solved and serving to galvanize additional international support to the GGW region.

As financial mechanism of the three Rio Conventions but also managing the Least Developed Countries Fund, the Global Environment Facility has catalyzed various investment initiatives in the GGW region; investing nearly US$1.2 billion to date – restoring and rehabilitating degraded production landscapes, supporting biodiversity conservation, building socioecological resilience to the impacts of climate change while building and strengthening stakeholder partnerships to respond to the socioeconomic and mental vulnerabilities within the GGW region. Therefore, the GEF has established an important baseline in the region to support transformative efforts moving ahead.

The GWW region is also one of the important socioeconomic opportunities. The Sahel region has enormous untapped potential for renewable energy, the growth of agriculture, and the development of tourism. The region has important climate-resistant crop varieties and tree species, including under-exploited value chains associated with key commodities in the region, such as millet and sorghum, and gum, among others. Also, 64.5% of the region's population is below 25 years of age– offering enough labour potential in the region.

A new departure was given to the initiative in 2021, at the One Planet Summit in Paris, with USD 19 Billion pledged by donors and technical support offered by partners. Despite the constructive criticism, that the Great Green Wall is inspiring action in other parts of Africa, and elsewhere in the world. These actions include:

- The Southern Africa region (SADC) GGW programme.
- The Middle East Green Initiative (which also covers parts of Africa) which has already received its first funding of USD 2.5 Billion from the Kingdom of Saudi Arabia.
- An Eastern Africa corridor in the pipeline

• Other similar ongoing initiatives under the umbrella of the African Union's NEPAD such as the AFR100.

• The above initiatives of large-scale restoration programs is a welcome development as it provides multiple benefits and respond to various SDGs.

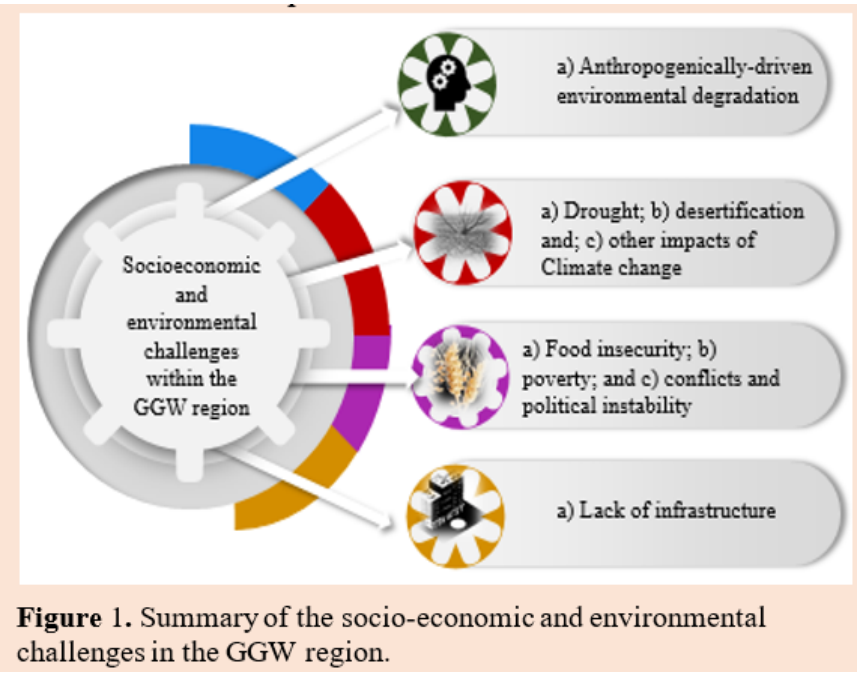


Figure 1. Summary of the socio-economic and environmental challenges in the GGW region.

In light of this rich baseline, including various existing partnerships, the Great Green Wall Programme is ambitious and presents an opportunity for different stakeholders and players within and beyond the region to address the persistent challenges. The Programme brings together resources from the GEF and LDCF Trust Funds to simultaneously catalyze the baseline to: i) build institutional capacities and ensure policy coherence across sectors; ii) rehabilitate degraded land and forest resources; iii) conserve biodiversity; and iv) support climate-resilient and gender responsive livelihood opportunities. Thus, the programme benefits from GEF inter-agency collaboration, embracing a comprehensive approach to address the multifaceted challenges of environmental degradation, climate change, and socio-economic vulnerabilities. It builds on lessons from past and on-going initiatives to inform efforts for scaling up best practices through multi-stakeholder involvement. To this end, the Programme will build on the momentum that has been created with various stakeholders, including overwhelming political will from participating countries and other partners to level and scale a sustainable Coordination Mechanism that will galvanize the comparative advantages of different development players in the region. The coordination mechanism will build on: i) the institutionalize Expert Committee which meets prior the council of Ministers meeting; ii) the Residential Seminar which become the widely attended informal gathering of the GGW stakeholders; the iii) the Regional Steering Committee established by the African Union but which seems not to adopted by all stakeholders and iv) the National Coalition which brought together all stakeholders including different line ministries, CSOs and local communities. One of the innovations of the programme is the engagement of private sector in the GGW initiative as even though a Forum on the GGW Natural Products is adopted by the council of Ministers in 2021, no meaningful engagement of private sector is done in the initiative till recently. However, with GEF support through the MSP in support of the GGW, the private sector engagement has gained momentum and culminated in June 2023 to the organization of the first private sector engagement forum in the GGW initiative. The programme will build on these baselines to work with the private sector engagement initiatives like in IFAD GCF Project process, to arrive at a more elaborate and institutionalized private sector engagement in the GGW. At different

levels and scale, the Programme will support lesson sharing among different partners active within the GGW region to enhance implementation of different initiatives for impact at scale, reinforce synergies and complementarities, and avoid duplication of partner efforts and resources. Of particular importance in terms of synergy and complementarity (the added value of the coordination project justifying set aside request) is the approach to be used by the Regional Coordination Project which will include periodic consultation with all the key players including agencies implementing/executing GEF and GCF projects particularly IFAD, in order to agree on who should focus on what, taking into account comparative advantage of respective partners. For example, UNEP will coordinate with IFAD through the UNEP Coordination Project of this Programme to ensure that its Great Green Wall Climate Change Adaptation Regional Support Project (GEF ID 11000) outputs will be mainstreamed. The IFAD-GEF project's objective is to improve access to best practices, foster innovation and digital transformation and facilitate cross-learning across Great Green Wall countries for enhanced sustainability and resilience to climate change impacts; through Knowledge Management Platform; Innovation and Digital Transformation. The anticipated interconnected GGW Platform initiated by the UNCCD Accelerator which will be taken over by the Panafrican Agency of the GGW, will be the platform to support the mainstreaming of the IFAD project outputs including implementation of the adaptation actions in various sectors at national level through the capacity building of the multisector GGW National Coalition/National Alliance. The same approach will be used to mainstream innovation and digital transformation at national level in different sectors relevant to the GGW to ensure national uptake of adaptation actions in the GGW implementation.

A web-based Knowledge Management Platform which will build on the: i) UNCCD/GM Accelerator work which support establishment of accountability framework and monitoring framework adopted by all the countries and ii) the UNEP/GEF Project work which established the non-state actors platform.

To this end, the Programme builds on more than 3 billion investment from various partners including GCF, IFAD, Bilateral Agencies, World Bank and on a portfolio of GEF Trust Funds and GEF LDCF fundings in participating countries and is structured around four components, namely: Component 1: Strengthening the enabling environment for gender-responsive, climate-resilient restoration of the Sahel; Component 2: Leveraging sustainable finance for scaling up investment in climate change adaptation; Component 3: Increasing resilience of ecosystems and communities through sustainable land management (SLM) practices, natural resource management (NRM) and ecosystem-based adaptation (EbA); and Component 4: Enhancing knowledge management and information dissemination across the GGW countries.

The Programme will use LDCF Trust Fund resources in Mali, Burkina, and Mauritania, and GEF Trust Fund resources in Burkina Faso, Chad, Ethiopia, Mali, Mauritania, Niger, Nigeria, Senegal, and The Gambia to address institutional, socioeconomic, and environmental challenges - to generate important Global Environmental Benefits (GEBs), notably: bringing 2,621,000 ha of terrestrial protected areas or under improved management; 264,800 ha of land and ecosystems under restoration; 6,938,600 ha of landscapes under improved practices; and 550,000 metric ton of CO2e Greenhouse Gas Emissions mitigated. Beyond GEBs, the project will target 5,050,260 beneficiaries (2,708,709 or 53.6% being women) to contribute to the creation of 1,260,000 green jobs and promote 275 local enterprises, 41 value chains, 135 training programs, and 203 enterprises specifically for vulnerable women using an ecosystem approach for Integrated Agribusiness Hubs.

One of the key principles around which this programme is build, is the fact that it intervenes in environment where GEF through GEFTF and LDCF, the GCF and many other donors including those that have made pledges during the One Planet Summit in 2021, and that the additional resources it is bringing in the initiative

will create impact by complementing the ongoing initiatives and will avoid duplication within a coherent partnership and collaboration approach to support the countries of the GGW.

Indicative Program Overview

Program Objective

To restore landscapes and ecosystems services for resilient communities living in arid and semi-arid environments across GGW region of the Sahel using transnational and coordinated approach , supported by good adaptation activities, strengthened local, regional capacity for SLM, NRM and knowledge-sharing,

Program Components

Component 1: Strengthening the enabling environment for gender-responsive, climate-resilient restoration of landscapes across the Sahel

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Program Financing ($)	Co-financing ($)
1,485,317.00	39,662,068.00

Program Outcome:

Outcome 1.1: Enhanced institutional and technical capacity to support gender-responsive CCA and SLM across the GGW region

Component 1: Strengthening the enabling environment for gender-responsive, climate-resilient restoration of landscapes across the Sahel

Component Type	Trust Fund
Technical Assistance	GET
GEF Program Financing ($)	Co-financing ($)
8,100,000.00	580,754,839.00

Program Outcome:

Outcome 1.1: Enhanced institutional and technical capacity to support gender-responsive CCA and SLM across the GGW region

Component 2: Leveraging sustainable finance for scaling up investment in CCA

Component Type	Trust Fund
Investment	LDCF
GEF Program Financing ($)	Co-financing ($)
12,605,856.00	49,820,087.00

Program Outcome:

Outcome 2.1: Investment in CCA, SLM and NRM enhanced and upscaled using innovative financing mechanisms

Component 2: Leveraging sustainable finance for scaling up investment in CCA

Component Type	Trust Fund
Technical Assistance	GET
GEF Program Financing ($)	Co-financing ($)
11,100,000.00	738,742,680.00

Program Outcome:

Outcome 2.1: Investment in CCA, SLM and NRM enhanced and upscaled using innovative financing mechanisms

Component 3: Increasing resilience of ecosystems and communities through SLM practices, NRM and EbA

Component Type	Trust Fund
Investment	LDCF
GEF Program Financing ($)	Co-financing ($)
20,379,036.00	85,292,756.00

Program Outcome:

Outcome 3.1: Improved biodiversity and ecosystem health through conservation and restoration efforts, including by Women, leading to enhanced resilience of semi-arid environments to climate stressors

Outcome 3.2: Increased agricultural and pastoral productivity achieved, including by Women, through the implementation of climate-smart techniques and resilient crop and livestock varieties to ensure food security and economic stability

Component 3: Increasing resilience of ecosystems and communities through SLM practices, NRM and EbA

Component Type	Trust Fund
Investment	GET
GEF Program Financing ($)	Co-financing ($)
12,457,402.00	877,378,959.00

Program Outcome:

Outcome 3.3: Enhanced water availability and quality through integrated water resource management strategies supporting men and women led agropastoralism and ecosystem health

Outcome 3.4: Strengthened community resilience through diversified livelihood options, including by Women, to reduce dependency on climate-sensitive activities

Component 4: Enhancing knowledge management and information dissemination across the GGW countries

Component Type	Trust Fund
Technical Assistance	GET
GEF Program Financing ($)	Co-financing ($)
5,114,767.00	389,607,649.00

Program Outcome:

Outcome 4.1: Integrated knowledge management systems established and shared through targeted awareness campaigns to facilitate learning, communication, and coordination

Component 4: Enhancing knowledge management and information dissemination across the GGW countries

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Program Financing ($)	Co-financing ($)
2,938,188.00	26,441,378.00

Program Outcome:

Outcome 4.2: Disaster risk preparedness of communities enhanced

M&E

Component Type	Trust Fund
GEF Program Financing ($)	Co-financing ($)

Program Outcome:

Component Balances

Project Components	GEF Project Financing ($)	Co-financing ($)
Component 1: Strengthening the enabling environment for gender-responsive, climate-resilient restoration of landscapes across the Sahel	1,485,317.00	39,662,068.00
Component 1: Strengthening the enabling environment for gender-responsive, climate-resilient restoration of landscapes across the Sahel	8,100,000.00	580,754,839.00

Component 2: Leveraging sustainable finance for scaling up investment in CCA	12,605,856.00	49,820,087.00
Component 2: Leveraging sustainable finance for scaling up investment in CCA	11,100,000.00	738,742,680.00
Component 3: Increasing resilience of ecosystems and communities through SLM practices, NRM and EbA	20,379,036.00	85,292,756.00
Component 3: Increasing resilience of ecosystems and communities through SLM practices, NRM and EbA	12,457,402.00	877,378,959.00
Component 4: Enhancing knowledge management and information dissemination across the GGW countries	5,114,767.00	389,607,649.00
Component 4: Enhancing knowledge management and information dissemination across the GGW countries	2,938,188.00	26,441,378.00
M&E		
Subtotal	**74,180,566.00**	**2,787,700,416.00**
Project Management Cost	2,408,336.00	195,318,199.00
Project Management Cost	1,299,265.00	15,000,000.00
Total Project Cost ($)	**77,888,167.00**	**2,998,018,615.00**

Please provide Justification

PROGRAM OUTLINE

A. PROGRAM RATIONALE

Briefly describe the current situation: the global environmental problems that the program will address, the key elements and underlying drivers of environmental change to be targeted, and the urgency to transform associated systems in line with the GEF-8 Programming Directions document. Describe the overall objective of the program, and the justification for it. (Approximately 3-5 pages) see guidance here

As we embark on this ambitious journey with the Great Green Wall initiative, it is imperative to reflect on the extensive experiences gained from prior projects. These projects have underscored the critical need for comprehensive community engagement and the integration of adaptive management practices, which have proven essential in achieving sustainable land management and biodiversity conservation. Thus, the foundational rationale of this programme is shaped by these pivotal lessons. By designing the programme strategies to build on these key learnings, this will ensure that past insights drive future successes and significantly enhance ecological and community resilience across the Sahel-Sahara region. This programmatic approach not only addresses immediate environmental challenges but also contributes to the long-term sustainability and stability of the region, aligning with global environmental goals and regional development priorities.

The economies of the countries in the Sahel region are largely dependent on agriculture, with about 80-90% of the population actively engaged in agriculture. Crop production and agro-pastoralism are the main economic activities in areas with rainfall of about 600 mm whiles in areas with rainfall of about 400 mm, rearing of livestock is the main economic activity.[1]1 Rainfall variability increases as the total rainfall decreases, making agriculture in the low rainfall areas vulnerable to recurrent droughts. In areas with rainfall greater than 300 mm, the availability of nutrients, mainly nitrogen and phosphorus, are the limiting factors for biomass production.[2]2

The Sahelian soils are mainly sandy with the dominant soil types being Entisols and Alfisols. Phosphorus and nitrogen are mostly deficient.[3]3 In the southern part of the Sahel, agriculture is more diversified and includes subsistence crops such as cassava, sorghum and maize, and cash crops such as cowpeas, peanuts, wheat, sugar cane and cotton. In the northern portion, the subsistence crops are millet, sorghum and sometimes maize, with the main cash crop being cotton. In the parkland areas in the north, trees are also harvested for a variety of products.

Agriculture is mainly rain fed, and the field sizes are usually small. Agriculture in the Sahel is characterised by extensification, labour intensification and capital intensification.[4]4 Extensification occurs where land is readily available and farmers expand their cultivated areas to increase production. For example, pearl millet production increased in Niger and Mali due to extensification, as yields did not change for about 30 years. Land for pearl millet cultivation in Mali increased to 1.5 million hectares in 2005, from 0.54 million hectares in 1970. In Niger, millet lands increased from 2.3 million hectares in 1970 to 5.9 million hectares in 2005.[5]5 As land becomes limited as a result of population growth, fallow periods are decreased and labour increased to boost production. The labour per unit land area is increased for practices including land preparation, manure application and harvesting. For capital intensification, inputs such as agrochemicals, fertilizers and agricultural equipment are increased. Some farmers practice both capital and labour intensification on different portions of their farmlands.[6]6 A combination of extensification and intensification are also used, particularly for food crops.

Towards the northern part of the Sahel, pastoralism dominates, with about a quarter of the population engaged in animal husbandry. High stocking densities and overgrazing are common, which affects the growth pattern of grasses. The livestock varies among the ethnic groups, with the Tuareg favouring camels whiles the Fulani prefer cattle. The Tuareg live at the fringe of the desert and are divided into many groups. The exclusive transhumant herders occupy lands not suitable for crops to the north of the agro-pastoralists, who live close to their fields. The agro-pastoralist Fulanis occupy the southern part of the Sahel, and rear small ruminants like sheep to provide meat for their families as the cattle are for capital, investment and prestige. The transhumant

Fulanis travel through the lands of farming communities as their cattle feed on the stovers and fallows on farmlands.[7][7] The cattle help manure these farmlands through their droppings as they graze.

In the southern, humid parts of West Africa, grazing is hindered by the presence of ticks and particularly tsetse flies, the vector for trypanosomiasis. Transhumant Fulanis are increasingly settling in some of these areas by clearing trees and bushes to control the tsetse flies. Grazing lands have been damaged through human population increase, expansion of croplands into marginal areas, and deforestation for firewood. This has been aggravated by recurrent droughts, particularly in 1968 and in the early 1980s.[8][8] Fire is often used as a tool to promote palatable grasses for the grazing animals. The laterite plateaus are not cultivated; they are used for grazing and as sources of firewood.

The African Sahel is often seen as the world region worst hit by this process of desertification,[9][9] a phenomenon that has increasingly attracted global attention as a serious environmental issue affecting about 3.2 billion people, 95% of them in developing countries.[10][10] The Sahel region, which spans across Africa from Senegal to Sudan, is known for its arid and semi-arid climate, frequent droughts, and fragile ecosystems. The region is facing environmental degradation and climate change, which are causing significant impacts on its natural resources, human livelihoods, and socio-economic development. The Global Environment Facility's (GEF-8) Programming Directions document calls for transformative actions to address these environmental challenges, emphasizing the need for systemic change to ensure the sustainability of the Earth's ecosystems.

Overview of challenges faced by populations living within the GGW region

The interactions between different environmental factors, such as land use, climate variability, and human activities, are complex and difficult to quantify, making it challenging to predict the long-term impacts of environmental degradation.[11][11] The observed trends may have important implications to the Sahel including changes to the water cycle, energy exchange and carbon storage.[12][12] Despite this level of complexity and uncertainty regarding the actual nature of impacts as climate systems and socioeconomic but also other biophysical continue interacting, the following are beyond any disputable realities within the GGW region:

- **Environmental degradation:** The Sahel region faces environmental degradation due to overgrazing, overuse of natural resources, population growth and infrastructure development. It should be noted that the

degradation of the vegetation cover increases the ecosystems vulnerability contributing significantly to global change because vegetation is one of the principal components of the environmental system[13][13];

- **Climate variables***:* Climate change compounds challenges related to unsustainable natural resource use in the GGW region. Specifically, changing climate variables to the increased frequency and intensity of climate hazards. Across the GGW region, mean annual temperatures have risen, leading to more frequent heatwaves, intensified droughts, increased flooding, temporal shifts in wet seasons and a heightened risk of wildfires[14][14]. Across the Sahel, rising temperatures have been accompanied by a decrease in mean annual rainfall. Consequently, the intensity of droughts has increased, and wet season rainfall has decreased, reducing the length of the growing season[15][15]. Moreover, rainfall variability has increased, causing temporal shifts in the wet season and the potential for erratic floods[16][16]. These changes in climate variables pose significant risks to the livelihoods and well-being of the population in the GGW region;

- **Climate hazards:** As a result of climate change in the GGW region, described above, changes in the frequency and severity of climate hazards have been observed. The occurrence of extreme weather events, including heatwaves, droughts and floods, has increased in frequency and intensity due to increases in air temperatures, decreases in rainfall and increases in rainfall variability. Conversely, the length of the annual wet season is decreasing, attributed to increases in air temperatures. More frequent and severe droughts, together with shortening of the wet season, have resulted in drier biomass across the GGW region, and a subsequent increase in the frequency and intensity of wildfires;

- **Uncertainty Regarding Climate Impacts**: Despite growing awareness of climate change, uncertainties persist regarding the actual nature and magnitude of its impacts on the GGW region. Variability in climate systems introduces challenges in predicting and adapting to future changes, necessitating adaptive strategies that can accommodate evolving conditions;

- **Drought and desertification:** The Sahel region is prone to prolonged periods of drought, which has led to desertification and the loss of fertile land, while other parts within the region experience floods. The participating countries in the Programme have very low tree cover: Burkina Faso (< 0.1); Chad (0.49%); Ethiopia (11%); Mali (<0.1); Niger (0.00004%); Nigeria (12%); Senegal (0.24%); and Sudan (0.04%) 0.49%;

- **Food insecurity:** The lack of reliable water sources and fertile land has led to food insecurity and malnutrition in many Sahelian countries;

- **Poverty:** Many people in the Sahel live in extreme poverty, with limited access to basic needs such as food, clean water, and healthcare, and meaningful means of production. The participating countries have the following Human Development Indices: Burkina Faso (0.45); Chad (0.394); Ethiopia (0.498); Niger (0.4); Mali; (<0.43); Nigeria (0.535); Senegal (0.511); and Sudan (0.508)[17][17];

- **Conflicts and political instability coupled with weak institutional and policy arrangements:** The Sahel region has seen a number of conflicts and political upheavals in recent years, which have led to displacement, migration and violence. Thus, proper recognition of the role that governance and policy play in

shaping peace and security is crucial for framing climate security challenges in the Sahel, where institutional weaknesses are as formidable as environmental hardships[18];

- **Limited infrastructure:** Poor infrastructure, such as roads, transportation, and communication networks, limits access to markets and essential services;

- **Role of women:** Women, integral to the Sahelian fabric, often shoulder the consequences of environmental degradation as primary caregivers and resource collectors. Their empowerment including community leadership, emerges as a potential avenue for impactful interventions; and

- **Limited inter-regional interactions**: Even though transboundary initiatives and cooperation are pivotal, given that the challenges in the Sahel often transcend geopolitical frontiers, the regional collaboration and coordination is in most cases weak and render it challenging to make successful impact.

Regional Problem Tree

The compounding impacts of limited socio-economic development, climate change and unsustainable natural resource use reduce the resilience of local communities that are vulnerable to climate change in the Sahel. Increases in average annual temperature and seasonal rainfall variability in the Great Green Wall (GGW) region, combined with non-climate drivers, have resulted in landscape-level land degradation and decreased water availability. As a result, already limited natural resources in the GGW region are diminishing, leading to decreased food, water and livelihood security for target populations. Figure 2 presents the problem tree and expected impact pathways (IP) for the proposed regional programme, highlighting the root causes of land degradation across the target region and associated impacts on the GGW population's food, water and livelihood security. Several IPs have been identified as entry points for regional programme interventions to address the root causes of the local communities' vulnerability to climate change within the GGW region. In so doing, the proposed project will increase the resilience and adaptative capacity of local communities that are: i) dependent on grassland, savanna, woodland and forest and ecosystems for their livelihoods; and ii) vulnerable to the impacts of climate change and extreme climate events — including heatwaves, droughts, flood and wildfires. The following sub-sections will provide a detailed analysis of the baseline drivers, main climate change variables, hazards and impacts on ecosystems and local communities.

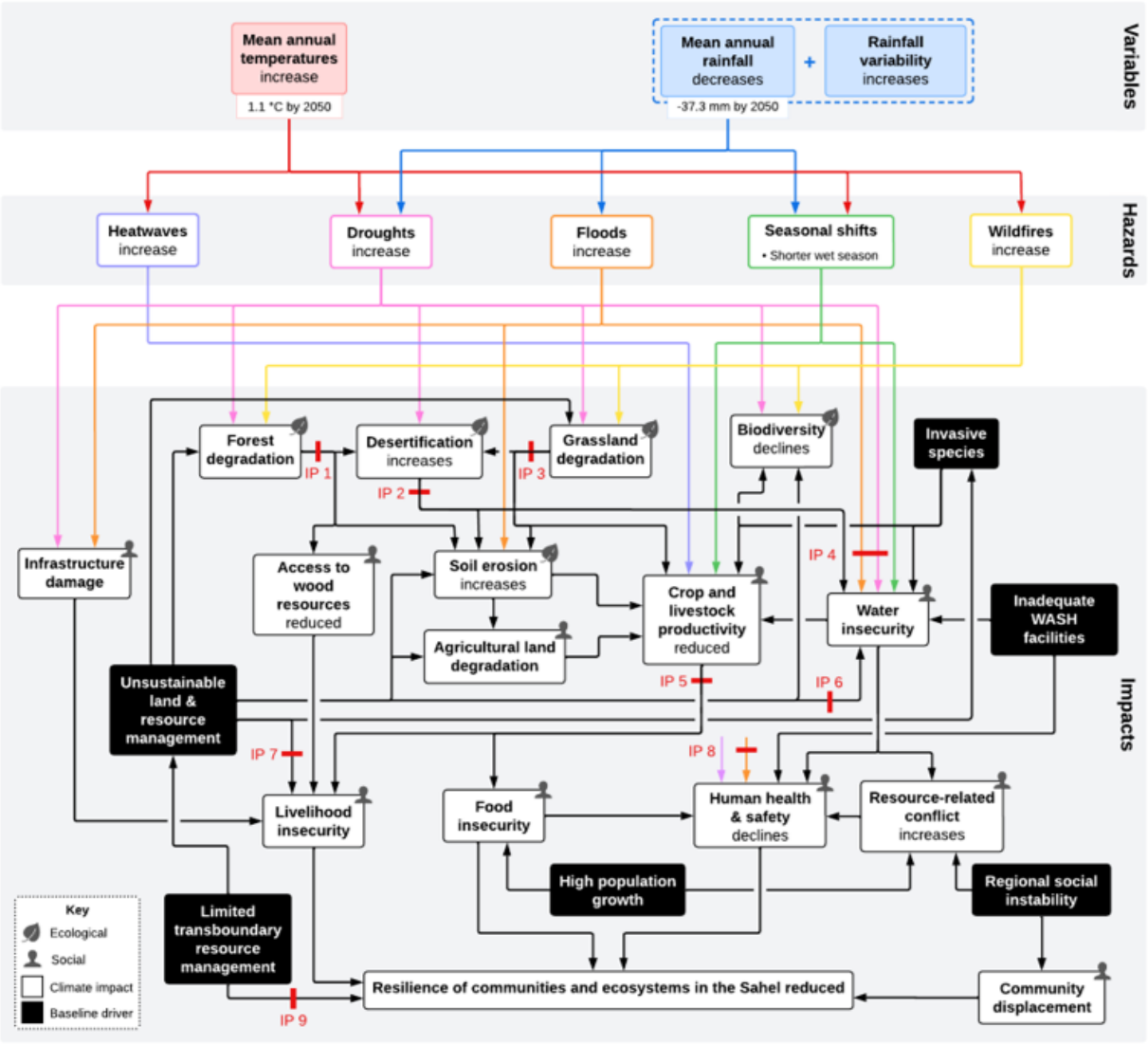


Figure 2. Schematic representation of the problem tree and expected impact pathways (IPs) on local communities in the GGW region[19]. The direction of the arrows indicates the direction of the causal pathway. The red '/' symbol represents impact pathways where project interventions will reduce the impacts of extreme climate events.

Baseline drivers

The GGW region, situated in the Sahel, faces significant challenges due to limited transboundary resource management, hindering its capacity for climate change adaptation (CCA) and leading to fragmented resource utilization within projects. Unsustainable land and resource management practices at both national and regional levels contribute to the degradation of natural ecosystems, the proliferation of invasive species and water insecurity. High population growth is interlinked with poverty and limited livelihood options in the region, which results in the overexploitation of natural resources, exacerbating challenges related to unsustainable land and resource management. These challenges result in decreased livelihood security for communities in the region, which subsequently enhances challenges related to poverty and high population growth, creating a feedback loop. Moreover, the Sahel has a history of prolonged regional social instability stemming from civil unrest, political instability, and past conflicts, which increases communities' vulnerability impacts of climate change[1]. This instability compounds resource-related conflicts and community displacement, as disputes over territorial boundaries and access to land hinder coordinated efforts for sustainable land management[2]. Additionally, many countries within the GGW region suffer from limited water, sanitation, and hygiene (WASH) facilities, posing risks to water security due to inadequate water delivery infrastructure and increasing

the spread of water-borne diseases[3]. Rapid population growth further strains already scarce resources, including food, decreasing communities' baseline resilience against climate change and economic shocks[4]. Furthermore, invasive plant species threaten water security by consuming larger volumes of water than indigenous species and encroaching on agricultural land, leading to reduced crop yields[5].

Ecological impacts

Degradation of grassland, savanna, woodland, and forest landscapes has been observed in the GGW region due to heightened occurrences of droughts, floods, and wildfires. This degradation has diminished soil quality, reduced vegetation cover, and exacerbated desertification, resulting in widespread soil erosion and increased aridity[6]. Furthermore, the increased frequency and intensity of droughts and wildfires observed in the region have directly impacted biodiversity by instantaneously disrupting ecosystems. Invasive species have compounded the impacts of climate hazards by competing with native species for resources, thus destabilising the structure of communities.

Socio-economic impacts

The degradation of forests and savannas has significantly reduced community access to wood resources, exacerbating livelihood insecurity. Landscape degradation, compounded with the increased rate of desertification, increased frequency and intensity of droughts and floods and invasive plant species, has severely impacted water security in the GGW region. Furthermore, unsustainable water management and the scarcity of water, sanitation, and hygiene (WASH) facilities compound this issue, making water sources less reliable and threatening the health of local communities[7].

The decline in the wet season and the degradation of grassland and savannas have reduced the available rangeland for livestock. At the same time, the increased frequency and intensity of heatwaves have resulted in crop loss. Invasive plant species further diminish agricultural productivity, significantly affecting communities' livelihoods, as many rely heavily on agriculture[8]. Unsustainable land and resource management practices have exacerbated water insecurity by reducing the flow of water into aquifers and have diminished livelihood security by limiting access to ecosystem services crucial for sustaining livelihoods.

The increased frequency and intensity of heatwaves, floods, droughts and wildfires in the GGW region pose health and safety risks to communities, including loss of lives, injuries, and health vulnerabilities. Additionally, stagnant water left after floods creates breeding sites for disease vectors, increasing the spread of diseases like malaria[9]. Moreover, floods damage infrastructure such as sewage systems, contaminating water supplies.

Given these socio-economic impacts, limited transboundary resource management further constrains the climate resilience of communities, underscoring the urgent need for coordinated and sustainable regional approaches to address these challenges.

Further detail regarding context-specific environmental and socio-economic challenges experienced by target communities in the GGW countries is given below, with a focus on the impacts of desertification, land degradation, and drought (DLDD).

Land degradation in the Sahel

The Sahel is one of the most severely affected regions from land degradation and desertification in the world. The region has experienced severe drought and increasing deterioration of soil quality and vegetation cover.[10] Land degradation has adverse impacts on agricultural productivity, the environment and food security. Land degradation has resulted in the loss of the soil's productive capacity which is a great concern to the local people who are mainly subsistence farmers. Excessive exploitation of firewood and unsustainable agricultural practices including overgrazing and over-cultivation have in turn contributed to land degradation in the Sahel region[11]. The main form of land degradation in the Sahel is soil degradation through soil erosion and consequent nutrient loss, soil physical degradation through crust development, and salinization.

Soil degradation is the main form of land degradation in the Sahel[12]. UNEP's 'An Ecosystem Approach to Restoring West African Drylands and Improving Rural Livelihoods through Agroforestry based Land Management Interventions'[13] project identified generally low soil organic carbon (SOC) content in the Segou region of Mali using infrared spectroscopy. SOC is a key indicator of soil condition in terms of nutrient status and availability, soil physical properties, and water holding capacity. The median SOC content was 3.12 g kg^{-1} in top soils (0-20 cm) for all sites. Cultivated areas were found to have lower SOC in the topsoil compared to semi- natural areas which are not cultivated or managed. This was attributed to high sand content in the cultivated areas and also as a direct consequence of cultivation.

Wind erosion is the main contributor to soil degradation in this Sahel region. Wind erosion causes considerable loss of soil and nutrients in the Sahel, sometimes greater than the effect of water erosion.[14] The soil sediments are transported by wind through suspension, saltation and creep. The finest soil particles are carried away as suspended dust which can travel for thousands of kilometers. The finest soils contain relatively higher proportions of organic matter and nutrients in the topsoil, leading to considerable losses. Relatively larger particles are transported by saltation which bounces over the surface of the soil up to heights of about 2 meters. These also result in considerable nutrient losses as soil particles transported by saltation are usually aggregates of the finer nutrient- rich particles. This, however, occurs over relatively shorter distances. Coarse sand particles bombarded by siltation, keeping contact with the soil surface due to their size. Creep does not result in considerable nutrient losses as the coarse sand particles are poor in nutrients[15].

Vegetation in bush fallows and valley sites adjacent to crop fields trap the saltation materials. With a balance between the fallow area and cultivated fields, saltation may result in local redistribution of nutrients and soil particles, which remain in the system. This may lead to declining fertility in the crop fields and buildup of nutrients in the decrease of fallow periods and cultivation of new farmlands, including marginal lands reduces vegetation cover leading the higher losses of saltation material. Farmers may benefit in the short term by cultivating these new sites but with time, these lands are also exposed to the forces of erosion. As more land

gets under cultivation, the balance between fallow and cultivated area is reduced leading to net losses of saltation materials from the system.

High evaporation rates in the Sahel causes surface crust development and the formation of laterites. These are sometimes several meters thick, or form lumps, resembling rocks. Water generally infiltrates poorly through these hardened soils resulting in high runoff during rainfall. These laterite areas have high soil physical constraints, including restricting root penetration. The predominant vegetation in these areas is shrubby, distributed in dense thickets. The infiltration capacity on the laterites depends on the shrub cover densities. The high rate of evaporation is also promoted by the removal of vegetation cover which exposes the bare soil. Such exposed and frequently heated soils, with very little organic matter are also unfavorable for soil fauna. Soil fauna increase water percolation in soils through their movements. Crusts are also formed by termites in high clay soils in the form of mounds. The activities of the termites result in localized improved rates of infiltration and higher soil nutrient content. This leads to the formation of fine-scale mosaics where more water demanding plants grow.

Water erosion in the Sahel region occurs through splash, sheet, and gully erosion. This is influenced by the topography, mainly slope gradient and surface characteristics of the land, including the size of the soil particles, degree of particle cohesion and the nature of vegetation cover. Raindrops detach soil particles through splash erosion which are further transported through sheet erosion. Sheet erosion transports the fine nutrient-rich top soil particles and organic matter down slope which can be transported up to thousands of kilometers. The turbulence of sheet flow can be increased by wind driven rain drops falling into the flow. Clay, silt, nutrients and organic matter are selectively carried away by sheet erosion when runoff is low over gentle slopes, which is characteristic of the Sahel region. Larger particles are transported by rolling or sliding over land surface due to the force of the running water. These are coarse sand particles which contain low nutrients. Saltation materials break up in the water and the fine particles are transported through suspension in sheet erosion[16]. Water erosion is limited in sediment transport off fields as compared to wind erosion. Pools form over the fields, reducing runoff and causing the soil sediments to settle. This results in local redistribution of sediments.

Population growth has resulted in the intensification of agriculture on existing farmlands and increased cultivation of marginal lands. The higher demand for food due to population growth has caused a decrease in fallow periods which declines the fertility of the soil, and consequently a decline in productivity[17]. Farmers are then forced to cultivate new lands. Natural woody savannah lands have increasingly been converted to rain-fed cultivated lands due to this[18].

Expansion of cultivation to marginal lands increases degradation of upland field areas. These are then abandoned for new land[19][19]. Agricultural expansion, particularly groundnut cultivation, has resulted in the decline of fallow lands and savannah vegetation in the Sahelian part of Senegal[20][20]. A trend spanning 40 years shows a steady increase in crop lands and eroded bare soils leading to a drastic decline in woody vegetation

cover in Kouonkaba village in the Sahelian region of Mali[21][21]. Increase in cultivated land area in the Sahelian portion of Niger between 1950 and 1998 also resulted in a 7 to 16% increase in eroded land at the detriment of the savannah[22][22]. Other human activities that have contributed to land degradation in the Sahel include excessive exploitation of firewood and overgrazing (Olsson et al., 2005)[23][23].

Given the preponderance of agro-pastoral activities in the participating countries of the GGW Programme, but also the level of land degradation caused by both climatic and anthropogenic factors in the region, food and nutritional security is at stake. Participating countries in the GGW Programme have all prepared and committed to reversing land degradation through national land degradation neutrality (LDN) targets. LDN, as a development agenda within the SDGs, frames countries' commitments to land restoration for sustainable socioeconomic and environmental benefits[24][24]. This has been a deliberate effort to halt and reverse land degradation, restore degraded ecosystems and sustainably manage the resource base.

Desertification, land degradation and drought (DLDD) within the GGW region

Building on the information provided under the section above on land degradation in the Sahel, it is important to highlight the specifics of desertification, land degradation and drought (GGW) as they are relevant to the GGW region.

The climatic conditions in the GGW region are complex. The causes of desertification in the Sahel are multiple and intertwined, including population growth, increased pressure on natural resources, drought, land tenure challenges and socio-economic challenges[25][25]. Land surface feedback in the Sahel contributes to persistent drought conditions by locking the system into a drought mode and reinforcing meteorologically induced changes[26][26]. DLDD are significant environmental challenges within the Great Green Wall region in the Sahel, posing threats to ecosystems, livelihoods and food security. Factors that underpin DLDD in the GGW region include human population growth which has led to soil erosion, degradation, and desertification[27][27]. Other studies suggest that desertification in the Sahel has increased due to human and livestock populations increasing, and the Great Drought of the mid-1960s aggravated the situation[28][28].

The impacts and consequences are numerous. For example, environmental degradation and desertification in the Sahel contribute to the decline of African-Palearctic birds, with the potential for long-term recurrence due to human land use and climate change[29][29].

- **Desertification**: Desertification refers to the process of land degradation in arid, semi-arid, and dry sub-humid areas, leading to the expansion of desert landscapes and loss of productive land. In the Sahel, desertification manifests through soil erosion, loss of vegetation cover, and decline in soil fertility, driven by factors such as unsustainable land use practices, climate variability, and population pressure. Desertification in the Sahel reduces moisture flux convergence and rainfall, affecting local communities by shifting the axis of maximum rainfall to the south[30][30]. Desertification undermines agricultural productivity, water availability, and biodiversity, exacerbating poverty and food insecurity in the region. The phenomenon has decreased forest species richness and tree density, shifting vegetation zones toward areas of higher rainfall, and reducing human carrying capacity to below actual population densities[31][31]. Also, desertification in the Sahel has increased population pressures for food, fodder, and fuel, leading to the need for improved agricultural and livestock economies[32][32]. Finally, while transforming ethnic identities and ways of life, affecting local communities and economies[33][33], desertification also affects local communities by reducing the resilience of pastoral and mixed farming systems, which must adapt to population growth and expanding croplands[34][34].

- **Land degradation**: Land degradation encompasses various processes that diminish the capacity of land to support ecosystems and provide vital ecosystem services. Degradation leads to substantial reductions in precipitation, surface evaporation, and atmospheric moisture convergence, potentially contributing to persistent drought in tropical North Africa[35][35]. In the Sahel, land degradation occurs through soil erosion, deforestation, overgrazing, and unsustainable agricultural practices, leading to the loss of soil fertility, decline in vegetation cover, and degradation of water resources – thus, the phenomenon has significant impact on plant diversity, with high diversity found in lowlands and low diversity in glaciers[36][36]. Land degradation undermines ecosystem resilience, reduces agricultural productivity, and exacerbates poverty and vulnerability among rural communities.

- **Drought**: Drought in the Sahel favors land degradation by reducing vegetation cover, fallow periods, and cultivated field balance, which are vital for maintaining soil fertility and reducing losses from erosion[37][37]. Due to prolonged periods of below-average rainfall, drought results in water scarcity, crop

failure, and livestock mortality. In the Sahel, droughts are frequent and severe, exacerbated by climate change and variability. Droughts disrupt agricultural activities, deplete water sources, and exacerbate food insecurity, poverty, and malnutrition. Therefore, on the socioeconomic front, Droughts in the Sahel increase vulnerability of livelihoods based on agriculture, exacerbate environmental degradation, and require adaptation strategies like selling animals and on-farm diversification[38]. Vulnerable populations, including smallholder farmers and pastoralists, are particularly at risk of the adverse impacts of droughts, leading to loss of livelihoods and displacement.

Water scarcity as barrier to agricultural expansion in Sahel: Water scarcity threatens irrigated agriculture in sub-Saharan Africa (SSA). Knowledge of farmers' perceptions and drivers for decision-making in view of coping with water scarcity is so far lacking but needed to improve local technologies and frame policies fostering their adoption. To cope with the adverse effect of water scarcity, farmers implemented different adaptation strategies that could be categorized into many groups. Most popular among those were "water and soil conservation practices" (consisting mainly of field bunding and leveling), "no rice cultivation," and "crop rotation." Farmers in drier areas (Sudano-Sahelian zone) were less likely to adopt and implement several adaptation strategies to water scarcity compared to farmers in wetter areas (Sudanian zone). Belonging to farming associations increased the probability of implementing several strategies to alleviate water scarcity, while female-headed households tended to have a lower propensity to adopt and implement concomitantly several adaptation strategies in comparison with their male counterpart. The dissemination of scheme- and household-specific technology options could contribute to mitigating water scarcity in irrigated rice-based systems in the dry climatic zones of West Africa, thus contributing to rural livelihood and food security[58]. Sixty-four percent of the population of the Sahel lives in rural areas and depends primarily on rainfed farming for their livelihood. Despite the potential for up to two million hectares of land to be irrigated, only three percent of farmland has irrigation systems in place. For small farmers, access to water for irrigation is key to sustaining their livelihood and ensuring prosperity and peace in their communities[59].

The seriousness of the impacts of DLDD on the environment and socioeconomic structure within the GGW region cannot be overemphasized. Typically, the GGW region is faced with DLDD, calling for urgent actions to address DLDD through comprehensive and integrated approaches that promote sustainable land management, biodiversity conservation, and climate resilience – in a holistic way through partnerships to leverage comparative advantages, expertise, resources and experiences, among others, from other partners. On the menu of concrete actions are activities related to reforestation, soil conservation, water harvesting, and climate-smart agriculture to restore degraded lands, enhance ecosystem resilience, and improve livelihoods. Furthermore, enhancing early warning systems, building community resilience, and strengthening institutional capacities are essential for mitigating the impacts of DLDD and promoting sustainable development in the Sahel region. Once again, collaboration among governments, civil society, and international organizations will remain crucial for mobilizing resources, sharing knowledge, and implementing effective solutions to address DLDD within the Great Green Wall. The GGW Programme is posed and is designed to embrace this collaborative approach to address the challenges of DLLD within the GGW region.

Climate change in the Sahel

The net impacts of climate change in the Sahel are the result of changes in a combination of specific climate variables. These changes include rising mean annual temperatures, decreasing mean annual rainfall, increased rainfall variability and accelerated sea level rise. Changing climate variables have, in turn, resulted in changes in the frequency and intensity of climate hazards, such as droughts, floods and saltwater intrusion. These extreme climate events often result in widespread damages and losses, compounding the impacts of

anthropogenic land degradation and the associated decline of ecosystem services. This, in turn, increases vulnerability to climate change among communities in the Sahel.

While, at the regional scale, the Sahel countries share overarching climate change trends resulting from their shared landscape characteristics, each country within the GGW region experiences distinct climate variations and impacts at a more granular level. These differences are further intensified by each nation's unique set of baseline challenges and vulnerabilities. Consequently, the approach to adaptation and the strategies required vary significantly from one country to another.

The sections below present the specific climate change trends — both observed and projected — that are unique to each GGW country. The text also provides justification for the funding mechanisms these countries are engaging with to address their unique environmental and socio-economic challenges. While the majority of GGW countries seek support from the GEF Trust Fund, Burkina Faso, Mali, and Mauritania have pursued additional funding through the GEF Least Developed Countries Fund (LDCF), underscoring the target countries' varied financial pathways and needs in confronting climate change across the GGW region.

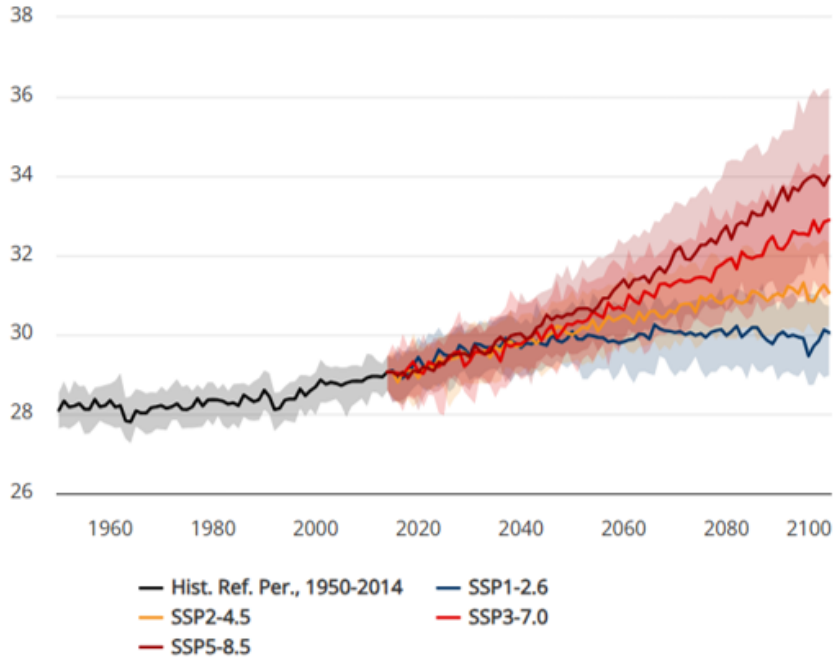
Climate change in the GEF LDCF countries

The West African Sahel region is at a critical juncture, faced with an escalating climate crisis that compounds existing environmental and socio-economic vulnerabilities. Climate science provides a clear and compelling rationale for urgent action. Under the proposed GGW Programme, Burkina Faso, Mali and Mauritania have been funded through the Least Developed Countries Fund (LDCF). The text to follow details the climate change rationale for their inclusion in the Programme.

Temperature rise

- **Burkina Faso:** The situation in Burkina Faso is particularly concerning. Since 1975, annual average temperatures have been observed to increase by 0.6°C (USAID Climate Change Profile Burkina Faso 2017). There has been an increase in the average yearly temperatures of approximately 0.10°C per decade from 1901-2013. Reports suggest a warming of 0.26°C per decade over the last 30 years. Studies predict a temperature increase of 1.5°C to 2°C by 2050. This rise in temperature significantly affects evapotranspiration rates and leads to a reduction in soil moisture, posing challenges to agricultural productivity and ecosystem health.

Figure 3. Projected average mean surface air temperature for Burkina Faso based on a multi-model ensemble using 1995–2014 as the reference period.



- **Mali:** The narrative of Mali's planet's climate has been characterized by intensifying patterns. A 1.2°C increase in global temperatures since the pre-industrial era, as per the IPCC, is echoing with amplified repercussions on natural ecosystems and human societies. Temperature projections indicate an increase of up to 1.5°C to 2°C by 2050. Such changes exacerbate water scarcity and biodiversity stress, increasing vulnerability to heatwaves and reducing crop viability.

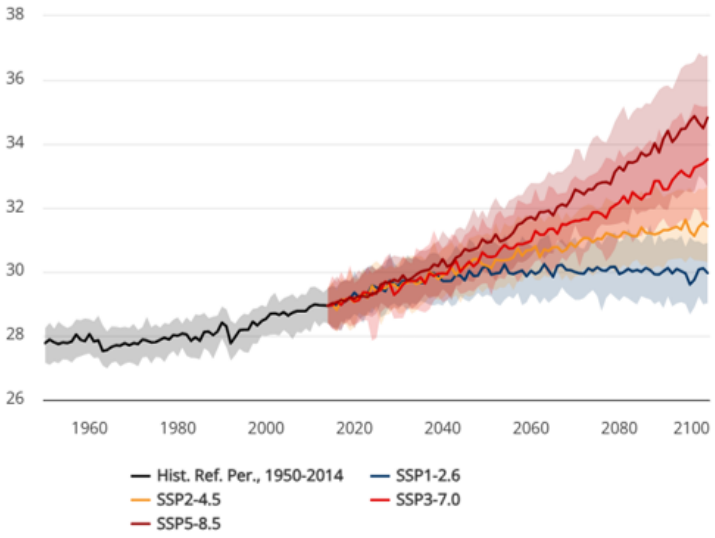


Figure 4. Projected average mean surface air temperature for Mali based on a multi-model ensemble using 1995–2014 as the reference period.

Mauritania: According to the 'Report on the fourth national communication on climate change' (UN, GEF, 2019), Mauritania will experience an increase in temperatures and a decrease in precipitation over the course of the 21st century. In terms of temperature, in every scenario of emissions, the trends in temperature observed over the last century are expected not only to continue, but also accelerate in future. The rise in temperature expected to witness temperature increases between 1.5°C to 2.5°C by 2050, making it one of the most vulnerable countries to climate-induced heat stress, impacting water resources and leading to the degradation of pasture lands vital for livestock.

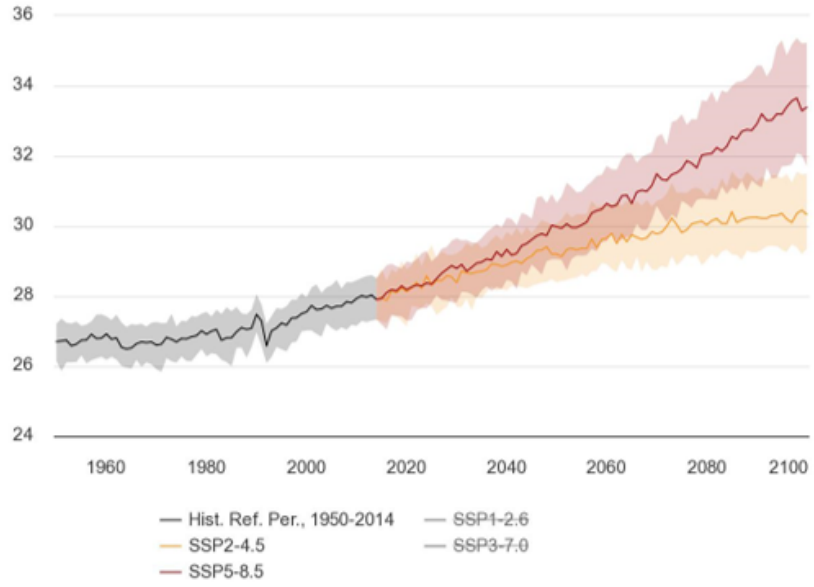


Figure 5. Projected average mean surface air temperature for Mauritania based on a multi-model ensemble using 1995–2014 as the reference period.

Variable rainfall

- **Burkina Faso:** Rainfall patterns are becoming less predictable, with projections suggesting both a decrease in total annual rainfall and an increase in intense, short-duration rainfall events. This variability leads to challenges in water management and agriculture, increasing the risk of both droughts and flash floods.

- **Mali:** The variability in precipitation is expected to increase, with some models predicting a decrease in annual rainfall by 20-30% by the end of the century. Such changes disrupt traditional farming cycles and threaten food security.

- **Mauritania:** Rainfall variability is a significant concern, with trends indicating potential decreases in overall precipitation. This exacerbates the challenges of managing water resources for agriculture and human consumption, heightening the risks associated with drought conditions.

Increased climate extremes

All three GEF LDCF-funded countries — that is, Burkina Faso, Mali and Mauritania — face an increased risk of extreme weather events under future climate conditions. The frequency and intensity of droughts and floods are expected to increase, with severe implications for agriculture, water resource and human settlements. Data from regional climate models underscore the need for robust adaptation measures to mitigate these impacts.

Desertification

Burkina Faso: Already facing significant land degradation, the country is at risk of further desertification, with climate models indicating an exacerbation of these trends due to increased temperatures and changing rainfall patterns.

- **Mali:** With over 50% of its territory susceptible to desertification, the advancing Sahara Desert poses a significant threat to agricultural land and biodiversity. Climate projections emphasize the need for sustainable land management practices to combat this trend.

- **Mauritania:** As one of the countries most affected by desertification, Mauritania faces the dual challenge of combating land degradation while adapting to climate variability. Projections highlight the critical need for restoration efforts to preserve arable land and support livelihoods.

Vulnerabilities amplified by climate change in the GEF LDCF countries

The Sahel region, encompassing Burkina Faso, Mali, and Mauritania, confronts escalating vulnerabilities exacerbated by climate change, affecting crucial sectors like agriculture, water resources, pastoralism, and fisheries. These vulnerabilities are magnified by socio-economic dependence on agriculture, water scarcity, health risks, infrastructure and settlements challenges, and biodiversity loss.

Burkina Faso

In Burkina Faso, a landlocked country at the heart of the Sahel, the impacts of climate change are profoundly felt across critical sectors such as water, agriculture, and land management. The country grapples with intensifying water scarcity, directly impacting agriculture—its primary livelihood source—and human consumption. The dependency on agriculture places Burkina Faso in a precarious position as looming threats of decreased yields due to climate variability and extreme weather events jeopardize food security and economic stability. Furthermore, land degradation and the advancing threat of desertification not only compromise the availability of arable land but also pose significant risks of displacement for large segments of the population, further exacerbating existing socio-economic vulnerabilities. This section examines the specific challenges faced by Burkina Faso in addressing water scarcity, maintaining agricultural productivity, and combating land degradation, underscoring the critical need for comprehensive adaptation measures to ensure sustainable development and resilience in the face of a changing climate.

Table 1. Vulnerable sectors in Burkina Faso based on the National Adaptation Plan 2024–2028.

Resource / Sector	Degree of Impact	Duration of Impact	Severity of Impact	Importance of Resource / sector
Water	High	High	High	Very High
Agriculture	High	High	High	Very High
Livestock Farming	High to moderate	High to moderate	High to moderate	High
Forestry	High to moderate	High to moderate	High to moderate	High

The most recent vulnerability analysis of exposed sectors in Burkina Faso, as outlined in NAPA presents a detailed assessment across various sectors. A summary of the findings regarding the degree of impact, duration, severity and the overall importance of the affected resources or sectors is given below.

- **Water**: This sector is facing a high degree of impact, with both the impact and its severity assessed as high over a long duration. The importance of this sector is considered very high due to its critical role in supporting life, agriculture, and economic activities in Burkina Faso.

- **Agriculture**: Like water, agriculture is experiencing a high degree of impact, which is sustained over a long duration and with high severity. Given agriculture's role as the backbone of Burkina Faso's economy and its significance in ensuring food security, its importance is rated as very high.

- **Livestock Farming**: The impact on livestock farming varies from high to moderate, with both the duration and severity of impact ranging from high to moderate as well. This sector is of high importance due to its contribution to the livelihoods of a significant portion of the population.

- **Forestry**: Forestry faces a high to moderate degree of impact, with the duration and severity of this impact also ranging from high to moderate. The sector is considered of high importance due to its role in biodiversity, climate regulation, and as a livelihood resource for communities.

These findings underscore the critical vulnerabilities and challenges faced by Burkina Faso in the context of climate change, particularly in sectors that are fundamental to the country's socio-economic fabric and environmental sustainability.

Mali

In Mali, a country characterized by its vast semi-arid and arid expanses within the Sahel region, the compounding effects of climate change pose significant challenges to its geographic and climatic stability, agricultural dependency, water resource management, and community resilience. Mali is increasingly vulnerable to desertification and erratic rainfall patterns, coupled with a noticeable increase in temperatures that collectively impact its fragile ecosystems and biodiversity. The country's economy is heavily reliant on agriculture, which is the primary livelihood activity for most of the country’s population. This sector is under threat from decreasing productivity due to adverse environmental conditions, further exacerbated by climate change.

Water scarcity in Mali is becoming a pressing issue, with significant implications for human consumption, agricultural productivity, and overall socio-economic development. The management of water resources is thus a critical area requiring urgent attention and innovative solutions to ensure sustainability and resilience against the backdrop of a changing climate.

To address these vulnerabilities, Mali is focusing on community capacity building as a cornerstone of its adaptation strategy. Enhancing resilience through targeted education, training, and the integration of traditional knowledge into adaptation practices is vital for empowering local communities to cope with and adapt to the adverse effects of climate change. This section delves into the specific challenges Mali faces in combatting geographic and climatic changes, securing its agricultural economy, managing water resources effectively, and building community resilience, highlighting the imperative need for comprehensive and integrated adaptation measures.

Table 2. Vulnerabilities in Mali and the severity of climate change impacts on these vulnerabilities.

Vulnerability	Details	Impact of Climate Change
Geographic and climatic	Mali's vast semi-arid and arid regions are prone to desertification and erratic rainfall patterns, with a 100 km southward shift in isohyets and a 1.2°C increase in temperatures since the pre-industrial era.	High
Economic dependency on agriculture	Agriculture employs nearly 80% of the workforce, yet only 14% of the land is suitable for farming. A 25% reduction in productivity due to environmental degradation further exacerbates vulnerabilities.	High
High population growth	A growth rate exceeding 3.6% increases pressure on natural resources and essential services. Housing, food, and resource demands surge alongside population growth.	Medium
Environmental degradation	Loss of biodiversity and degradation of 633,000 km² (51% of Mali's total area) impact ecosystem services essential for survival and well-being.	High
Food insecurity	A 20% reduction in crop yields threatens food security, and climate-induced diseases increase by 30% due to environmental degradation.	High
Socio-economic disparities	Stark rural-urban economic dichotomy with 42% poverty prevalence, and the capital city hosts only 12% of the population but holds more economic opportunities.	Medium
Political and policy challenges	The political landscape requires stable, inclusive governance to implement and sustain environmental initiatives, with only 15% of environmental policies actively enforced.	Medium

Mauritania

In Mauritania, a country characterized by its vast arid landscapes and coastal proximity, the interplay between climate change and socioeconomic activities poses unique challenges. The traditional livelihoods of pastoralism and fisheries, which form the economic backbone for a significant portion of the population, are under increasing threat from the adverse impacts of climate change. These include the reduction of pastureland, diminishing water sources, warming oceans, and the acidification of marine environments. Additionally, Mauritania's coastal communities and infrastructure are at heightened risk due to rising sea levels and the increased frequency of flooding events. This section delves into the specific vulnerabilities and challenges faced by Mauritania in the context of pastoralism, fisheries, and disaster risk management,

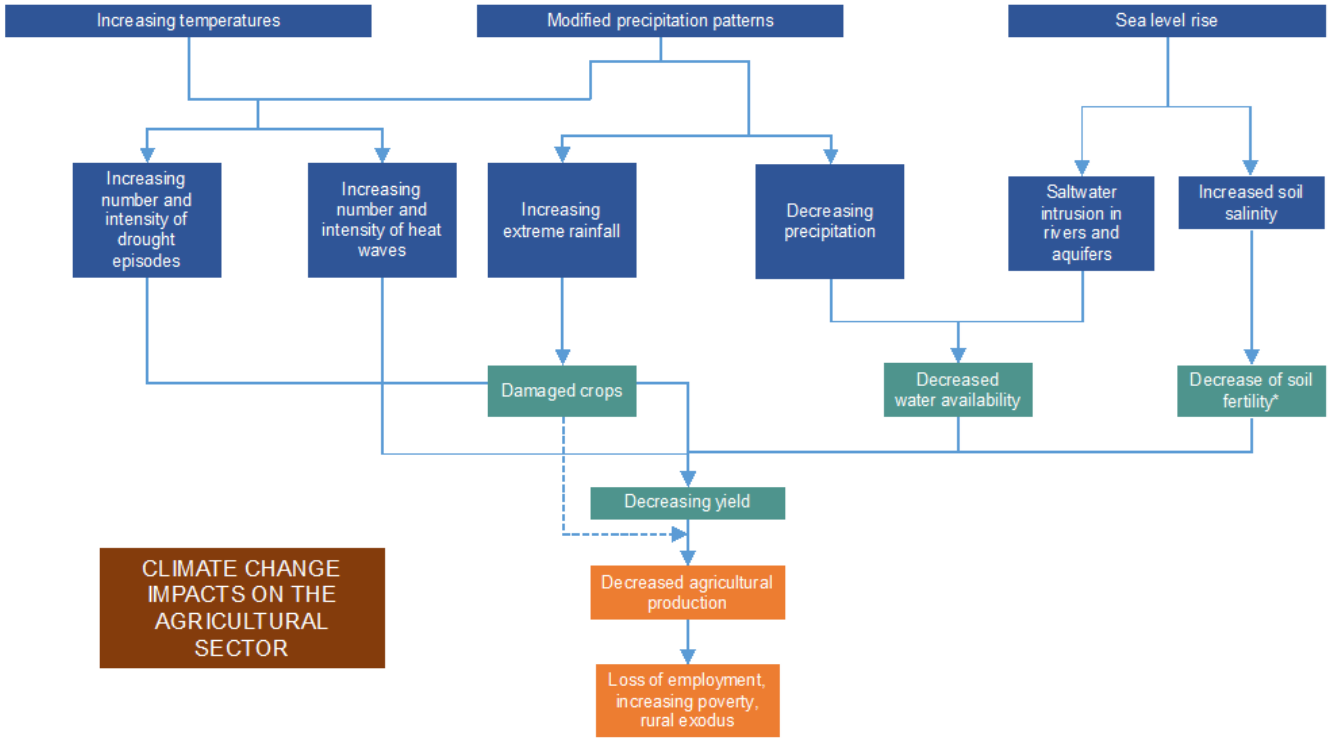
highlighting the urgent need for targeted climate adaptation and resilience-building strategies to safeguard the livelihoods and well-being of its communities.

- **Pastoralism:** The backbone of rural livelihoods facing the brunt of climate change with reduced pastureland and water sources.

- **Fisheries**: Economic reliance on fisheries threatened by warming oceans and acidification impacting fish populations.

- **Infrastructure and Disaster Risk Management**: Coastal areas facing increased risks from rising sea levels and flooding.

a)



b)

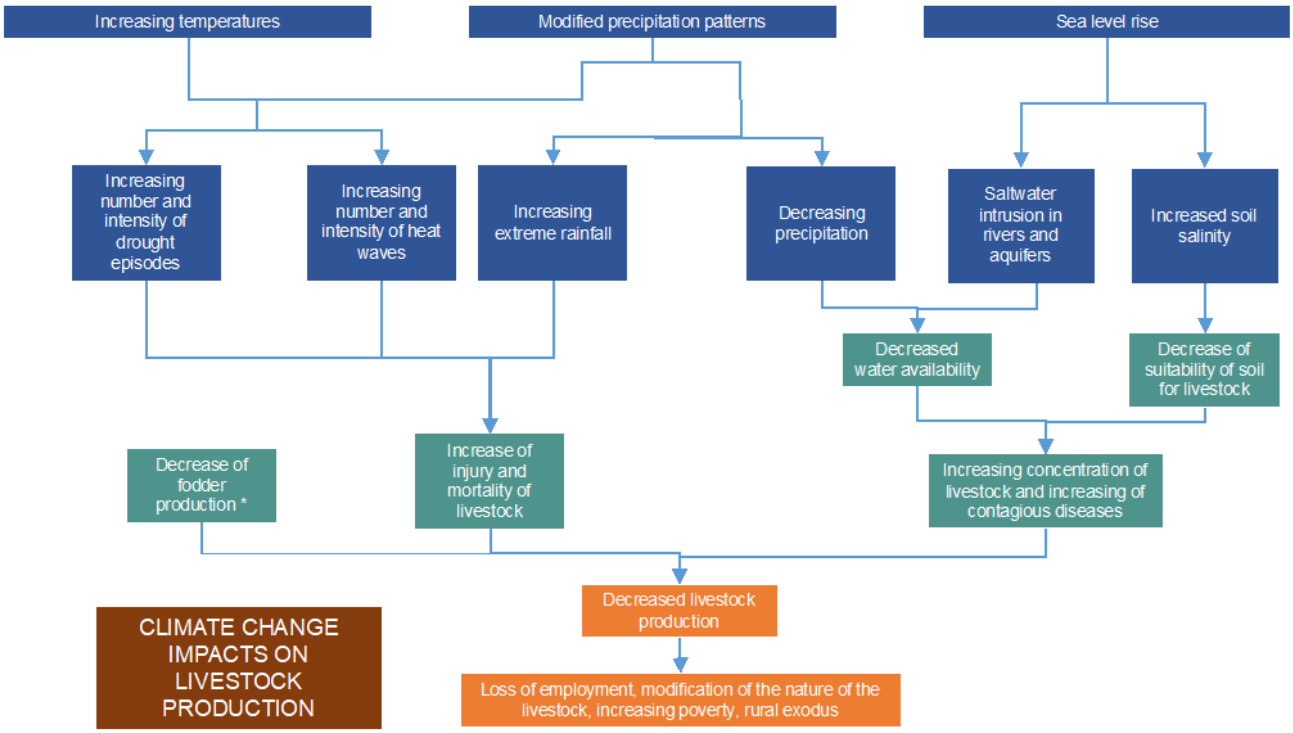


Figure 6. Causal chain analysis of climate change impacts on: a) agriculture and b) pastoralism.

Annex A, which details the climate change and vulnerability profiles of the GEF Trust Fund countries, is provided as a separate annex.(Annex A)

[1] World Bank Group. 2022. Country Climate and Development Report G5 Sahel Region. Available here https://reliefweb.int/report/burkina-faso/g5-sahel-region-country-climate-and-development-report

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B. PROGRAM DESCRIPTION

This section asks for a theory of change as part of a joined-up description of the program as a whole. The program description is expected to cover the key elements of "good project design" in an integrated way. It is also expected to meet the GEF's policy requirements on gender, stakeholders, private sector, and knowledge management and learning (see section D). This section should be a narrative that reads like a joined-up story and not independent elements that answer the guiding questions contained in the PFD guidance document. (Approximately 10-15 pages) see guidance here

Institutional context (cont. from programme rationale section, the Programme Description section begins after)

The GGW is an ambitious undertaking within an extremely vast geography that requires coordination between over 11 countries, several governance structures or levels of governance and covers millions of hectares. Without addressing and constantly improving the key governance and institutional issues as well as the MRV challenges an increase and tapping into new finance sources (incl. innovative and private sources) and financial instruments and mechanisms at scale beyond the traditional, grant-based finance will be seriously hampered.

Based on the above-described situation, there is no doubt that the Sahel and particularly the GGW area justify adaptation projects/programme if one can consider as the screening element, the Decision Tree for adaptation rational developed by GEF STAP in the advisory document of May 2022. The Programme's adaptation entry point, and rationale as a multifocal area resourced Programme are supported by the strong vulnerability of the GGW area, the impacts of climate change already perceptible on people and ecosystem which impose to the countries a holistic regional approach to adaptation as almost all the thematic adaptation areas area concerned as priorities of the region.

It should be mentioned that the Programme exemplifies a regional commitment from GWW countries to respond to structural and systemic challenges of environmental degradation and climate change adaptation within a complex socioeconomic volatile context characterized by insecurity, weak institutional capacities and weak policy implementation in some cases, and policy incoherencies in others. Through country commitments to Multilateral Environmental Agreements (MEAs) and being Least Developed Countries (LDCs), the Programme therefore, provides a quintessential opportunity for GWW countries to mobilize themselves in a way that brings together a diverse coalition of stakeholders from all relevant sectors, catalyzing finance, and fostering regional cooperation to address environmental degradation and climate change adaptation, and contribute to job creation, fight food and nutritional insecurity and reduce conflicts linked to resource scarcity. Thus, the Programme has huge potential to contribute to peace building and curb regional migration that deprives the GGW region of the much needed young people labour force. The Programme squarely responds to the strong call of countries in the GGW region to narrow financial, technical, and policy gaps – but also the space for local actors and stakeholders to play their role in restoration solutions to meet regional restoration targets as detailed in the GGW Initiative[1][39] targets while ensuring multiple global environmental benefits.

Programme adaptation strategy

Following an in-depth examination of the Sahel region's vulnerabilities and the intricate web of underlying drivers shaping its environmental landscape, it becomes evident that a robust and multifaceted approach to

adaptation is not just beneficial but imperative. The Sahel, characterized by its dynamic environmental, economic, and socio-cultural terrains, stands at a crossroads, facing the escalating challenges of climate change head-on. Countries like Burkina Faso, Mali, and Mauritania, each with their unique vulnerabilities spanning water resources, agriculture, pastoralism, fisheries, and infrastructure, necessitate a comprehensive strategy that not only addresses the immediate impacts of climate variability but also lays a sustainable path towards long-term resilience and development. Adaptation actions in the Sahel mainly involve income diversification, livelihoods improvement, and water harnessing, with 98% driven by climate change and non-climatic drivers accounting for 95%[2][40].

This section delves into the elements of a Comprehensive Climate Adaptation Strategy, outlining critical areas of intervention — from environmental restoration and water management to innovative financing and regional cooperation — aimed at transforming the Sahel's approach to climate challenges. These strategies are pivotal in navigating through the complexities of climate-induced vulnerabilities, ensuring that the Sahel region not only withstands the current climate adversities but thrives in the face of future challenges.

Regional solutions matrix

Across the Sahel, accelerated land degradation resulting from climate change and unsustainable anthropogenic activities has contributed to multiple shared socio-ecological challenges across the region, including: i) desertification; ii) livelihood and food insecurity; iii) water insecurity; and iv) reduced human health and safety. While several climate change adaptation (CCA) projects have been implemented across the Sahel countries, these efforts have generally been fragmented, with few initiatives focused on addressing shared challenges at the regional scale. Limited landscape-level coordination in climate investments and adaptation efforts has, in turn, hindered the regional scaling-up of climate interventions, limiting the generation of lasting benefits for biodiversity and local communities in the Sahel — and the GGW region in particular. For this reason, a regional approach is required whereby improved coordination, knowledge management and co-financing facilitate the development and implementation of regional solutions to shared climate change-related challenges. This regional approach will maximise the efficiency and effectiveness of CCA projects in the GGW countries and facilitate upscaling, while minimising maladaptation.

The solutions matrix presented in Figure 22 identifies the main baseline and climate challenges within the GGW region, alongside their baseline drivers and their recommended solutions. The challenges addressed in the solutions matrix are derived from the regional problem tree, but are limited to impact pathways that are most feasible to disrupt through this programme. The problems and solutions depicted in Figure 22 highlight opportunities for the proposed programme to improve socio-economic conditions and reduce the adverse impacts of climate change on communities and ecosystems in the GGW region.

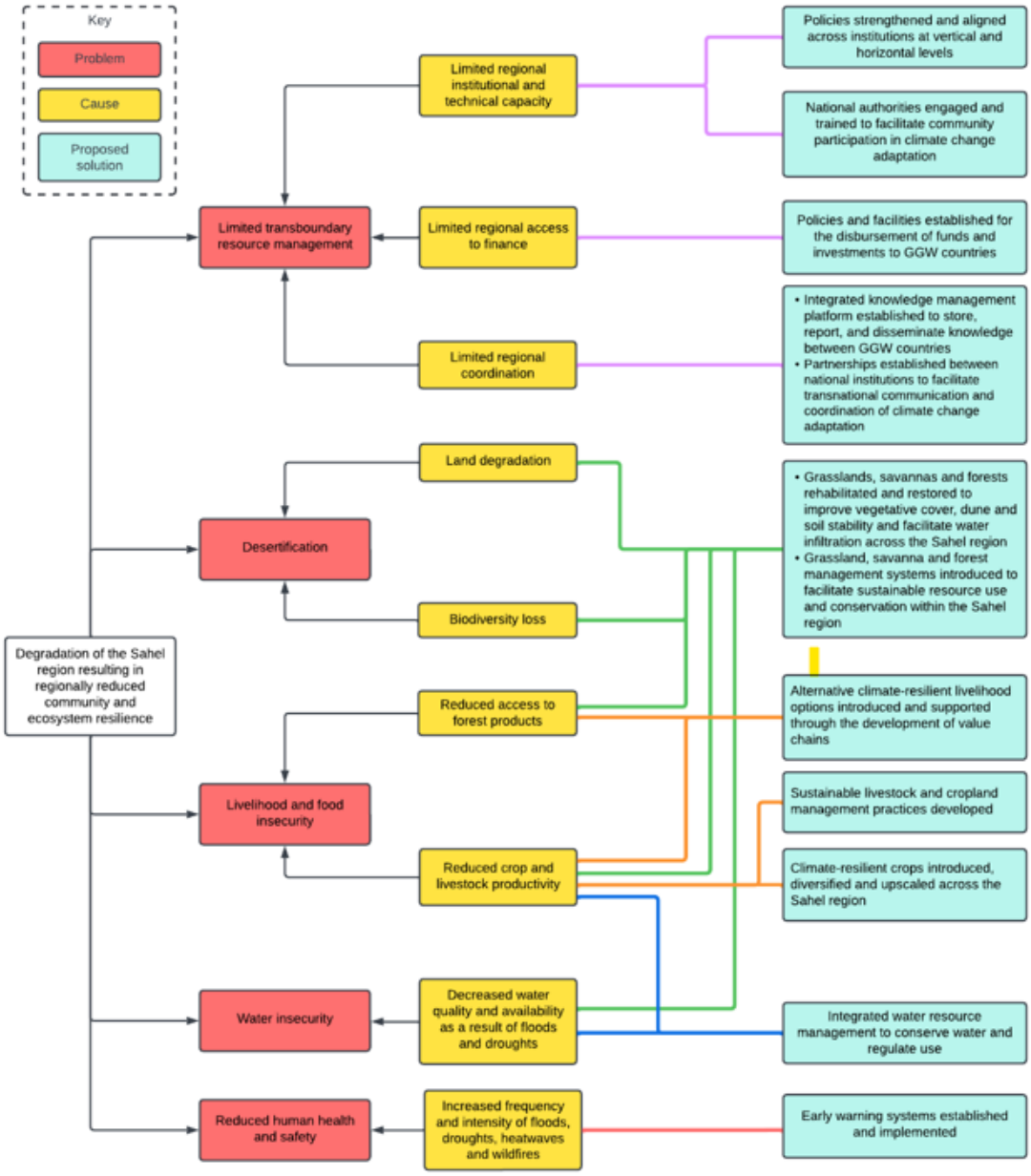

Figure 22. Schematic representation of challenges and impacts experienced in the Sahel region and proposed solutions.

Limited transboundary resource management

Land degradation within the Sahel is being exacerbated by climate change variables and hazards, including increasing air temperatures, decreasing annual rainfall, increasing rainfall variability and increases in the frequency and intensity of extreme climate events such as droughts and floods. The degradation of ecosystems in the Sahel decreases the resilience of communities to climate impacts. These impacts exacerbate socio-ecological challenges in the region such as desertification, livelihood insecurity, food insecurity, water insecurity and reduced human health and safety. While the baseline

Transboundary natural resource management has faced challenges as a result of: i) limitations in institutional and technical capacities, arising from misaligned CCA policies across all administrative levels; ii) limited knowledge and skills among stakeholders to effectively engage public participation in the design and

implementation of regionally coordinated CCA efforts; iii) limited regional access to finance for CCA, emerging from poor coordination of financial resource distribution and use; and iv) limited regional CCA coordination as a result of ineffective knowledge management and communication.

The proposed solutions identified in Figure 22 will address the region's challenges through the creation of an enabling environment, the provision of finances and the implementation of coordinated restoration and knowledge management efforts. To create an enabling environment, the region's institutional and technical capacity limitations will be addressed by strengthening and aligning CCA policy to guide effective and coordinated implementation of climate solutions. In conjunction with policy adjustments, national government staff will be trained to guide and coordinate community participation in CCA. The latter will focus on upskilling government staff to bridge regional and local CCA efforts and promote complementarity on a regional scale without neglecting contextual differences at national scales. To address regional financial limitations, financial policies and facilities will be developed to promote, guide and optimise investments into regional adaptation plans. This will enable communities to ensure that vulnerable regions are adequately equipped with funding to protect livelihoods and ecosystems. To ensure that these efforts are coordinated and facilitated at scale, knowledge management and communication between GGW member countries will be enhanced. This will be achieved by developing a regional integrated knowledge management platform (IKMP) and establishing transnational partnerships to facilitate the coordinated use and communication of CCA knowledge across the region.

Desertification

The widespread decline in vegetative cover across the Sahel region is primarily attributed to unsustainable land management practices, together with increases in mean annual temperatures, decreases in mean annual rainfall and increases in annual rainfall variability. These causes have triggered the conversion of transboundary ecosystems —grasslands, savannas, woodlands and forests — into degraded landscapes, leading to losses in biodiversity and essential ecosystem services.

The proposed programme interventions will address these challenges by prioritising the restoration and sustainable management of ecosystems in the Sahel. These efforts will facilitate the conservation of biodiversity and provision of ecosystem services, including soil stabilisation and health, groundwater recharge, sustainable natural resource management and enhanced availability of livestock and fodder. Additionally, proposed interventions will be implemented collaboratively across GGW countries to ensure that transboundary ecosystems are managed comprehensively and that biodiversity is restored, maximising their resilience to climate stressors.

Livelihood and food insecurity

Ecosystem products, such as wood, non-timber forest products, and foraged resources, are crucial sources of income in the GGW region. However, ecosystem degradation has led to diminished resource availability, impacting livelihoods and food security. Increased frequency and intensity of droughts and heatwaves have

further exacerbated the challenge, resulting in reduced agricultural productivity and livestock health. This has restricted domestic food production and affected trade within GGW countries.

The proposed programme interventions to address these challenges will focus on improving livelihood and food security through diversifying value chains, introducing climate-resilient livelihood options, and promoting sustainable management of livestock and cropland. Additionally, introducing climate-resilient crops aims to maximise yields under the projected climate change scenarios. Solutions to mitigate desertification and improve water security will reduce food and livelihood insecurity while enabling ecosystem rehabilitation and integrated water resource management.

Water insecurity

Climate change is anticipated to increase the aridity of the Sahel region through decreased mean annual rainfall, increased rainfall variability and increased drought frequency. The region's water security is already under threat as a result of unsustainable management inadequate WASH facilities changes in rainfall expected to diminish both the quality and quantity of water in major river basins Senegal, Niger, Chad and Nile Basins. The proposed interventions will address these challenges by enhancing the coordination of water resource management in the GGW region. These interventions will improve water security under projected climate change.

Reduced human health and safety

The projected increase in the frequency and intensity of in the GGW region will contribute to reduced health and safety in communities through more regular injury, spread of disease and loss of life. The programme will establish and implement early warning systems (EWS) to safeguard human health and safety. Access to EWS will strengthen the resilience of local communities to the impacts of climate change by enabling them to make independent risk-avoidance decisions, thereby reducing injury, the spread of disease and loss of life.

The adaptation options and potential solutions for addressing the shared environmental and socio-economic challenges faced by populations and ecosystems in the GGW region — highlighted in the solutions matrix above (Figure 22) — are expanded upon in greater detail below.

Detailed overview of solutions

- **Environmental restoration and sustainable management**: Projects aimed at combating land degradation and promoting biodiversity through reforestation and sustainable land management are essential. These efforts are underpinned by climate science predictions, aiming to counteract the adverse effects of

climate change and desertification. Additionally, sustainable water management practices, including the development of resilient water infrastructure and aquifer recharge techniques, address the pressing issue of water scarcity.

- **Food security and economic resilience through climate-resilient practices**: Developing and deploying agricultural practices resilient to climate variability is crucial. This includes introducing drought-resistant crop varieties and innovative farming techniques that adapt to changing rainfall patterns and rising temperatures. Enhancing support for pastoralism through sustainable grazing practices and the development of alternative water sources further contributes to mitigating the impacts of reduced pastureland.

- **Capacity building for community resilience**: Strengthening local capacities to adapt to climate change through targeted education, training, and the integration of traditional knowledge ensures that communities are better prepared to face climate-related challenges. This approach is complemented by enhancing pastoralism support and implementing fisheries management strategies to adapt to shifting conditions.

- **Infrastructure, policy, and institutional strengthening**: Addressing vulnerabilities in infrastructure through the construction of climate-resilient structures and early warning systems protects populations from disasters. Harmonizing policies, enhancing institutional frameworks, and engaging communities in climate action plans ensure a unified and effective response to climate change.

- **Innovative financing for climate adaptation**: Mobilizing new financial resources through innovative mechanisms supports the scale of investment required for meaningful adaptation projects.
It is essential to acknowledge the critical role that financial innovation plays in supporting climate adaptation efforts. The challenges posed by climate change in the Sahel region demand not just substantial investment but also the efficient and effective use of funds to ensure resilience and sustainable development. Here, innovative financing mechanisms can bridge the gap between the required scale of intervention and the available resources, thereby enabling a more robust response to climate vulnerabilities.

Mechanisms of innovative financing for climate adaptation

Innovative financing mechanisms refer to non-traditional methods of raising funds or allocating financial resources to support projects, programmes or initiatives — particularly those aimed at public good or sustainable development goals. These mechanisms are required for the Sahel region to make significant and sustained investments in climate adaptation. Suitable innovative financing mechanisms identified for the GGW programme are listed below.

- **Green Bonds and Climate Funds**: The issuance of green bonds can attract investment by providing a return to investors interested in supporting environmental and climate adaptation projects. Similarly, dedicated climate funds can pool resources from public and private sectors to finance large-scale adaptation initiatives.

- **Results-Based Financing (RBF)**: RBF approaches can incentivize the achievement of specific adaptation outcomes by disbursing funds based on verified results. This ensures that investments are directly linked to tangible impacts on climate resilience.

- **Blended Finance Models**: By combining concessional funds (with below-market terms) with commercial capital, blended finance can mitigate investment risks and leverage additional private sector investment in adaptation projects.

- **Crowdfunding and Community-Based Financing**: Leveraging crowdfunding platforms and community-based financing schemes can mobilize smaller-scale investments from a wide base of stakeholders, including individuals and local businesses. This approach can support grassroots adaptation projects and foster community ownership.

- **Insurance and Risk Transfer Mechanisms**: Innovative insurance products, such as parametric insurance, can provide quick payouts based on predefined triggers related to climate hazards, thus offering financial protection against losses and facilitating quicker recovery.

- **Carbon Finance:** By monetizing the carbon sequestration benefits of adaptation projects, such as reforestation and sustainable land management, carbon finance can provide an additional revenue stream to support these initiatives.

- **Public-Private Partnerships (PPPs):** PPPs can leverage the strengths and resources of both sectors to implement and manage adaptation projects. This model can enhance the efficiency, scalability, and sustainability of adaptation interventions.

For innovative financing mechanisms to be truly effective, they must be designed with considerations of equity and inclusivity, ensuring that the benefits of investments reach the most vulnerable populations. Furthermore, these mechanisms should be aligned with national development priorities and integrated into broader adaptation and resilience strategies to maximize their impact.

By adopting a multifaceted approach to innovative financing, the Sahel region can unlock the potential for significant and sustained investment in climate adaptation. This will not only address immediate vulnerabilities but also lay the foundation for a resilient and prosperous future in the face of ongoing climate challenges.

Technological innovation for enhanced efficiency and climate forecasting

The programme is at the forefront of integrating technological innovations to significantly boost efficiency, effectiveness, and informed decision-making processes. A key component of this technological advancement is the utilization of geospatial tools and climate forecasting models, which serve as pivotal resources in enhancing our understanding and responsiveness to climate variability and change across the Sahel region**.** Examples of advanced climate forecasting technologies to be introduced or strengthened, as needed, within the GGW Programme's recipient countries are given below.

- **Geospatial Tools for Comprehensive Environmental Analysis:** The programme employs state-of-the-art geospatial technologies to conduct detailed environmental assessments, land use and land cover mapping, and biodiversity monitoring. These tools enable precise identification of degraded areas in need of restoration, assessment of ecosystem services, and tracking of restoration progress over time. By

harnessing satellite imagery and remote sensing data, the project can monitor vast and inaccessible areas efficiently, ensuring targeted and effective intervention strategies.

- **Climate Forecasting Models for Proactive Adaptation Planning:** Advanced climate forecasting models are utilized to predict climate trends, extreme weather events, and their potential impacts on ecosystems and human livelihoods. These models are instrumental in developing proactive adaptation measures, guiding the timing and nature of agricultural activities, and informing water resource management decisions. By anticipating future climatic conditions, the project equips communities and stakeholders with the knowledge needed to adapt their practices accordingly, reducing vulnerabilities and enhancing resilience to climate change.

- **Integration of Digital Solutions for Project Management:** The programme embraces digital platforms for project management, monitoring, and evaluation (M&E), that integrate, monitor and report gender dimension, streamlining workflows and fostering transparency. Customized software and mobile applications facilitate real-time data collection and reporting from the field, enabling quick adjustments to project activities as needed. These digital solutions not only improve the efficiency of project implementation but also ensure that stakeholders are kept informed about progress and outcomes, fostering a culture of accountability and continuous improvement.

Capacity building in technological applications

Recognizing the critical importance of technological literacy, the project includes comprehensive capacity-building initiatives for local stakeholders in the use of geospatial tools, climate forecasting models, and digital project management platforms. Training sessions, workshops, and hands-on demonstrations are designed to empower local communities, government agencies, and partner organizations with the skills necessary to leverage these technologies for environmental management and climate adaptation efforts. Furthermore, it is important to learn the lesson of digital revolution in some part of Africa including in Kenya, targeting women who are trained to use mobile phone to manage financial transaction and weather forecast to manage livestock. Due to the remoteness of some project areas and the difficulty to access modern facilities, the projects in Mali for example will build women capacity to use mobile phone to ease financial transactions and to access to some vital information including market information.

By integrating these technological innovations into its core components, the programme sets a new standard for climate resilience efforts in the Sahel region. It exemplifies how cutting-edge technology can be harnessed to make informed decisions, predict future scenarios, and effectively manage the challenges posed by climate change, paving the way for a more resilient and sustainable future**.**

Regional cooperation and knowledge sharing

These play pivotal roles in the Sahel's collective response to climate change, particularly given the transboundary nature of environmental challenges such as desertification, water scarcity, and biodiversity loss. These interconnected issues demand a collaborative approach that transcends national boundaries, enabling countries to benefit from shared experiences, innovations, and strategies. Some of the ways in which regional cooperation and knowledge sharing can be expanded and strengthened are listed below.

- **Incorporating data-driven strategies that account for current vulnerabilities and future projections**: By focusing on sustainable development and improved livelihoods for vulnerable populations, the programme will forge a path toward resilience and sustainability in the face of an ever-changing climate landscape.

- **Enhancing regional platforms for climate data sharing**, for example, by implementing the following:

    - **Developing a centralised regional climate information system** that collects, analyses, and disseminates climate data and forecasts to inform adaptation planning and risk management. This platform could facilitate real-time data exchange among Sahel countries, supporting proactive measures against climate-related threats.

    - **Implementing cross-border environmental management initiatives**: Initiating joint environmental management projects that address shared resources such as river basins, forested areas, and pastoral lands. By coordinating efforts in sustainable management and restoration activities, countries can collectively combat desertification, manage water resources more efficiently, and preserve biodiversity.

    - **Regional policy harmonization**: Aligning national policies on climate adaptation, land use, water management, and conservation to ensure coherence and mutual reinforcement. Policy harmonization can reduce conflicts over transboundary resources and enable a unified stance in international climate negotiations. This is particularly important for the GGW region where Climate change acts as an amplifier that contributes to trigger violence in the region, impacting people's resilience and making them highly vulnerable.[1]

    - **Capacity building and technical exchange programs**: Establishing regional centres of excellence and training programs focused on climate adaptation technologies, sustainable agriculture, and water management practices. These centers could facilitate knowledge exchange, providing technical assistance and capacity building to enhance local and national adaptation capacities.

    - **Collaborative research and innovation**: Promoting joint research initiatives that explore innovative solutions to climate adaptation and sustainable development. Collaborative research can leverage diverse expertise within the region, leading to the development of context-specific technologies and practices that can be scaled across borders.

    - **Strengthening regional networks and partnerships**: Enhancing existing networks and forming new partnerships among governments, regional bodies (such as the African Union and ECOWAS), NGOs, academia, and the private sector to foster a multi-stakeholder approach to climate adaptation. These networks can amplify advocacy, mobilize resources, and drive action on regional priorities.

- **Community engagement and shared learning**: Facilitating community-to-community exchanges to share local knowledge and experiences in climate resilience. This grassroots level of cooperation can inspire innovative adaptation strategies and strengthen social cohesion across borders.

By intensifying regional cooperation and knowledge sharing, Sahel countries can harness their collective strengths to address the multifaceted challenges posed by climate change. Such collaborative efforts not only enhance the effectiveness of adaptation measures but also contribute to the region's long-term sustainability and resilience, ensuring that communities can thrive in the face of an uncertain climate future.

A unified call to action

This programmatic approach will address climate change and land degradation challenges across the GGW countries, grounded in a detailed understanding of climate change and its far-reaching impacts and demands immediate and unified action across the Sahel — including in Burkina Faso, Chad, Ethiopia, Gambia, Mali, Mauritania, Niger, Nigeria, Senegal. It seeks to confront the complex nexus of climate change, land degradation, and socio-economic vulnerability, proposing a holistic route towards resilience and sustainable development. Climate adaptation projects, fortified by sound scientific insights and innovative methodologies, extend beyond necessity; they are critical for safeguarding the well-being of the region's ecosystems, economies, and communities.

The scope of these projects encompasses a broad spectrum of interventions, from environmental restoration and biodiversity conservation to the promotion of climate-resilient agricultural practices and water resource management. Such efforts are crucial in not only combating the adverse effects of climate change but also in enhancing food security, economic resilience, and community well-being across the Sahel. By fostering capacity building, empowering local communities, and facilitating regional cooperation, these countries can leverage their collective strengths to address shared environmental challenges.

Incorporating innovative financing mechanisms and knowledge sharing, the initiative aims to mobilize the necessary resources and expertise to implement these adaptation strategies effectively. Recognizing the transboundary nature of climate impacts, this collaborative effort underscores the importance of a coordinated regional response. Through such comprehensive and collective action, the Sahel can navigate the path towards a more resilient and prosperous future, demonstrating the imperative need for climate adaptation projects that are informed by robust scientific rationale and tailored to meet the unique challenges faced by each country in the region.

Learning from the past interventions in the GGW area, in the framework of development of IFAD GGW Project, In their blog, the IFAD staff Jyotsna Puri, Sara Savastano[2] indicated that between 2002 and 2013, the World Bank implemented a Great Green Wall (GGW) WB- GEF project across 12 African countries. The project, representing an investment of US$1.2 billion, aimed to enhance sustainable land and water use management practices (SLWM) to, in turn, improve livelihood and environmental outcomes in West African and Sahelian countries. The project took a landscape approach, tailoring and targeting its interventions to the many different landscapes in this vast region and the highly diverse communities who live there. The project exceeded all expectations, implementing SLWM practices across 1.6 billion hectares of land and reaching over 19 million people. Following a joint discussion between IFAD and the WB, four key lessons identified were identified from the WB/GEF implemented projects. These are:

i) **Avoid mission drift:** The World Bank project successfully implemented SLWM practices across 1.6 billion hectares of land. However, it found that SLWM practices don’t always lead to improved livelihood outcomes. For example, the World Bank’s independent evaluators shared that in Burkina Faso and Niger, project participants’ livelihood outcomes were linked to improved access to rural infrastructure such as roads, not to SLWM interventions. This suggests that projects should **maintain a focus on interlinked activities**. We should further keep in mind that interconnected project activities can generate larger impacts than those that

are unrelated, and we should continually revisit whether ecological interventions are being implemented in the right landscape and leading to improved outcomes;

ii) **Go modular:** The Sahel is made up of many different cultures and other groups – pastoralists, small-scale farmers, young people, women – that each need different kinds of support. GGW projects should take these complexities and varying needs into account to make sure they can reach those most in need of assistance. For example, some of the World Bank initiatives ran cash-for-work programmes to create employment opportunities through restoring natural landscapes. But some women whose husbands were away on long-term work projects of their own weren't able to participate because, according to their culture, they needed their husband's agreement to begin working outside the home. Similarly, credit programmes require consideration of any local religious norms that dictate how income is spent. Nuances and complexities like these need to be built into project delivery to ensure initiatives will work for the people and the lands they're designed to address. This requires creating **modular structures** that can both embrace local realities and remain coordinated across large geographic regions;

iii) **Invest in win-win data collection:** The World Bank project trialed new project indicators and data collection methods to measure the impacts of various SLWM interventions. One of these indicators, for example, assessed the change in vegetation in target areas as well as the change in carbon accumulation rates in biomass and soil. To measure these indicators, new tools were required, including GIS monitoring and the Normalized Difference Vegetation Index. However, the adoption of new tools takes time, and assessing the results requires continuous monitoring. In some cases, teams discounted the use of these tools because they were presented as ways to measure overall impact, which usually occurs at the end of a project cycle. Additionally, data on natural resources and impacts are more time-consuming to gather than social or people-centred data. To make sure data collection is a win for both project teams and evaluators, it is important to **build buy-in** through capacity-building at the time new tools are introduced. New tools should also be brought in as early as possible, and their use and relevance for implementation should be demonstrated in real time; and

iv) **Build partnerships:** World Bank experts noted that national governments often act as key interlocutors in multi-country programmes such as the GGW. Local government actors are often overlooked, but they are key to reaching project participants such as small-scale farmers. The World Bank project also highlighted the importance of collaborating with regional institutions and partners, including the Permanent Interstate Committee for Drought Control in the Sahel (CILSS) and the Sahara and Sahel Observatory (OSS). As the World Bank's experience has shown, a **decentralized approach** to programme governance can **foster collaboration** and, crucially, help build connections with local governments and municipalities. Such an approach can also help identify and mitigate risks, such as the politics associated with local land tenure matters.

The current UNEP/GEF Programme under development will capitalized on these lessons and explore with key stakeholders on how the lessons can support programme and projects design.

Baseline initiatives

Describe the baseline in the absence of the programme and identify the outcomes that the programme needs to achieve through GEF financing to countries, how these will change the baseline, and what the key barriers and enablers are to achieving those outcomes.

The Programme will build on the momentum of countries within the region. Countries participate to the Great Green Wall Initiative and are Parties to various Multilateral Environmental Agreements (MEAs), including UNCCD, UNFCCC and UNCBD. The implementation of the mandates of these MEAs in countries with full consideration of national priorities has strengthened the countries' response to the region's fragilities and vulnerabilities. Countries continue working to respond to environmental challenges that continue to threaten

socioeconomic gains, peace and security. Throughout its history, the GEF has been a strategic partner of the GGWI countries and provided more than US$800 million in grants through diverse projects and programs. The GEF and its partners support to the Sahel and Great Green Wall countries have been made possible through global programs (e.g. Countries Partnership Programme – CPP); regional programs and projects and through national countries project supported during the different cycle of the GEF. The regional programs and projects include:

- **The TerrAfrica Partnership:** launched in 2005 and was designed to be an important support of the implementation of the objectives of the United Convention to Combat Desertification (UNCCD). It is a platform for action to implement Comprehensive Africa Agricultural Development Programme (CAADP) Pillar 1 on Sustainable Land and Water Mmanagement (SLWM), NEPAD's Environment Action Programme (EAP). The partnership represents concerted efforts on the part of sub-Saharan country governments, bilateral and multilateral donors, civil society and the scientific community to strengthen the enabling environment around Sustainable Land and Water Management (SLWM) and to increase the financing available for SLM-related priorities in participating countries. The TerrAfrica Partnership was born out of a realization that, despite the urgent priority of addressing land degradation, insufficient resources were being made available at country level, or the available resources were not achieving the intended impacts. Work of the TerrAfrica partnership was therefore organized along three interconnected lines of focus, including Coalition Building, Knowledge Management, and Investments. The first two activity lines include the facilitation of actions that strengthen national, sub-regional and regional cooperation, the identification of barriers and bottlenecks to increased investment and impact in SLWM and the harmonization of policies. The third activity line seeks to develop, mobilize, channel and harmonize SLWM investments at local and national level. As a key instrument to operationalize the TerrAfrica objectives, the TerrAfrica Leveraging Fund (TLF) was created in 2006 to provide seed funding and resources towards activities that can unlock larger-scale investment and finance for SLWM.

- **BRICKS**: The Building Resilience through Innovation Communication and Knowledge Services (BRICKS) project is a six-year regional knowledge and monitoring hub for a large US$1.1 billion regional programme of 12 World Bank financed country operations plus related partner-supported activities that together contribute to the region's and clients' Great Green Wall Initiative (GGWI) priorities. BRICKS is implemented by three regional organizations recognized as centres of excellence: the Interstate Committee for Drought Control in the Sahel (CILSS), the Sahara and Sahel Observatory (OSS) and West and Central Africa Office of the International Union for Conservation of Nature (IUCN). These organizations facilitate technical knowledge exchanges and monitoring services among the 12 country investment operations in the broader World Bank/GEF Sahel and West Africa Programme (SAWAP). Each organization is responsible for implementing discrete activities related to resilient and carbon-smart natural resources management in the Sahel and West Africa region, focusing on biodiversity, crop, range, forest, water resources, and disaster risk management in arid, sub-humid and humid landscapes. The project has three thematic components:

  - Knowledge management, including networking for structural learning,
  - Programme monitoring support; and
  - Project management support.

- **SAWAP**: Sahel and West Africa Programme (SAWAP) is a World Bank funded project to find effective solutions to improve resilience, reduce poverty, and ensure environmental security and sustainability in

Africa. The Bank partnered with 12 countries and the Global Environment Facility (GEF) to develop the US$1.1 billion SAWAP in support of the GGWSSI. These countries include Benin, Burkina Faso, Chad, Ethiopia, Ghana, Mali, Mauritania, Niger, Nigeria, Senegal, Sudan and Togo. SAWAP is reinforced by a regional hub project to facilitate south-south cooperation on knowledge and operational services among the country projects and the broader Great Green Wall partnership, BRICKS. Each organization involved in BRICKS delivers special services to the SAWAP portfolio to enhance quality and promote regional integration[3][41].

The national support for the GGW regional programme constitutes a portfolio of projects presented in Annex H, at the back of this document. The portfolio, which includes adaptation projects, shows a number of projects worth US$452.780 million of GEF investment and mobilised cofinancing of US$3.514 billion in cofinancing.

During the PPG phase comprehensive lessons learn from these projects and programme will be conducted including using the Terminal Evaluation reports and consultations with agencies and project teams still available. The outcome of this stocktaking will feed the programme design including identification of areas where impacts are still perceptible and the need for consolidation by the Coordination Project of this programme.

Other completed investments for consideration in generating lessons learned will include:

- **FLEUVE:** is an initiative elaborated by the Global Mechanism (GM) of the UNCCD and funded by the European Union, working in partnership with the FAO and its programme on the Great Green Wall for the Sahara and the Sahel Initiative (GGWSSI). Three networks of key CSOs, namely, ReSaD, RADDO and Drynet are also co-partners in the initiative. The key objective of FLEUVE is to strengthen the capacities of key actors, including Civil Society Organizations (CSOs), private sector and local authorities to develop and help implement landscape level Integrated Investment Frameworks for sustainable land management (SLM). 5 micro-investment projects are currently being developed in Burkina Faso, Chad, Mali, Niger and Senegal to help expand economic opportunities and improve the public and private investment climate for SLM for local communities. The project aims to inspire South-south learning, partnership and cooperation more broadly across the region and beyond, by providing a platform for disseminating and duplicating best practices and lessons learned on financing SLM.

- **Action Against Desertification:** Action Against Desertification in support of the implementation of the Great Green Wall for the Sahara and the Sahel Initiative (GGWSSI) and South-South Cooperation in Africa, Caribbean and Pacific (ACP) countries is an initiative developed by FAO and funded by the EU-ACP, working in partnership with AUC, the ACP Secretariat, the GM-UNCCD, Royal botanic Gardens of Kew, Walloon Region. Countries of focus are Burkina Faso, Ethiopia, The Gambia, Niger, Nigeria and Senegal, Fiji and Haiti. BRICKs and FLEUVE partner organizations are indirect partners of the Action Against Desertification. The **overall objective** of the project is to contribute to: (i) poverty alleviation; (ii) ending hunger; and (iii) improving resilience to climate change in drylands and other fragile ecosystems in ACP countries, using a landscape approach. **The specific objective** of the project is to improve the condition and productivity of the agrosylvopastoral landscapes affected by Desertification, Land Degradation and Drought (DLDD) in ACP countries through the implementation of the GGWSSI in six African countries and South-South Cooperation in ACP Countries. Three results are expected to be achieved by the end of this project, these are: (i) Enhanced enabling environment and capacity of relevant governmental and non-governmental organizations and stakeholders in ACP countries to carry out effective cross-sectoral work, planning, financing, budgeting, implementation,

monitoring and evaluation of sustainable land/forest management and restoration efforts at the landscape level; (ii) Local communities, governmental and non-governmental stakeholders (including youth, women and civil society) in selected landscape units have adopted and are using improved sustainable land/forest management practices and technologies, as part of the implementation of their Great Green Wall Action Plans and (iii) Knowledge and awareness are enhanced among key target audiences and stakeholders from the European Union and ACP countries regarding causes and appropriate measures for combating desertification and land degradation and improving resilience to climate change, while promoting sustainable livelihoods.

These investments have leveraged an additional US$6 billion from national governments, development partners, and other multilateral sources in support of the GGWI. These resources have helped improve landscape resilience and livelihoods, which has reduced poverty and enhanced both food and water resource security. This, in turn, has helped countries increasingly adopt innovative practices for improving crop and livestock productivity and restoring degraded lands. Much remains to be done. However, progress to date through collaborative action affirms the potential of targeted investments to support actions on the ground (ref here).

The programme will build on ongoing regional initiatives such as:

- *IFAD-GCF Programme: Inclusive Green Financing Inclusive: Greening Agricultural Banks & The financial Sector for Foster Climate Resilient Low Emission Smallholder Agriculture in The Great Green Wall*: This programme, with its focus on climate-resilient low-emission agriculture, is particularly relevant to the Sahel, including Mali, Burkina, and Mauritania, where agricultural practices are being transformed to adapt to climate change. Approved in March 2022, this Programme is funded by the GCF with resources amounting to US$180 million to be used during a period of six years. It targets 380, 000 direct beneficiaries; 2, 400, 000 indirect beneficiaries. In phase 1, it includes the following countries: Burkina Faso, Cote d'Ivoire, Ghana, Mali, Senegal (Niger phase 0 pilot). For phase 2, it will include Mauritania, Chad, Nigeria, Ethiopia, Sudan, Eritrea and Djibouti. The Ministry of Agriculture, IFAD, LNABs are the Executing Entities, while Partners include AfDB, IsDB, Local Banks.

- *IFAD-GCF Programme: Africa Integrated Climate Risk Management Programme:* This investment, crucial for addressing climate-related agricultural risks, is aligned with the efforts in Mali, Burkina, and Mauritania to build resilience against climate change impacts. This is a US$143 million investment programme announced in 2021 to operate in Burkina Faso, Chad, The Gambia, Mali, Mauritania, Niger and Senegal. This is part of the African-led Great Green Wall (GGW) initiative which aims to restore degraded landscapes in the Sahel, one of the world's poorest regions. In this Programme, IFAD is working with the African Development Bank (AfDB), the World Food Programme (WFP) and the African Risk Capacity (ARC) Group to address climate-related agriculture risks at every stage. The Programme focuses on building the resilience of smallholder farmers (817,922 direct beneficiaries; 5,332,754 indirect beneficiaries) to climate change impacts.

- *UNDP - Strengthening Capacities for Disaster Risk Reduction and Adaptation for Resilience in the Sahel Region: fostering risk-informed solutions for sustainable development* (or Sahel Resilience Project) - This project's focus on disaster risk governance is integral to the climate adaptation strategies being implemented in Mali, Burkina, and Mauritania. The Sahel Resilience Project, supported by Sweden and UNDP, had a total budget of US$8.3 million for the period of 2019 to 2023, with an additional US$7.3 million allocated for the second phase from June 2023 to March 2025 (therefore, total US$15.6 million). The project addresses regulatory, political, and budgetary frameworks of disaster risk governance at the regional and national levels in the Sahel region, to promote recovery processes that take into account the underlying risks of disaster and climate change; and urban risk management.

- *Rome Based Agencies (*FAO, IFAD, and WFP): *Joint Programme for the Sahel in Response to the Challenges of COVID-19, Conflict and Climate Change* (2021 – 2027). This programme's emphasis on consolidating the livelihoods of small producers resonates with the efforts in Mali, Burkina, and Mauritania to develop resilient agricultural practices and support local communities. The programme is planned for a period of 6 years, divided into two phases of 3 years. Its total cost over 6 years is US$ 180.4 million. The joint programme is conceived to contribute to the implementation of the G5 Sahel strategy for development and security with a duration of six years. It aims to consolidate the livelihoods of small producers, in particular women and young people living in cross-border areas of the region. The target group is estimated at 123,000 rural households or 854,750 people, half of whom are women and 40% young people. The SD3C Sahel joint programme is supported by the G5 Sahel, its five member countries and Senegal. The programme was designed by the three UN agencies in Rome – FAO, IFAD and WFP, which are involved in its financing and implementation.

- *AfDB-PAAGGW Support Transition Project in support to the Great Green Wall:* This project, with its aim to strengthen GGW national agencies, is key to the capacity building efforts in Mali, Burkina, and Mauritania for monitoring and strategy development. This 2.6 million Euro project funded by the African Development Bank aims at strengthening institutional, technical and logistical capacities of the GGW national Agencies of Eritrea, Mali, Niger, Sudan and Chad. The project will provide the baseline investment necessary for the GGW agencies to build their capacity on monitoring the implementation and development of strategies to support the initiative at recipient countries level and at the level of the Panafrican Agency of the GGW.

- *AfDB Programme-The Strengthening of food security and nutrition in Sahel (P2-P2RS).* This programme's support for the implementation of the GGW in countries including Mauritania and Burkina Faso aligns with the efforts to combat food insecurity and promote sustainable agriculture in the region. The US$ **1 952 502** AfDB funded programme under its sub-component 3.2 support the implementation of the GGW in Burkina Faso, Djibouti, Nigeria, Senegal, Mauritania and Ethiopia, for 5 years.

- AfDB-GCF: With its goal to harness solar energy in the Sahel, this initiative complements the renewable energy projects in Mali, part of the climate adaptation efforts in the GGW programme. The Desert to Power initiative harnesses solar energy and generates an additional 10 GW of capacity to provide clean electricity to 250 million people. The *USD 350 million investment,* including USD 150 million of GCF financing, is part of the African Development Bank's New Deal for Energy in Africa and a key pillar of the Great Green Wall initiative. The objective is to stretch across the Sahel region, connecting 250

million people with electricity by tapping into the region's abundant solar resources. The Desert to Power will make the Sahel the world's largest solar production zone with up to 10 000 MW of solar generation capacityy. This will speed up economic development through the deployment of solar technology.

- *A USD 53 million project, including USD 35 million of GCF financing*, with the West African Development Bank to develop climate resilient agricultural practices in Niger that will benefit one million people.

- *China-PAAGGW -Partnership with International Centre for Research on Big Data to achieve SDG*. This support is crucial for enhancing the GGW implementation capacity, especially in terms of monitoring land restoration efforts, an important aspect of the climate adaptation projects in Mali, Burkina, and Mauritania. The US$150,000 support from China builds the GGW implementation capacity for Natural Resources Management through monitoring of land restauration.

These initiatives are crucial in providing a foundation for the GGW programme, which is now further strengthened by the inclusion of specific climate adaptation projects in Mali, Burkina, and Mauritania. These projects aim to address the challenges of environmental degradation, climate change impacts, and socio-economic instability in the Sahel region by implementing targeted strategies for sustainable development, resilience building, and policy enhancement.

The Great Green Wall Accelerator (GGWA) will also be a key partner, facilitating collaboration and investment coordination among stakeholders, including in Mali, Burkina, and Mauritania, ensuring that actions are well-coordinated, monitored, and impactful.

Table 4. Potential cofinancing from regional initiatives that align with the proposed programme.

Name of Programme	Financial resources ($ million)
IFAD-GCF - Inclusive Green Financing Inclusive: Greening Agricultural Banks & The financial Sector for Foster Climate Resilient Low Emission Smallholder Agriculture in The Great Green Wall The proposed Programme will synergize with this IFAD-GCF Programme as it is designed to support investments in small and medium-sized farms and strengthening of value chains, local markets, organization of exports, land restoration and sustainable management of ecosystems, favourable economic and institutional framework for effective governance, sustainability, stability and security and capacity building.	180
IFAD – GCF-Africa Integrated Climate Risk Management Programme. The proposed Programme will build on this IFAD-GCF Programme, particularly with regards to strengthening climate change adaptation capacity and boost climate resilient and low emission investments in smallholder agriculture value chains and food systems through a better adoption and implementation of climate adaptation and mitigation best practices in forestry, land use and renewable energy access and solutions and the diversification of livelihoods.	143
UNDP- Strengthening Capacities for Disaster Risk Reduction and Adaptation for Resilience in the Sahel Region: fostering risk-informed solutions for sustainable development The proposed Programme will synergize with this UNDP-Sweden Programme, particularly as it invests in activities to enhance regional recovery and resilience-building processes that address underlying disaster and climate change risks and restore pathways to sustainable development in the Sahel countries.	15.6
IFAD-FAO-WFP- Joint Programme for the Sahel in Response to the Challenges of COVID-19, Conflict and Climate Change The proposed Programme will build on this joint Programme particularly as it seeks to increase agrosilvopastoral and fishery productivity and production through climate-resilient agricultural practices and technologies.	184.4
AfDB- Support Transition Project in support to the Great Green Wall The proposed Programme will provide complementarities with the AfDB project, particularly as the AfDB project seeks to strengthen technical and institutional capacities of countries (Mali, Chad, Niger, Sudan, and Eritrea). The project also seeks to strengthen the monitoring and evaluation system at the regional and national levels and the mobilization of resources through a programme of adaptation to climate change, development of agricultural, forestry and pastoral value chains, and deployment of sustainable land management techniques.	2.74
AfDB- The Strengthening of food security and nutrition in Sahel (P2-P2RS). The proposed Programme will build on this AfDB Programme, particularly on aspects to: (i) sustainably increase productivity and agricultural, silvicultural and pastoral production; (ii) increase income from agricultural, silvicultural, pastoral and fisheries value chains; and (iii) build the adaptive capacity of populations through better control of climate risks and contribute to climate change mitigation.	1. 95
China-PAAGGW - China Big Data The proposed Programme will synergize with the China-PAAGGW programme as it supports an online tool that provides important support for land degradation monitoring, reporting and control in Africa through the Great Green Wall Big Data Facilitator (GGWBDF)	0.15
Total	527.84

In addition to the above tabulated regional initiatives, it is important to recall the following past initiatives, which the proposed GGW Programme will upscale, build on and draw best practices from:

a) *Great Green Wall Umbrella Programme* (*GGW Up*): This is a GCF-funded regional programme that will involve 11 countries in the Great Green Wall belt - from Senegal and Mali in the West to Ethiopia and Djibouti in the East. IFAD will lead the setup of the programme and ensure its coordination with other partners to leverage up to a total of US$1 billion in multi-partner resources for the GGW in 2021 and 2022. The GGW Up will support land restoration and the sustainable management of natural resources, scaling up existing investments in the GGW by other partners over the last 12 years. Small-scale farmers and agribusinesses will

have better access to markets and strengthened value chains, creating economic opportunities and jobs, through the development of climate-resilient infrastructure and expanding the use of solar energy.

b) *Harnessing the Great Green Wall Initiative (GGWI) for a Sustainable and Resilient Sahel:* This is a US$2 million UNEP implemented project funded through the GEF's LD window to take stock of lessons learnt from past initiatives to contribute to institutional strengthening of the GGWI and mobilization of adequate investments for a resilient and sustainable Sahel. In long term, the project is designed to: i) strengthen institutional and governance capacities of national GGW coordinating bodies and Pan African Agency of the GGWI; ii) contribute to making the large arid and semi-arid territories of the Sahel region hubs of investment opportunities for transformational change; and (iii) identify and implement a portfolio of projects for long term investment funded by key donors and partnership.

Additionally, in 2021, the GCF Board approved several new projects that contribute to the Great Green Wall pillars. These include the following:

c) *The USD 82.8 million Africa Integrated Climate Risk Management Programme* with IFAD aims to build climate resilience of farmers in seven countries, benefitting over five million people.

Given this level of investment in the GGW region, the GCF and its Accredited Entities implementing projects and programme s (such as IFAD, African Development Bank, West African Development Bank) are important partners for this Programme. While discussions have been had with these partners during the Programme proposal phase during various occasion including the UNCCD Accelerators partners periodic meetings and the 5th regional workshop organized in the framework of the development of the current programme, stakeholder engagement will continue during PPG and implementation phases of the Programme. These stakeholders will bring not only potential additional resources, but also invaluable experiences and lessons to strengthen the Programme orientation in addressing identified environmental degradation and adaptation challenges in the GGW region.

It should be mentioned that the UNCCD Great Green Wall Accelerator (GGWA) will continue to be another important partner of the Programme. Established by UNCCD, the GGWA aims to facilitate collaboration among donors and stakeholders involved in the Great Green Wall Initiative, and to help all actors to better coordinate, monitor, and measure the impact of their investments. In the Programme, the GGWA will support the monitoring and investments in any Programme activities related to investment in small and medium-sized farms and strengthening of value chains, local markets, organization of exports (Pillar 1); land restoration and sustainable management of ecosystems (Pillar 2); climate-resilient infrastructures and access to renewable energy (Pillar 3); favourable economic and institutional framework for effective governance, sustainability, stability, and security (Pillar 4); and capacity building (Pillar 5).

Besides the afore-mentioned regional initiatives, the proposed regional project will also build on national-level interventions that are part of the project's baseline investments, which serve as a foundation for the design and implementation of the GGW Programme. These are presented in Table below.

Project title	Amount (US$)
Chad	
Reversing the degradation trend in the oases of Borkou, Ennedi West and Wadi Fira through strengthening adaptation measures and improving resilience to climate change of vulnerable communities	10,000,000

Project title	Amount (US$)
Chad Local Development and Adaptation Project	50,000,000
Climate Resilient Agriculture and Productivity Enhancement Project (PROPAD) – Additional Financing	15,000,000
Climate Resilient Agriculture and Productivity Enhancement Project	44,600,000
Biosphere Project and Heritage of Lake Chad	35,600,000
Building on the achievements and opportunities of the Great Green Wall initiative for a Sustainable and Resilient Sahel	54,500,000
Strengthening the resilience of populations in eastern Chad to impacts climate change through water conservation and soil restoration	249,748,520
Support for reducing the vulnerability of populations to climate change: the case of geographic Kanem in Chad	239,929,730
Improving the adaptation and resilience capacities of the populations of the Geographical Logone in the face of climate change by promoting Non-Timber Forest Products (NTFPs)	43,358,080
Community based climate risks management in Chad	17,200,000
Support project for the recovery of victims of the 2022 floods in the peri-urban area of N'djamena	177,422
Resilience Development Support Project for the benefit of women and young people in the locality of Bouloungou	50,000
Resilience Development Support Project for the benefit of women and young people in the locality of Gaoui	264,476
Innovative approach to protect Ouadis through the promotion of non-connected mini-grid solar energy in 3 municipalities (Mao, Kekedena and Nokou) of Kanem region-Chad	3,235,215
Project to Strengthen Resilience and Agro-ecological Transformation of Degraded Agro-Pastoral Production Landscapes	8,000,000
Promotion of Agroecology in the Department of Mandelia	171 465,56
Strengthening capacities and partnerships for assessing mitigation and adaptation opportunities and enabling their implementation in the forestry and land use sectors in the context of the Great Green Wall (GGW), Chad	359,903
Total	**772,023,346**
Ethiopia	
Integrated Landscape Management to Enhance Food Security and Ecosystem Resilience in Ethiopia (GEF/UNDP, 2021).	10,239,450
Climate Smart Integrated Rural Development Project– (Adaptation Fund-funded project and implemented by the Ministry of Finance and Economic Cooperation of Ethiopia, 2017 – 2021).	9,987,910
Agricultural Growth Program -Livestock Market Development Project (2012 - 2017).	38,000,000
Responding to the increasing risk of drought: Building gender-responsive resilience of the most vulnerable communities	45,000,000
Ethiopia Resilient Landscapes and Livelihoods Project	129,000,000
Arbaro Fund – Sustainable Forestry Fund	25,000,000
Oromia Forested Landscape Program – Emission Reduction Project	16,950,000
Ethiopia Flood Management Project	300,000,000
Lowlands Livelihood Resilience Project	315,000,000
Integrated Landscape Management to Enhance Food Security and Ecosystem Resilience in Ethiopia	10,200,000
Climate Smart Integrated Rural Development Project	9,987,910
Agricultural Growth Program -Livestock Market Development Project	38,000,000
Scaling up the Green Legacy Initiative best practices to enhance the resilience of smallholder farmers and disadvantaged groups in Ethiopia	10,000,000
Transforming the forest sector through innovation and scaling up of good practices	55,900,000
Enhancing Resilience of Communities and Ecosystems in the drylands of Ethiopia through Sustainable Forest Management	50,000,000
Total	**1,063,265,270**
Niger	
Sustainable Land Management Project (PGDT) for the period 2022 – 2024 with UNDP funding	3,000,0000
Sustainable Management of Biodiversity and Protected Areas Project (PGDB/AP) for the period 2022 – 2024	5,500,000
Integrated Management Project of North Niger Oasis Ecosystems (PGIEO-NN) for the period 2022 – 2025	25,500,000
Agro-sylvo pastoral resilience project, West Niger-Security/resilience component W Niger Park and periphery (PIP) for the period 2021-2023	6,200,000

Project title	Amount (US$)
Integrated Project for the Modernization of Livestock and Agriculture in Niger (PIMELAN) - 2021 – 2026	135,000,000
Sahel Irrigation Initiative Support Project (PARIIS) for the period 2018 – 2024	173,000,000
Family Farming Development Program in the regions of Maradi, Tahoua and Zinder 2015 – 2023	220,000,000
Integrated Landscape Management Project (IFMP) for the period (2022 – 2026)	150,000,000
Project 2 of the Multinational Program to Strengthen Resilience to Food and Nutritional Insecurity in the Sahel (P2- P2RS)	65,618,615
Inclusive Food System and Resilience (SAIR-Nazari)	3,404,945
Integrated Landscape Management Project (PGIP)	150,000,000
Northern Niger Oasis Ecosystems Integrated Management Project « PGIEO-NN »	4,596 588
Integrated management of the doumeraie of the Goulbi N'kaba watershed and adjacent ecosystems (Maradi Region)"	10,000,000
Green cities for the restoration of the ecosystems of the Great Green Wall	2,702,300
Project Planning and Financing Adaptation to Climate Change in Niger	8,925,000
Regional Sahelian Climate Portfolio – NIGER	8,154,039,117
Regional Project to Support Pastoralism in the Sahel Phase II (PRAPS-2_Niger)	110,000,000
Sahelian Youth for Climate Action	74,550,040
External monitoring of the development of the Kandadji National Nature Reserve (RNNK) - Technical support to the RNNNK Management Unit	343,199
Project to Strengthen Rural Community Resilience to Food and Nutritional Insecurity in Niger (PRECIS)	25 859 000
Family Farming Development Program (ProDAF)	116,700,000
Agro-sylvo-pastoral resilience, West Niger (REPO)	4,910,144
Adaptive Social Safety Nets II Project "Wadata Talaka"	66,061,104
Integrated Program for the Development of Adaptation to Climate Change (PIDACC)	22,345,168
Support project for the "Kandadji" program for ecosystem regeneration and development of the Niger valley (PA-KRESMIN)	125,516,097
Total	**9,660,315,729**
Nigeria	
To enable national legislators to advance policies and laws for integration of natural capital approach and REDD+ into development policies (UNEP)	4,300,000
Agro-Processing, Productivity Enhancement and Livelihood Improvement Support Project	200,000,000
Agro-Climatic Resilience in Semi-Arid Landscapes (ACReSAL)	700,000,000
Livestock Productivity and Resilience Support Project	500,000,000
Conservation of biodiversity and sustainable use of a lowland forest mosaic landscape in Ogun, Edo, Delta and Ondo States	3,500,000
Promoting Integrated Landscape Management and Sustainable Food Systems in the Niger Delta Region in Nigeria	5,300,000
Food-IAP: Integrated Landscape Management to Enhance Food Security and Ecosystem Resilience in Nigeria	7,100,000
Total	1,420,200,000
Senegal	
Resilience and Intensive Reforestation Project for the Safeguarding of Territories and Ecosystems of Senegal (RIPOSTES)	5,235,990
The Canadian GGW Support Project / AMC / Strengthening Resilience in the Great Green Wall of Africa	18,216,876
LDCF/GEF Project (UNDP/IUCN) "Ecosystem-based adaptation (AbE) for resilient natural resources and agro-pastoral communities in the Ferlo and Thiès Plateau Biosphere Reserve	10,000,000
GGW Acceleration Project with the OCP Foundation	2,618,505
GGW Research Project with UM6P	2,094,390
Support project for the Resilience of Ecosystems facing Climate Change (PAREC – CC)	25,000,000
Promotion of potential of agro-sylvo-pastoral systems in the context of change climate change to improve nutrition and livelihoods of local populations	1,500,000
Energy cooperative and community engagement for better soil and water management in GGW agroforestry systems	840,000
Soil rehabilitation and phytoremediation research project	465,000
Project to promote community agricultural farms	2,300,000
North agropole project	48,000,000
Total	**116,270,761**
Burkina Faso	

Project title	Amount (US$)
Projet de résilience et de compétitivité agricole au Burkina Faso	150,000,000
Projet de restauration des écosystèmes dans la région du plateau central (PRE-PCL)	2,774
Le projet Grande muraille verte, reverdir le Sahel au Burkina Faso	25,000,000
PROJET « GRANDE MURAILLE VERTE POUR LA RESTAURATION DES ECOSYSTEMES ET LA PAIX (FLEURON GMV)	5,000,000
Programme de Résilience du Système Alimentaires en Afrique de l'Ouest (PRSA-BF)	124,000,000
Projet Régional de renforcement de la résilience dans la Grande Muraille Verte d'Afrique SURAGGWA	219,500,000
Burkina Faso Agriculture Resilience and Competitiveness Project	200,000,000
Projet d'Amélioration de la Productivité Agricole par la Conservation des Eaux et des Sols (PACES)	14,700,000
Projet de restauration, de protection et de valorisation du lac Bam	8,300,000
Programme intégré de développement et d'adaptation au changement climatique dans le bassin du Niger	14,900,000
Projet appui aux efforts de reboisement par la mise au point de méthodes de multiplication végétative à moindre cout au Burkina Faso	182,000
Projet 2 du programme de renforcement de la résilience a l'insécurité alimentaire et nutritionnelle au sahel (P2-P2RS)	3,600,000
Projet de promotion de l'hygiène, de l'eau potable, de l'assainissement et de renforcement de la résilience de la population a la Covid 19 et au changement climatique en milieu rural dans huit (8) provinces (PHEPA – 8P)	6,253,000
Projet d'appui aux filières agricoles dans les régions du Sud-Ouest, des Hauts-Bassins, des Cascades et de la Boucle du Mouhoun	160,550,000
Total	931,987,774
Mauritania	
Management of Dry Zones in Mauritania	4,800,000
Support to the Great Green Wall Initiative	8,600,000
Mauritania Agriculture Development and Innovation Support Project	50,000,000
Second Additional Financing for the Mauritania COVID-19 Strategic Preparedness and Response Project (SPRP)	20,000,000
Strengthening the climate resilience of vulnerable communities and productive ecosystems in the Nine agrosylvopastoral regions of the Great Green Wall of Mauritania through ecosystem-based adaptation (EbA)	17,000,000
Integrated Management of Natural Resources in three Wetlands, two of which are located on the Great Green Wall in Mauritania (Male, Djelewar and Karakoro (PGIRN)	13,800,000
Support for the GGW Initiative	8,658,840
Adaptation and Resilience of Continental Wetlands to Climate Change	11,907,990
Total	**134,766,830**
The Gambia	
Effective Implementation of Access and Benefit Sharing of the Nagoya Protocol and Integration into Planned co-management Arrangements in the Nyambai Forest Park of The Gambia	3,074,886
Land/Seascape planning and restoration to improve ecosystem services, and livelihoods, expand and effectively manage protected areas	5,600,000
Large-scale Ecosystem-based Adaptation (EbA) in The Gambia: developing a climate-resilient, natural resource-based economy project	20,500,000
Resilience of Organizations for Transformative Smallholder (ROOTS) Agriculture Development Programme	80,600,000
Strengthening Adaptive Capacities to Climate Change through Capacity Building for Small Scale Enterprises and Communities Dependent on Coastal Fisheries in The Gambia	12,030,062
Improving Water Availability in The Gambia's Rural and Peri-Urban Communities for Domestic and Agricultural Use	8,900,000
Tourism Diversification and Resilience in The Gambia	60,000,000
The Gambia Inclusive and Resilient Agricultural Value Chain Development Project	47,890,000
The Gambia - Rice Value Chain Transformational Project	7,700,000
Gambia Agriculture and Food Security Project (GAFSp)	18,000,000
Improving Water Availability in The Gambia's Rural and Peri-Urban Communities for Domestic and Agricultural Use	8,900,000
Strengthening capacity of institutions in The Gambia to meet transparency requirements of the Paris Agreement (CBIT Gambia)	1,100,000
Integrated Landscape Management Gambia (INLAMAG) Project	4,700,000

Project title	Amount (US$)
Total	**278,994,948**
Mali	
Projet de Restauration des Terres Dégradées (PRTD)	166,850,000
Projet Africa Minigrids Program (AMP)	11,780,000
Portefeuille Thématiques Climat Sahel (PTCS)	12,500,000
Appui au développement de solutions d'adaptation au changement climatique au Mali à travers des politiques et des processus de planification locale sensibles au genre	300,000
Projet FREXUS (Améliorer la résilience et au changement climatique dans des contextes fragiles	550,000
Projet de soutien à l'adaptation aux Changements climatiques de la Grande Muraille Verte	10,000,000
Projet de restauration des écosystèmes sur le tracé de la Grande Muraille Verte au Mali	8,000,000
Projet de Gestion participative pour la restauration durable des ressources naturelles as le cercle de Diema au Mali afin de renforcer la résilience des communautés et des écosystèmes et de promouvoir les solutions fondées sur la nature	4,000,000
Projet de Renforcement de la résilience dans la Grande Muraille Verte d'Afrique (SURAGGWA)	24 616 640
Projet intégré d'adaptation au climat et de développement durable	10,000,000
Total	**223,980,000**
Grand total	**14,601,704,658**

Alignment with ongoing efforts in the GGW region

Since its initiation in 2007, the GGW initiative has been supported by several projects and partnerships at regional and national scales. Investment has played an important role in supporting GGW member countries to meet their national LDN targets, aligned with the GGW initiative's objective to restore 100 million ha of land. The major initiatives and targets for each country are described below.

The GEF and the LDN Agenda

The GEF serves as a Facility for the implementation of the mandate of the UNCCD. In this vein, the GEF responded to the invitation from the UNCCD COP12 in Ankara to consider technical and financing support related to the LDN agenda — so that through the support the GEF contribute to vegetation productivity, land cover and soil organic carbon, the three LDN indicators which are important for life on land (SDG 15). At the corporate and strategic level, this was an important invitation to support the LDN agenda, as a strong vehicle for driving the implementation of the UNCCD through to 2030.

Indeed, COP12 requested the United Nations Convention to Combat Desertification and the Global Environment Facility (GEF) secretariats to continue consultations on the arrangements for the delivery of funding enabling activities for the sixth GEF Replenishment Phase (GEF-6) with a view to securing technical and financial support for the next reporting exercise, including in the area of progress reporting and national target setting towards achieving LDN.[1]

Thus, the GEF plays a critical role in supporting the LDN agenda and the objectives of the UNCCD through its funding, partnerships, and capacity-building efforts.

- **Support for LDN**: The GEF provides financial and technical assistance to countries aiming to achieve LDN, which seeks to maintain or enhance the productivity and resilience of land resources while ensuring no net loss of healthy and productive land. GEF-funded projects focus on implementing sustainable land management practices, restoring degraded lands, and enhancing the resilience of ecosystems and communities to climate change and other environmental stressors. By investing in LDN initiatives, the GEF helps countries address land degradation, improve food security, and promote sustainable development.

- **Partnerships and collaboration:** The GEF collaborates closely with the UNCCD and other international organizations, governments, civil society, and the private sector to advance the LDN agenda and support the implementation of UNCCD objectives. Through partnerships and multi-stakeholder engagement, the GEF leverages resources, expertise, and knowledge to scale up LDN initiatives, foster innovation, and promote best practices in sustainable land management.

- **Capacity building and knowledge sharing:** The GEF invests in capacity-building activities to strengthen the capacity of countries to implement LDN targets and fulfil their commitments under the UNCCD. This includes supporting national institutions, training programs, and knowledge-sharing platforms to enhance technical skills, institutional frameworks, and policy coherence for sustainable land management. By building the capacity of countries to monitor, assess, and address land degradation, the GEF facilitates the implementation of LDN and contributes to achieving the objectives of the UNCCD.

Under the proposed GGW Programme, two national projects have already been considered by the GEF, listed below.

- **Chad**: Restoring Ecological Corridors in Western Chad for Multiple Land and Forests Benefits—RECONNECT (GEF US$6 million; cofinancing US$24,504,587, IUCN)

- **Mali:** Scaling up a multiple benefits approach to enhance resilience in agro- and forest landscapes of Mali's Sahel regions (Kayes, Koulikoro and Ségou), (GEF US$9.5 million; cofinancing US$60.2 million, AfDB)

Additionally, countries included under the GGW Programme have been involved in the following regional and global LDN-related investments by the GEF:

- Enabling the use of Global Data Sources to assess and Monitor Land Degradation at Multiple Scales ($2.8 million, CI);

- Improving the use of science for large-scale assessment of investments and scaling up of Sustainable Land Management in the Great Green Wall for the Sahara and the Sahel Initiative region ($1.2 million, UNEP);

- Global Support Programme II: Strengthening UNCCD reporting –enhancing implementation of the UNCCD ($2.8 million, UNEP); and

- Support to GEF Eligible Parties for Alignment of National Action Programs and Reporting Process under UNCCD ($2.8 million, UNEP).

The funding of the proposed GGW Programme by the GEF remains consistent with the GEF's strategic engagement with the UNCCD and Parties to the Convention. Overall, the GEF's engagement in the LDN agenda and the UNCCD underscores its commitment to promoting sustainable land management, biodiversity conservation, and climate resilience. Through its funding, partnerships, and capacity-building efforts, the GEF plays a vital role in supporting countries' efforts to combat land degradation, restore degraded lands, and achieve sustainable development goals. The GEF has been active in Voluntary LDN target setting; reinforcing capacities for LDN; monitoring LDN; catalyzing the role of the private sector; and complementing sustainable land management (SLM) and land restoration activities.

Finally, to underscore the strategic engagement of the GEF with the UNCCD, it should be noted that at the UNCCD 14:

- The GEF was invited to continue its support for countries in programming GEF Land Degradation focal area resources to combat desertification/land degradation and drought and achieve their voluntary land degradation neutrality targets, including in the context of land degradation neutrality transformative projects and programs.

- The GEF was invited, within its mandate, to support the implementation of relevant aspects of the national drought plans and other drought-related activities within the scope of the Convention.

In response to the invitation above, the GEF will provide resources under the LDFA to support the following priority areas of interventions in support of the LDN Agenda:

- sustainable land management (SLM), including drought-smart land management (D-SLM);
- restoration of agro-ecosystems in production landscapes;
- addressing DLDD issues, emphasising drought mitigation — particularly in drylands;
- improving the enabling policy and institutional framework for LDN; and
- providing UNCCD enabling activity support.

GEF Trust Fund: GGW country commitments to the LDN Agenda

The section below describes LDN commitments from the countries that have been funded through the GEF Trust Fund — underscoring the continued role of the GEF in supporting the LDN agenda. The GGW Programme is designed to support the participating countries in responding to their LDN commitments through their UNCCD mandate.

Chad

National voluntary LDN targets for Chad include the following:

- by 2040, 1 738.8 km2 of forest will be restored;
- by 2040, 17.95 km^2 of wetlands will be restored; and
- by 2040, 29 000 km^2 of degraded land (bare soils and other) will be restored[2].

Ethiopia

The country has set up nine (9) national targets as its commitment to the LDN agenda, listed below.

- **Target 1:** By 2031, promote the implementation of community based forest management, forest landscape restoration with indigenous species, avoiding overgrazing, area closure and, alternative livelihood systems, and ensure the restoration of 427,730 ha of forest land lost between 2000 and 2010;
- **Target 2:** By 2036, ensure the rehabilitation and improvement of the productivity of 21,359,490 ha of forest land by stopping uncompensated conversion of forest area, especially in slopes, into grassland, cropping or urban areas, and promoting agroforestry, energy saving stoves and, alternative livelihood systems, in order to avoid reduction of carbon sock and limit the risk of erosion;
- **Target 3:** Improve the productivity of 314,990 ha of shrubs, grasslands and sparsely vegetated areas by the year 2040 through avoiding overgrazing, promoting controlled grazing, and rangeland management/improvement;
- **Target 4:** By 2040, rehabilitate and improve the productivity of 12,578,714 ha shrubs, grasslands and sparsely vegetated areas through stopping uncompensated conversion of permanent grasslands in to croplands, promoting controlled grazing, and rangeland management/improvement so as to avoid reduction of soil carbon stock
- **Target 5:** By 2031, ensure improved productivity of 14,193,615 ha of cropland by reverting negative trends of arable land deterioration, including acidification, alkalization and salinization, erosion by strongly discouraging inappropriate practices and supporting soil, water and vegetation long-term conservation practices; limiting drastically the size of individual parcel to the maximum permitted to conserve biodiversity and natural regeneration potential, through agroforestry and green corridors and biodiversity grids, especially in large-scale commercial farms; accelerating the conversation of unsustainable to sustainable cropping, grazing, forestry in the framework of scientifically grounded watershed management plans implemented under legally binding long-term agreements and contracts; and 100% cropland shows stable of increasing land productivity capacity;
- **Target 6:** By 2026 ensure improved productivity of 72,766 ha of wetlands and water bodies through stopping uncompensated conversion of wetlands into cropping or urban / industrial / infrastructure areas, in order to avoid depletion of carbon stock and critical biodiversity;

- **Target 7:** Take urgent and significant actions, like stopping uncompensated artificialisation or urbanisation of arable lands, through urban densification and "building city on city" approach; restoring as much as possible lands degraded by pollutions, originated by urban, industrial, mining untreated contaminants; revitalizing vegetation in degraded slopes, dried lands, closed mines, infrastructure (airports, harbours, roads, dams and reservoirs) using pools of endogenous species and further sustainable use and promoting plantation of indigenous tree species, and improve the productivity of 33,452 ha of artificial areas by the year 2026;

- **Target 8**: Through sustainable land management practices particularly implementing biophysical soil and water conservation practices improve the productivity of 3,751,173 ha of bare land and other areas by the year 2036; and

- **Target 9**: By 2040, ensure the increase of carbon stock in the country by 148.67 million tons of carbon between 2016 and 2040 through achieving the abovementioned targets[3]

The Gambia

To achieve LDN, The Gambia aims to improve an additional 10% of the country's landscape by 2030 (relative to 2015) and has established targets in the following areas:

- the West Coast Region, in which no net loss is achieved;

- the Lower River Region, in which LDN is achieved;

- the Upper River Region, in which LDN is achieved and an additional 5% of the provincial territory has improved (net gain);

- the North Bank Region, in which LDN is achieved and an additional 20% of the provincial territory has improved (net gain);

- the Central River Region, in which LDN is achieved and an additional 15% of the provincial territory has improved (net gain); and

- the land degradation hotspots, namely, Njaba Kunda (Central Baddibu), Ngain Sanjal (Sabah Sanjal) and Njau (Upper Saloum) in which no net loss is achieved.

To avoid, minimise and reverse land degradation, several objectives have been identified and aim to:

- improve productivity and SOC stocks by 50% in cropland and grasslands by 2030 as compared to 2015;

- rehabilitate 1099 km^2 of degraded grassland and cropland with declining productivity and early signs of decline for crop production and forestry by 2030;

- halt the conversion of forests and wetlands to other land cover classes by 2025; and

- increase forest cover by 10% by 2030 as compared to 2015.[4][42]

Niger

Niger commits to achieving LDN by 2030 and reducing the area of degraded land from 9% to 5%. This, with the aim of increasing vegetation cover from 17% to 19% and sustainably improving the living conditions of people. More specifically, necessary actions will be taken to:

- restore 44% (4,440,500 ha) of the 10,761,076 ha of degraded land in 2010;
- reduce to 2% (252,101 ha) the area of cultivated lands showing negative trends of net primary productivity;
- reduce from 1% (100,074.3 ha) to 0% the annual rate of forest/savanna/wetland conversion into other types of land;
- halt sand encroachment and water erosion (gully erosion) along the Niger river; and
- sequester 292,000 tons of carbon in the ground and/or biomass through good agroforestry practices (windbreak system, hedges, assisted natural regeneration, forage bank, food bank, etc.)[5][43].

Nigeria

At the national scale, Nigeria's LDN target is to restore an additional 20% of land (relative to 2015) by 2030. To achieve this, several regions at the sub-national scale have been identified, namely, the: South western region, South East region, South Southern region, North western region, North Eastern region, North Central region, Imeko Game Reserve of Imeko/Afo LGA, Ogun state, Aworo Forest Reserve of Yewa North LGA, Ogun state, Saki of Saki East LGA, Oyo state, Ilesha Ibaruba of Baruten LGA, Ejeba of Ughilli North LGA, Delta, Oroma-Etiti of Anambra west LGA, Anambra state, Orishaeze of Ngor-Okpalla LGA, Imo state, Ifiang Nsung of Bakasi LGA, Cross Rivers, Badoko of Kachia LGA, Kaduna state, Amba of Nsarawa LGA, Nasarawa state, Banaga of Anka LGA, Zamfara State. To avoid, minimise and reverse land degradation, several objectives have been identified and aim to:

- improve land productivity and soil organic carbon stocks (SOC) in 463,300 ha of cropland and grasslands by 2030 as compared to 2015;
- rehabilitate 1,722,660 ha of cropland showing declining land productivity and 10,565,040 ha of cropland showing early signs of declining land productivity by 2030;
- halt the conversion of forests and wetlands to other land cover classes by 2020;
- increase forest cover by 20% by 2030 as compared to 2015; and

- reduce the rate of soil sealing (conversion to artificial land cover) by 40% by 2030 as compared to 2015.

Senegal

In the country, Land Degradation Assessment in Dry Areas (LADA) estimates 34% the level of land degradation, which represents a degraded area of 6,860,900 Ha. The indicators selected to achieve the neutrality objective are: areas under sustainable management; land productivity; and soil carbon.

A sustained annual effort of 480,263 ha per year is required, i.e. a rate of progress of 7% per year of compensation for losses from 2020 to move towards neutrality. This trend towards neutrality of land degradation will be obtained by 2035, in relation with the measures and strategies of the Senegal Emergent – PSE plan.

In terms of productivity improvement, projections, according to an optimistic scenario (DGPPE, 2014) integrating sustainable land management, yields will increase between 2020 and 2035 from 1.2 tons per hectare to 1.6 tons per hectare. Furthermore, the quantity of biomass produced is 44.9 tons of dry matter per ha, or 865,229,820 tons of dry matter for the entire land surface. However, for agriculture, the quantity of carbon avoided will be 2,533,530 tons CO_2 eq and the accumulation of carbon avoided over the period 2010-2035 will be a total of 56,751,484 tons CO2 eq.[6][44]

Institutional baseline

The GEF financed Sahel and West Africa Programme (SAWAP)[7] in support of the GGW, 2013–2019, was jointly developed by the World Bank and GEF, with the aim of contributing to the development of Sustainable Land and Water Management (SLWM) practices and thus support the adaptation of communities in West Africa and the Sahel that are most vulnerable to climate change. SAWAP contributed to the implementation of the GGW through the improvement of landscape resilience and livelihoods, and thus to poverty reduction, food security and water resource security. Within SAWAP, the BRICKS project (Building Resilience through Innovation, Communication and Knowledge Services) provided technical and operational support to the national projects during four years. BRICKS aimed to improve access to best practices and monitor the implementation of the twelve country projects, creating opportunities for knowledge sharing between them. In parallel, the project focused on enhancing the capacity of regional centres of excellence (the Permanent Inter-State Committee for Drought Control in the Sahel, the Sahara and Sahel Observatory, OSS). In most countries, the national GGW structures, like the regional agency, lack qualified personnel in sufficient numbers to fully play their role of planning, development, monitoring-evaluation, and coordination. There are no proper and managed knowledge/information sharing and coordination mechanisms at the national and regional levels, leading to insufficient coordination and collaboration between GGW countries and between project developers at the national level and cross-border. This is especially important regarding lessons learned and success stories, as the only way forward to a rapid and efficient expansion of the GGW initiative is via developing pilot projects, which will then be replicated in many locations once they are successfully implemented.

The recent (2023) institutional audit of the GGW conducted by UNEP within the framework of the implementation of the MSP ‘’Harnessing the GGW initiative for a Sustainable and Resilient’’ has identified that the Decennial Priority Investment Plan (DPIP) of the GGW, plays a pivotal role in streamlining efforts and promoting a unified approach towards achieving the Great Green Wall's goals. The DPIP establishes a strong foundation for enhancing the adaptability of PAAGGW and the national structures of the GGW to align with the initiative's new vision, ensuring its long-term sustainability and effectiveness. Before 2021, despite the transboundary projects such as SAWAP and ``FLEUVE``, M&E function was not centralised in its conception and was left to the various actors depending on the projects being implemented. However, it is important to note the enhanced coordination through numerous instruments at the national and regional levels, international funding tracking and M&E frameworks (*the multi-purpose platform, the Harmonized result framework around the GGW five pillars*). There is now a common will to promote harmonization, coordination and monitoring of efforts at all levels of the GGW initiative, as shown by the various initiatives such as the UNEP/GEF baseline, new partnerships being deployed like the National coalition and alliance, or the PAAGGW-UNDP 2021-2030 Integrated Multi-State Regional Programme (Programme Intégrateur Multi-États: PIME)[1]. The diligent and persistent efforts to strengthen governance mechanisms, enhance coordination and coherence, and optimize the overall functioning of the Great Green Wall initiative have yielded some positive outcomes. The convening of residential seminars at the regional level, bringing together all stakeholders, and the organization of the regional GGW stakeholder workshop, facilitated by partners including UNEP, UNDP, FAO, AfDB and UNCCD through Accelerator, have proven to be unparalleled platforms for effective information sharing, harmonization, and coherence of diverse contributions. Furthermore, the project filling the gap implemented by UNEP and executed by IUCN, involved civil society and Non-Governmental Organizations (NGOs) in the GGW process, along with fruitful collaborations with the research community, have significantly contributed to these advancements including the development of Non-State Actors platform developed and managed by SOS Sahel. However, there is still room for improvement in fostering meaningful participation and collaboration among various stakeholders including funding entities and with effective engagement of local communities, indigenous groups, parliamentarians etc, as the GGW continues to engage with various stakeholders. The GGW Council of Ministers has taken in 2021 the decision to order an institutional audit of the PAAGGW to adapt the old regional and national structures to the new post One Planet Summit configuration. Technical and financial partners were also encouraged to support the institutional strengthening process, an essential condition for the success of this ambitious programme.

The institutional audit conducted by UNEP in the framework of the above-mentioned MSP, recommends developing a robust communication and coordination framework with clear communication channels, regular meetings, and information-sharing platforms to facilitate seamless information sharing, exchange of ideas, lessons learned, and best practices, collaboration, and feedback among the PAAGGW, national structures, and other pertinent stakeholders. Additionally, utilizing modern technologies and digital tools can enhance communication and collaboration across different levels and locations. To strengthen the Great Green Wall initiative's impact, it is highly recommended to revitalize the existing and/or encourage the establishment of multi-stakeholder platforms at both national and regional levels. These platforms are serving as crucial forums for fostering dialogue, enhancing coordination, and cultivating partnerships among governments, civil society organizations, local communities, and international actors. Additionally, implementing effective coordination mechanisms between the PAAGGW and national structures is vital to prevent duplication of efforts and harness synergies effectively.

During the independent evaluation of the Great Green Wall Accelerator (February 2023), all countries affirmed the need for support for more coordinated GGW approach in-country, for more interaction with other

agencies and local actors for the development national data platforms and fostering the absorption capacity of donors funding.

Generally, the projects and programs in the table above focus on land rehabilitation and livelihoods, peace building and adaptive capacity development – with the agriculture sector or forest sector as the entry point. The regional project will ride on achievements of the baseline investments to support a more systemic transformational approach to address the tripartite challenge in terms of environmental degradation, socioeconomic constraints and institutional and capacity inadequacies within the GGW region. At PPG, a thorough assessment will be conducted to clearly identify priority areas for complementarity, lessons and synergies. This includes integrating the specific climate adaptation efforts in Mali, Burkina, and Mauritania, which focus on strengthening local capacities in climate change adaptation, enhancing biodiversity management, improving food security, promoting renewable energies, and implementing effective monitoring and evaluation strategies.

The GEF resources will be critical in addressing the environmental challenges that are intimately linked to the socioeconomic problems within the GGW region. The resources will: i) support the sustainable use and integrated management of natural resources; ii) promote equitable, and gender-responsive local level enterprises and facilitate public-private-partnerships for NWFPs and value addition of selected products within the GGW region; iii) build institutional capacity and strengthen policy environment while supporting stakeholder mobilization, advocacy and communication; iv) build communities and ecosystem resilience and adaptation capacity; and v) support a robust gender sensitive M&E and KM system to improve regional monitoring and accountability. The outcomes of these interventions in response to the context of the GGW region will be: i) improvement in land productivity, land cover and soil organic carbon; ii) improvement in women's access to socioeconomic opportunities; iii) diversification of local, resilient livelihoods; iv) improvement in the implementation of the GGWI; v) enhanced and transparent regional and national implementation and reporting of the GGW Initiative; vi) enhanced community capacity for climate adaptation, food security and women's empowerment; vii) Established climate-resilient water conservation and diversified income sources for rural communities; viii) Participative Land Use planning; ix) Restoration of range land and degraded forest area to mainstream value chains; and x) Improved institutional and technical knowledge and capacity of local, regional and national stakeholders to plan, implement and monitor Ecosystem-based Adaptation (EbA) measures to address climate risks in agro-silvo-pastoral systems; and xi) Enhanced awareness of relevant institutions and support available for EbA approaches increased amongst local stakeholders. These outcomes are critical transforming entry points to the environmental and socioeconomic vulnerable context of the GGW region. GEF Trust Fund and LDCF resources are therefore poised to transform the environmental challenges into opportunities with enormous positive environmental, adaptation to climate change impacts and socioeconomic context of the GGW region. The blending of the GEFTF and LDCF resources will enhance these outcomes by bringing in additional expertise, resources, and local insights, particularly in this area of the GGW affected by extreme climate events and vulnerabilities.

The implementation of the programme will be bifurcated into a regional and national projects (Child Projects-CPs). Broadly, the regional project will provide the technical higher-level support to country-level needs to successfully implement CPs. CPs will be critical in terms of achieving concrete results on the ground. This includes specific interventions in Mali, Burkina, and Mauritania, focusing on climate change adaptation, biodiversity management, food security, renewable energy promotion, and robust monitoring and evaluation.

In this regard, the regional project and CPs will be complementarity in one way, and in another, the regional project will focus on priorities beyond specific individual country priorities. This will ensure that both the 'bigger and smaller pictures' are sufficiently accounted for in the overall Programme. The regional and PC approach to the Programme will pool together different stakeholders at regional, national and subnational levels who will include policy makers, the private sector, non-governmental organizations, academia, women groups, and local communities – all playing important roles at either regional, national or sub-national levels. This approach will be instrumental in Mali, Burkina, and Mauritania, where local conditions and needs will guide the implementation of climate adaptation strategies.

This will create an opportunity for learning and knowledge exchange and scaling up and out of best practices which would be more difficult and costlier in cases of isolated projects. Given the level of stakeholders at different geographical levels, but also the consolidation of capacities, robust gender sensitive M&E and KM system to improve regional monitoring and accountability, the approach is poised to ensure that the outcomes endure in the face of changes in the drivers. The programme will leverage national-level initiatives to enhance the impact of regional strategies, ensuring that local adaptations and solutions are integrated into broader efforts.

Stakeholder engagement

A number of stakeholders have already played an important role in shaping this PFD through regional consultations, including those specific to the climate adaptation efforts in Mali, Burkina, and Mauritania. that have been organized in Nouakchott, Mauritania in 2021; Niamey, Niger in 2022; in Accra, Ghana during the GEF 8 Dialogue with the West and North Africa countries on GEF 8, in Bamako, Mali in January 2023 and in participating countries during the Child Project development. The stakeholders include the following with their potential roles: The African Union (AU), Panafrican Agency of the GGW (PANAGGW): The National Great Green Wall Agencies/structures in respective countries: The National Coalition, The Parliamentarians, The Research institutions, UNCCD Accelerator Programme, Academia/research, Women groups, International and Regional Banks, Global and Regional Civil Society Organisation, Indigenous People and Local Communities: Private Sector, Local Farmers and Farm Cooperatives and some Special Interest Groups. Details on each of the stakeholder and its role in the programme is developed in the Stakeholders section below.

It should be reiterated that the stakeholders mentioned above have already been engaged and have participated in the development of this Programme Framework Document (PFD) through 5 consultations workshops. At the full development stage, their roles, along with those identified after additional consultations, will be refined to maximize their contribution to achieving the Programme's objectives within the existing landscape of investments.

Programme barriers

To achieve the aforementioned transformation, the programme will address several interlinked barriers to climate-resilient land and natural resource management across the Sahel. If left unaddressed, these barriers

will limit countries' capacities to address the multifaceted nature of environmental and socioeconomic challenges. Barriers addressed by the proposed GGW programme are listed below.

- **Barrier 1. Limited technical and institutional capacity at all administrative levels to implement CCA and sustainable land management**: The implementation of CCA strategies in the GGW region is constrained by the limited availability of technical expertise and adequate resources for the prevention of desertification and promotion of sustainable environmental management practices. This has resulted in insufficient coordination and collaboration between GGW countries as well as between project developers at the national and cross-border levels. Addressing this barrier requires the creation of an enabling environment that fosters collaboration between governmental bodies, local communities and international partners to improve expertise, policies and resource access.

- **Barrier 2. Limited integration of CCA into sustainable NRM at the regional and local level:** Fragmented approaches towards CCA within NRM frameworks restrict the coordination and implementation of efforts to address the socio-economic and climate-related challenges in the Sahel region. Addressing this barrier requires fostering collaboration between sectors, enhancing knowledge-sharing platforms and enabling local communities to participate actively in decision-making processes. By incorporating CCA into NRM strategies, the GGW initiative can use natural resources effectively to build resilience and facilitate sustainable livelihood development across the region.

- **Barrier 3. Regional and national social tensions over limited access to resources:** Natural resource scarcity and the subsequent competing demands for these limited resources have contributed to social tensions between and within countries in the Sahel region. Resource-related conflicts hinder willingness to and capacity for collaboration and coordination at regional and national scales. Diplomatic tensions and local disputes have arisen primarily from competition over shared water resources such as the Senegal River and Niger River, as well as over land tenure among migratory communities, nomadic pastoralists and sedentary farmers. Additionally, the historically inequitable representation of different ethnic and socio-economic groups in decision-making and resource distribution processes presents a challenge for implementing inclusive initiatives in the GGW region. Beyond disputes over natural resources, the GGW region has become an epicentre for political instability and violent conflicts — especially with the expansion of several extremist groups within the region. The Sahel in Africa is one of three emerging hotspots of terrorism, alongside Southeast Asia and Nigeria’s Middle Belt. Mali and Burkina Faso alone have had serious casualties attributed to the heavy presence of Jama’at Nasr a-Islam wal Muslimin (JNIM) terrorist group that was reportedly responsible for 105 deaths in Mali and Burkina Faso between 2015 and 2016. JNIM killed 57 people in Mali in 2017 and an additional 27 in Burkina Faso, representing the deadliest year for both countries in terms of terror-related deaths[2].

- **Barrier 4. Limited access to finance and opportunities to diversify value chains and livelihoods:** Sustainable land management and climate-resilient livelihood initiatives in the GGW region have been constrained primarily by scarce financial resources. This can be attributed to an absence of efficient and equitable financial distribution systems across the region and poor investment attraction. The latter arises from political instability, the poor establishment of partnerships with private sector investors, and a lack of innovative financing mechanisms such as PES schemes. Livelihood diversification in the GGW region has been limited further by a lack of sustainable value chain development and market support for climate-

resilient products. Additionally, ecological limitations such as degraded agricultural land and lags in ecosystem restoration benefits have limited the feasibility of livelihood diversification options within agricultural sectors. Given that most communities in the GGW region rely on agriculture for their livelihoods, these communities are vulnerable to maladaptation and poorly designed livelihood diversification strategies. Just livelihood transitions are further challenged by the cultural migratory practices of many communities in the Sahel region, requiring either spatially flexible market support and value chain mechanisms or the incentivisation of sedentary livelihoods.

- **Barrier 5. Limited awareness of EbA, SLM and sustainable NRM in communities:** Access to media and formal education is limited in the Sahel[3], making the sharing of information on ecosystem-based adaptation (EbA), sustainable land management (SLM), and natural resource management (NRM) challenging. Sparse populations and limited institutional capacity exacerbate. Awareness raising between nations is hampered by political tensions, while, within countries, low literacy rates may slow the dissemination of basic CCA practices. The limited awareness of EbA, SLM, and NRM in communities across the GGW region will likely limit the uptake of these practices as livelihoods depend on, *inter alia*, traditional agricultural, pastoral, and foraging practices.

- **Barrier 6. Insufficient monitoring and knowledge management systems at the regional level**: The Sahel faces challenges related to transnational coordination that restricts the ability of GGW countries to unify their monitoring and knowledge management systems (KMS). Many countries in the Sahel have recently experienced domestic or international conflicts, resulting in infrastructure damage and limited historic KMS investment. Furthermore, as with journalists, past and ongoing conflicts incentivize monitoring personnel to avoid zones of conflict. This restriction is compounded by the limited access to digital technology that would improve the efficiency of data transfer within and between countries. Monitoring and KMS are crucial for sharing best practices related to GGW activities as they are developed. Insufficient monitoring and KMS will result in repeated mistakes and inefficiencies in carrying out the activities of the proposed programme.

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[1] PIME is being deployed as part of the implementation of the 2021-2030 Decennial Priority Investment Plan: DPIP.

[2] Global Terrorism Index. (n.d). Al-Qaeda Plans to Infiltrate the African Sahel Region

[3] Crola,. 2019. Sahel Fighting inequality to respond to development and security challenges

[1] Decision 2/COP.12: Formulation, revision and implementation of action programme s in view of the 2030 Agenda for Sustainable Development

[2] Government of Chad: National LDN targets

[3] Government of Ethiopia (2015). Ethiopia - Land Degradation Neutrality National Report

[4] Government of The Gambia. (2017). National Land Degradation Neutrality Targets

[5] Government of Niger (2017). LDN National targets

[6] Government of Senegal (). Land Degradation Neutrality National Report.

[1] Mbaye, A. (2020). Climate Change, Livelihoods, and Conflict in the Sahel. *Georgetown Journal of International Affairs*, 21, 12 - 20. https://doi.org/10.1353/gia.2020.0020.

[2] Jyotsna Puri, Sara Savastano[2] Blog: Building a Great Green Wall: Four lessons learned from the World Bank assessment, 13 September 2021.

[3] http://greatgreenwallinitiative.org/projects

1] It is reminded here that the GGWI aims to restore 100 million hectares of degraded land, create 10 million jobs and sequester 250 million tons of carbon by 2030 using an integrated land management approach

[2] Epule, T., Chehbouni, A., & Dhiba, D. (2021). Recent Climate Change Adaptation Strategies in the Sahel: A Critical Review. *Global Warming and Climate Change*. https://doi.org/10.5772/intechopen.100110.

Programme Description Section:

This programme is meticulously crafted to capitalize on a wealth of lessons learned from past initiatives within the Great Green Wall and similar projects across the Sahel-Sahara region. These lessons have not only shaped the understanding but have directly influenced the strategic methodologies aimed to be employed. Specifically:

Community-Driven Approaches: the programme development has learned that the sustainability of environmental projects significantly increases with active community involvement. Therefore, the programme will emphasize participatory planning processes, ensuring that community members are engaged from the outset and have a say in the projects that affect their lives and livelihoods.

Adaptive Management Practices: Reflecting on past experiences, adaptive management has emerged as a cornerstone of effective project implementation. This programme will utilize a flexible management framework that allows for ongoing monitoring and real-time adjustments based on ground realities and emerging challenges. This approach will be supported by advanced monitoring technologies, including GIS and remote sensing, to gather actionable data that informs decision-making.

Integrated Approach to CCA, LD, and BD: We recognize the intertwined nature of climate change adaptation (CCA), land degradation (LD), and biodiversity (BD) from previous projects. This programme will, therefore, adopt a holistic strategy that does not treat these areas as isolated challenges but as interconnected elements that require coordinated responses. This integration will manifest in multifunctional landscapes that provide multiple benefits from climate resilience to biodiversity conservation and economic upliftment of the local communities.

Leveraging Technology and Innovation: Building on the successes from previous interventions, this programme will integrate cutting-edge technologies and innovative practices to enhance the efficacy and efficiency of project interventions. This includes the use of drones for reforestation monitoring, mobile applications for farmer advisories, and innovative water management technologies that improve resilience to climate variability.

Scalability and Replicability: A key lesson from past initiatives is the importance of designing projects with scalability in mind. This programme aims to create models that are not only effective on a small scale but can also be expanded and adapted to different contexts within the Great Green Wall initiative, potentially influencing regional policies and practices.

These strategies are informed by a comprehensive analysis of past projects, ensuring that the programme design is built on a solid foundation of proven practices and innovative solutions. This informed approach positions us to achieve the ambitious goals of restoring degraded land, enhancing biodiversity, and improving the livelihoods of communities across the Sahel-Sahara region.

The objective of the programme is to restore landscapes and ecosystem services and strengthen the climate resilience of communities living in arid and semi-arid environments across the GGW region through a transnational and coordinated approach, supported by strengthened local and regional capacity for SLM, NRM, CCA and knowledge-sharing. It focuses on three aspects which encapsulate the barrier removal strategy of the proposed project: i) enhancing policy and institutional capacity, while including domestic resources mobilisation, gender mainstreaming and knowledge management; ii) the promotion of equitable and diversified climate-resilient livelihood opportunities; and iii) the application of integrated natural resources practices to restore degraded land and forests while sustainably managing the limited water resources.

Incorporating Lessons Learned from Past Initiatives:

Drawing from a rich history of environmental and community development projects within the Great Green Wall initiative and beyond, the programme is intentionally designed to integrate these critical lessons into every facet of its approach. This subsection elaborates on how each lesson learned has been converted into actionable strategies that inform the program's design and implementation:

Community Engagement as a Core Principle: Successful projects have consistently shown that deep, meaningful engagement with local communities leads to more sustainable and effective outcomes.

Application: The programme incorporates this lesson by establishing community advisory boards and using participatory mapping tools to involve community members in project planning and monitoring from the outset.

Adaptive Management for Resilience: The dynamic nature of environmental projects requires flexibility and the capacity to respond to changing conditions and feedback.

Application: We are implementing an adaptive management framework that includes regular review cycles and the flexibility to pivot strategies in response to new information or feedback from on-ground activities.

Integrated Approach to Environmental Challenges:

Integration: Addressing climate change, land degradation, and biodiversity in silos is less effective than integrated approaches.

Application: The interventions are designed to achieve multiple benefits, such as combining reforestation with sustainable agriculture practices and biodiversity conservation, to maximize ecological and social returns.

Technology and Innovation for Scaling Impact: Leveraging technology can significantly enhance the scale and effectiveness of environmental interventions.

Application: Remote sensing, GIS, and mobile technology are integrated into the monitoring and evaluation processes, ensuring that data-driven decisions can scale impacts more broadly across the region.

Building Local Capacity: Sustainable change often hinges on the local capacity to maintain and scale project gains.

Application: The programme focuses on training local practitioners and community leaders in sustainable land management practices, ensuring that knowledge and skills remain in the community long after project completion.

Financial Sustainability: Projects that incorporate mechanisms for ongoing funding are more likely to sustain impacts.

Application: We are exploring innovative financing solutions such as payments for ecosystem services, green bonds, and partnerships with the private sector to ensure long-term financial sustainability.

This structured approach to incorporating lessons ensures that the programme is not only built on a foundation of proven practices but is also poised to innovate and adapt these practices to local contexts. By aligning the programme strategies with these lessons, we are better equipped to achieve the goals of restoring degraded lands, enhancing biodiversity, and improving the livelihoods of communities across the Sahel-Sahara region.

The Theory of Change for this Programme is embedded in the context of the GGW region, acknowledging that the effective management of natural resources in a context that is characterised by challenges related to, *inter alia,* widespread aridity, severe climate change impacts, policy and institutional inadequacies, high

poverty levels and political fragility, requires a comprehensive approach that recognises the complex relationships between ecological, economic and social systems.

The underpinning Theory of Change (ToC) for the proposed GGW Programme proposes that positive outcomes can be achieved by addressing the underlying causes of resource depletion, land degradation, limited capacities for adaptation and inequality, while simultaneously building and strengthening the institutional and policy environment for supporting the socioeconomic wellbeing of local communities that depend on the natural resources for their livelihoods.

Theory of Change

The successful implementation of the GGW initiative requires local, national and regional approaches that integrate national efforts under a unified framework. The steps outlined below describe the approach taken to align and optimise the proposed child projects and ensure that they address common climate and socio-ecological challenges across the GGW region with adequate local level stakeholder participation, engagement and capacity.

The regional approach, to be complemented by local level stakeholder participation, engagement and capacity development, in the Theory of Change (ToC) facilitates improved coordination of CCA to enable large-scale restoration of ecosystems and livelihood security in participating countries.

- **Step 1:** Common climate challenges across the proposed child projects were identified and collated to produce a regional Problem Tree for the GGW region. Climate rationales from the nine child projects, as well as regional data from a regional coordination PIF were incorporated into the Problem Tree.

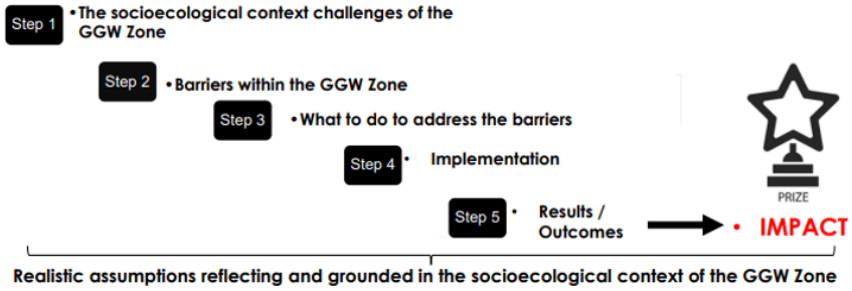
- **Step 2:** Child project outcomes were collated under four revised regional programme components. Where appropriate, outcomes were adjusted to fit the regional context.

- **Step 3:** Common socio-ecological and climate challenges across the GGW region, identified in the regional Problem Tree, were used to determine impact pathways for the proposed regional programme. These points of intervention were developed into preferred solutions — presented in a solutions matrix — and structured to ensure alignment with the child projects.

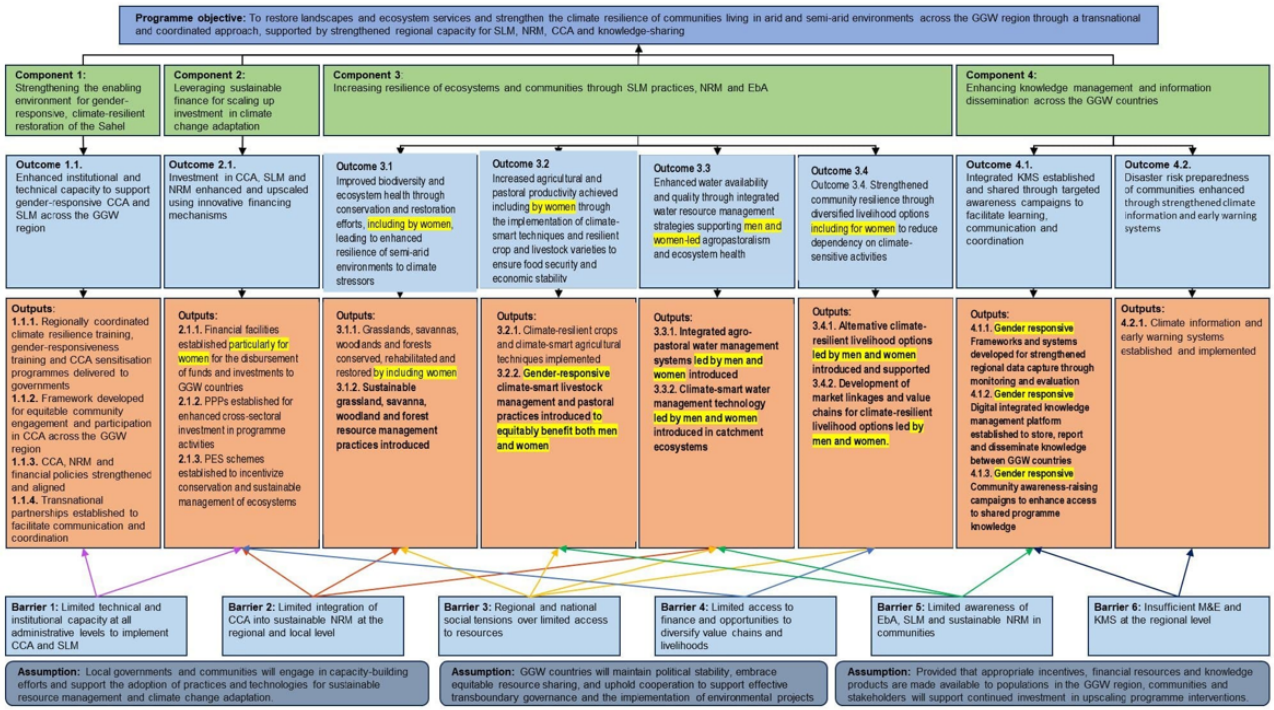
- **Step 4:** Barriers to the proposed programme were identified based on information contained in the child projects and merged into common regional barriers.

- **Step 5:** A regional Logical Framework was developed using the outcomes identified in Step 2 and common barriers drawn from the child projects. The regional barriers were revised and updated as necessary.

- **Step 6:** The Logical Framework from Step 6 and a revised regional problem statement were used to develop a ToC that represents the objectives of all nine child projects. Outputs in the ToC were developed in alignment with the aims of the child projects and the need for regional coordination in the GGW region.



The logic underpinning the pathway to impact for the Programme.



In order to create a cohesive regional narrative, the ToC:

- Harmonises climate and baseline challenges from child projects in the context of the GGW region (Step 1);
- Revises and combines the child project outcomes into programme outcomes (Steps 2 & 6);
- Proposes the most feasible solutions to address the regional climate and baseline challenges (Step 3);
- Incorporates barriers in the GGW countries into regional barriers (Steps 4 & 6);
- Revises the regional outcomes, ensuring they address the regional barriers (Steps 5 & 6); and
- Improves the detail of the interventions by creating regional outputs and incorporating them into a cohesive, coordinated theory (Step 6).

The diagram shows how the envisaged impact closes a loop with the context of the GGW. This is important because this is an expression of the theory's continued recognition of the social and economic factors that contribute to resource depletion, such as poverty, unequal distribution of resources, and inadequate governance structures. In the logic of this theory of change, the proposed measures and responses will yield a package of outcomes and results that will endure and remain resilient to the future changes in the drivers of environmental degradation. The variety of outcomes and results in terms of capacity development, improved implementation of integrated NRM practices to improve land productivity, land cover and soil organic carbon, improvement of livelihoods with linkages to local, regional and global markets, gender mainstreaming, resource mobilization and multi-stakeholder engagement, and knowledge management, will strengthen the socioecological system enough for endurance and resilience to changes. The strength will be in diversification of outcomes and results – diversification in key areas that have been identified based on a thorough diagnosis of what the real challenges are in the GGW region.

The steps as explained and illustrated in the theory of change above constitute the thought process underpinning the theory, but also succinctly summarize the causal pathway arising from the GGW region context, barriers, measures/responses, results and outcomes and finally, the impact. Following this causal pathway, this Programme is poised to influence positive change in the socioecological context of the GWW zone – the context has been thoroughly identified through various consultations involving a broad range of stakeholders, and the measures proposed have been vetted to be aligned with national development priorities and the mandate of the Pan African Agency for the Great Green Wall.

The realization of this Programme as detailed in this theory of change is based on assumptions that are characteristic of the GGW region. These relate to political will from participating countries, stakeholder continued engagement, resource and institutional capacity available, peace and security and absence of any serious threats from COVID-19.

Given its architecture but more so in response to the specific context of the GGW region, the Programme will use integrated and coordinated approach that builds on lessons from baseline investment and capitalize on the wealth of experiences and resources from various stakeholders to achieve impactful outcomes at scale.

In this regard and to varying degrees, the Programme will target governance and policies, innovation and learning, and multi-stakeholder dialogues which include local level stakeholder participation, engagement and capacity. Improving governance and policies including at local level will create a more supportive environment for the implementation of the GGW Initiative as this addresses the barrier related to policy and institutional inadequacies. This aspect will be particularly important in the GGW countries, where governance structures are being strengthened through climate change adaptation initiatives.

Innovation and learning which will include local level stakeholder participation, engagement and capacity will create new socioeconomic opportunities that will improve livelihoods of communities – reduce poverty levels, reduce conflicts linked to resource scarcity thereby removing the poverty barrier to integrated natural resources

management. The climate adaptation projects in Mali, Burkina Faso, and Mauritania are prime examples of such innovative approaches, focusing on sustainable land management, biodiversity conservation, and climate-resilient agriculture.

Finally, multi-stakeholder dialogues will strengthen local, national and regional coalition groups and create opportunities for knowledge sharing and for scaling up best practices. This will be complemented by the collaborative efforts seen in Mali, Burkina, and Mauritania, where local communities, government entities, and international organizations are working together to address the challenges posed by climate change.

These integrated efforts, combining local, national and regional strategies with targeted initiatives particularly on adaptation, will ensure a holistic and effective approach to addressing the multifaceted challenges of the GGW region. By addressing governance, policy, innovation, learning, and fostering multi-stakeholder engagement including at communities level , the Programme aims to create a resilient, sustainable, and prosperous GGW region.

The current landscape of investments by various development partners in the GGW region has supported efforts to increase community resilience to climate change, promote biodiversity conservation through natural regeneration, create jobs (especially for youth), and enhance capacities. The GEF-8 GGW Programme will build upon and catalyze these baseline investments to provide a two-tiered strategic support through the regional project and Child Projects.

The contribution of climate adaptation projects (in Mali, Burkina Faso, and Mauritania) introduces additional dimensions to the Programme's thematic focus as it will provide opportunities to achieve global environment and adaptation benefits. These projects align with GEF-8 programming priorities and the mandates of the Rio Conventions, reinforcing the Programme’s commitment to addressing environmental and socioeconomic challenges within the GGW region. The thematic focus is centered on interventions leading to Sustainable Land Management (SLM), including land restoration, rehabilitation, agroforestry, rangeland management, promotion of local enterprises and Public-Private-Partnerships (PPPs), stakeholder mobilization, advocacy and communication, women empowerment and Gender Equality and Social Inclusion (GESI), institutional capacity building, policy strengthening, and an effective accountability, monitoring, and evaluation framework.

As noted, the Programme will bring together various players including from local communities to simultaneously address the environmental and socioeconomic challenges within the GGW. This approach aligns with national priorities as expressed through national policies on environmental protection and management and improving the wellbeing of communities reliant on natural resources for their livelihoods. Thus, the Programme seeks to remain consistent with both national priorities and international environmental commitments. The programme and child project designs have been based on finding from national baseline studies in each GGW country and the regional synthesis with all the national GGW agencies during the meeting held in Accra in margin of the GEF 8 programing workshop organized by the GEF secretariat for the West countries.

The climate adaptation projects in the participating countries constitute an important baseline for the programme which will serve as important enablers to this programme. The adaptation projects in Mali, Burkina, and Mauritania are tailored to address the unique challenges faced by these countries in area of impact to climate change. Dealing with specific climate risks, catering to the unique ecological and social contexts, and ensuring that interventions approaches enable and are locally driven, these adaptation projects will provide opportunities to learn and design long term adaptation approach in the GGW countries. Another enabler of the programme is the *Integration and Synergy with Regional Efforts.* These country-specific projects add value to the broader GGW initiative by bringing in localized knowledge, innovative practices, and additional resources. The consideration of these adaptations' activities into the GGW framework ensures a more cohesive approach to addressing the multifaceted challenges of the Sahel region.

Having outlined the key pathways through which the programme aims to achieve its objectives, the subsequent section details the direct socioeconomic impacts expected as a result of these strategic interventions. This alignment ensures that the goals defined in the Theory of Change translate into tangible benefits for the communities and ecosystems within the Sahel-Sahara region.

Socioeconomic Benefits of the Programme

The Great Green Wall Initiative not only seeks to combat environmental degradation and the impacts of climate change, but also aims to significantly improve the socioeconomic conditions of the people living in the Sahel-Sahara region. This programme is designed to deliver multifaceted socioeconomic benefits that are sustainable and impactful. Here are the key socioeconomic outcomes we anticipate:

Employment Opportunities: The programme will generate new employment opportunities through various projects such as reforestation, sustainable agriculture, and infrastructure development. These projects are labor-intensive and will primarily employ local community members, thus directly reducing unemployment and underemployment in the region.

Enhanced Food Security: By implementing sustainable land management and agricultural practices, the programme aims to increase agricultural productivity and resilience. This will lead to better food security and nutrition for local communities, reducing dependency on food imports and vulnerability to food price volatility.

Economic Diversification: Through the introduction of new sustainable practices and technologies, the programme encourages economic diversification. Communities will benefit from new income sources such as eco-tourism, the sale of carbon credits, and sustainable handicrafts, reducing their reliance on traditional and often unsustainable economic activities.

Capacity Building and Skill Development: The programme includes comprehensive training modules on sustainable practices, business management, and environmental stewardship. This capacity building ensures

that community members not only find employment but also progress in their careers and personal development, fostering a skilled workforce within the region.

W**omen and Youth Empowerment:** Special emphasis is placed on empowering vulnerable groups, particularly women and youth, by providing them with access to education, resources, and specific job opportunities in the environmental and agricultural sectors. This strategy aims to promote inclusivity and equality, ensuring that these groups become key drivers of change and benefit directly from the program.

Strengthening Local Economies: By boosting local industries and small businesses through support schemes and microfinancing, the programme helps to strengthen local economies. Increased economic activity will encourage the circulation of money within the region, promoting overall economic resilience.

Infrastructure Development: Investment in infrastructure such as water management systems, roads, and marketplaces will improve living conditions and economic efficiency, attracting more business to the region and improving access to markets and services.

These benefits are integral to the programme's strategy, ensuring that the initiatives not only transform the landscape but also bring about significant improvements in the socioeconomic conditions of the region's inhabitants.

It is recalled here that pervasive issues in the GGW region include water scarcity, erratic rainfall, and rising temperatures, intensifying desertification. Poor land management practices and unsustainable resource use contribute to land degradation, hindering vegetation growth. Socioeconomic factors, including poverty and population pressure, exacerbate vulnerability. Additionally, political instability and conflicts disrupt implementation efforts. Balancing sustainable development with environmental conservation poses a complex challenge. A number of regional initiatives have been addressing this complex socioeconomic and environmental complex challenge. This Programme will coordinate with, build on and draw lessons from these initiatives, which include the following:

- The GCF US$180 million Inclusive Green Financing Inclusive: Greening Agricultural Banks and the financial Sector for Foster Climate Resilient Low Emission Smallholder Agriculture in The Great Green Wall.
- The US$143 million Africa Integrated Climate Risk Management Programme by IFAD which is working with the African Development Bank (AfDB), the World Food Programme (WFP) and the African Risk Capacity (ARC) Group
- The Sweden-UNDP US$15.6 million Strengthening Capacities for Disaster Risk Reduction and Adaptation for Resilience in the Sahel Region: fostering risk-informed solutions for sustainable development project

- The G5 Sahel-IFAD US$184.4 million Joint Programme for the Sahel in Response to the Challenges of COVID-19, Conflict and Climate Change
- The EU €121 million Programme emergency for the stabilization of border areas of G5 Sahel
- The AfDB US$100 million Technology for Africa's Agricultural Transformation programme
- The EU US$9.6 million BIOSTAR – Sustainable Bio-energies for agri-food small enterprises in rural West Africa
- The World Bank US$251 million Sahel Pastoralism Support Project II
- The EU €25 million Regional Programme dialogue and investment for pastoralism and transhumance in the Sahel and in coastal West Africa countries
- The EU €7 million Project to Promote Agroecological intensification to promote farm resilience in the Sahel.
- The GEF US$9.78 million Great Green Wall Climate Change Adaptation Regional Support Project which is implemented by IFAD to improve access to best practices, foster innovation and digital transformation and facilitate cross-learning across Great Green Wall countries for enhanced sustainability and resilience to climate change impacts.
    - The Knowledge for Great Green Wall Action (K4GGWA): Launched in 2023, the programme is led by CIFOR-ICRAF and the Food and Agriculture Organization of the United Nations (FAO). It aims to enhance their knowledge management and sharing mechanisms, develop learning and data platforms, foster dialogue at national and regional levels, and fund innovations. It also aims to strengthen policies and institutions and enhance the capacities of national and regional GGW agencies.

Thus, this Programme will be linked to important efforts, experiences, lessons and resources from GCF, GEF, EU, IFAD, UNDP, Sweden, AfDB, World Bank, WFP, African Risk Capacity Group and the G5 Sahel to address barriers that are conceptually related to natural resources management, climate change issues, policy and institutional capacities issues and knowledge management. Thematically, these relate to land degradation, biodiversity conservation and climate change GEF Trust Fund and LDCF focal areas. Institutional capacity issues are cross-cutting in all the focal areas. In a context as the GGW region, the adaptation challenges cannot be dissociated from challenges of land degradation, biodiversity loss and impacts of climate change, including challenges of extreme weather events. Therefore, combined, the Programme brings together GEF-8 TF and LDCF programming priorities to address land degradation, biodiversity conservation and climate change adaptation and mitigation all in one design.

At operational and coordination level, the Programme presents an opportunity for collaboration with key development partners in scaling up best practices, in innovatively working with the private sector, non-government actors, different governments and others beyond traditional partners. Institutions such as the Panafrican Agency of the GGW I, for example, will coordinate certain activities of the Programme. With partners such as the World Bank, IFAD and EU, meetings will be organised for stakeholder participation to share experiences and lessons to inform the implementation of the Programme.

It should be recalled however this Programme represents an important milestone in the GEF's commitment to supporting country driven-demands in the GGW region to promote best practices, ensure multi-stakeholder involvement, and establish a comprehensive approach to knowledge management and capacity building to leverage and scale-up best practices that have been supported through GEF investments in collaboration with strategic development partners such as AfDB, IFAD, the World Bank, FAO, UNEP and GCF, among others including through cooperation with the LDCF. With this broad range of actors, the proposed Programme will support countries to harness opportunities to address environmental degradation and impacts of climate change in a holistic and coherent manner in the GGW region.

By building on interventions by various strategic partners, particularly AfDB, World Bank, GCF, BOAD and IFAD, the Programme will not be implemented in isolation, but will continue to engage these partners through their portfolios in the GGW region to strengthen complementarities and synergies for more impact at scale.

The GEF has provided catalytic financing to the GGW region through GEF-5, GEF-6 and GEF-7, including the UNEP-implemented *Harnessing the Great Green Wall Initiative for a Sustainable and Resilient Sahel* project. The project engages with GGWI partners to foster meaningful dialogue with countries and lay out a longer-term vision for the region promoting systems transformation for sustainable and climate resilient growth. Consistent with its funding modality to provide catalytic funding, this proposed Programme is yet another opportunity for stakeholder engagement through, for example, planned and on-going initiatives. These include the Great Green Wall Multi-actor Accelerator, announced by the President of France Emmanuel Macron and other world leaders at the One Planet Summit on January 11th, 2021, seeks to facilitate the coordination and collaboration of donors and stakeholders involved in the GGWI. USD 14.3 billion was pledged in new funding. With the recent pledge of over US$19 billion in funding from a coalition of the GCF, international development banks, and governments, investments will be focused to scale-up and accelerate efforts to sustain livelihoods, conserve biodiversity, and combat desertification and climate change. This proposed Programme will essentially contribute to these overarching priorities within the GGW region.

Carved from country commitments to address socioeconomic, environmental and climate change challenges, the proposed Programme will contribute to the implementation of the Panafrican Agency of the Great Green Wall to restore 100 million hectares of degraded land, sequester 250 million tons of carbon and create 10 million green jobs in rural areas in collaboration with key development partners, including the UNCCD through its supports to Panafrican Agency of the Great Green Wall to track progress and ensure more coordinated support between and among the GGW member states.

The programme is designed to be transformational and use: the Participation and inclusiveness; Scientific and technical foundation of the Programme; the Institutional anchorage as levers for the transformation. In addition to the participation of the many stakeholders in the project design (Parliamentarians, IPLC representative, CSO, Research and academia, Government institutions in charge of the GGW, the GEF Operational Focal Points; Youths and Women association, the Private sector; the programme will build on the role of the national coalition establish in each country. These national coalition varies in composition and anchorage from country to country, but the Regional Coordination Child Project and the national project will support harmonized approach and will strengthen the capacity of these coalitions to ensure that the projects and the programme will deliver in holistic manner with involvement of all stakeholders. The programme transformation will be supported by scientific and technical foundation of the Programme. The baseline assessment of the biophysical condition and

socioeconomic contexts in the Great Green Wall Areas of the participating countries will continue to serve for basis for programming and monitoring the programme. The design of the programme has brought together regional institutions of the GGW (Panafrican Agency, African Union, Sahel and Sahara Observatory, Inter States Committee to fight Drought in Sahel (CILSS) etc. and National GGW entities), these institutions have made the GGW programme as one of the core programs in their mandates. The programme will maintain the momentum and promote this transformative approach using the Regional Coordination Project. The regional coordination will learn from the experience of the World Bank led GEF 5 GGW programme to continue the collaboration and synergetic implementation of the GGW initiative.

Strategic Alignment with Ongoing Efforts: The Programme is strategically designed to enrich and extend the reach of existing initiatives targeting climate change, desertification, and sustainable development across the Sahel. By weaving innovative financing, community empowerment, and cross-sectoral partnerships into the fabric of the project's approach, the aim is to amplify the collective impact of these efforts. This section outlines how the Programme complements and enhances the existing landscape of interventions through key areas of focus:

Innovating Financing for Broadened Impact: The programme introduces innovative financing models including Climate Adaptation Funds, Public-Private Partnerships (PPPs), green bonds, and Payment for Ecosystem Services (PES). These models aim to secure sustainable funding streams for climate resilience projects, ensuring scalability and longevity. This financial innovation not only attracts new investments but also encourages a move away from sole reliance on traditional funding sources.

Community-Centric Resilience Building: At the heart of the programme lies a commitment to engaging local communities directly in climate adaptation activities. By ensuring interventions are culturally appropriate and aligned with local needs, this approach guarantees greater adoption, sustainability, and resilience at the community level, leveraging local knowledge and practices.

Fostering Cross-Sectoral Integration: Recognizing the interconnected nature of climate challenges, the project promotes holistic solutions that span agriculture, water management, biodiversity conservation, and climate finance. This ensures efforts are synergistic and reinforce each other, leading to more comprehensive and impactful outcomes.

Coordinated Approach with Institutional Partnerships: The collaboration between the Great Green Wall Agency BOAD and UNEP exemplifies the project's strategic use of institutional partnerships to achieve broader goals. This partnership leverages the strengths of each entity, pooling resources, expertise, and influence to drive substantial change both locally and regionally.

Knowledge Sharing and Policy Advocacy: By acting as a conduit for sharing best practices and innovative solutions, the project enriches the dialogue around climate resilience, informing policy decisions and fostering a collaborative learning environment among all stakeholders.

Technological Innovation for Enhanced Efficiency: Embracing digital solutions for monitoring, evaluation, and project management, the project improves operational efficiency and effectiveness, enabling agile responses and informed decision-making.

Complementarity with the Green Climate Fund (GCF): Aligning with the strategic vision for synergy between the GEF and GCF, this project seeks to collaborate closely with GCF-funded initiatives, particularly within the GGW framework. This alignment ensures that the efforts are coherent, mutually reinforcing, and collectively more impactful.

Through its innovative financing, community engagement, and institutional partnerships, the programme not only complements but significantly enhances the existing suite of interventions aimed at combating climate change and promoting sustainable development in the Sahel. By aligning closely with national and regional strategies and leveraging the strengths of diverse stakeholders, we are poised to contribute to a resilient, sustainable, and prosperous future for the Sahel region

Strategies for GEF-GCF Collaboration

- Joint Implementation Framework: Develop a concrete approach for collaboration with the GCF's IGRENFIN programme by IFAD, ensuring that the efforts are harmonized and mutually reinforced. This framework will outline roles, responsibilities, and mechanisms for coordination between GEF-funded initiatives and GCF's interventions in the region.

- Complementary Financing: Explore opportunities for complementary financing models where GEF funding can catalyze additional resources from the GCF, particularly for scaling successful adaptation practices and technologies across the GGW region.

- Knowledge Sharing and Learning: Establish a platform for knowledge exchange and joint learning between GEF and GCF projects. This will facilitate the sharing of best practices, lessons learned, and innovative solutions for climate adaptation and resilient agriculture, contributing to the collective knowledge base and enhancing project outcomes.

- Stakeholder Engagement and Capacity Building: Coordinate stakeholder engagement activities with the GCF to ensure that local communities, governments, and other relevant stakeholders are effectively involved in and benefit from both GEF and GCF projects. Joint capacity-building efforts will be prioritized to maximize the impact and sustainability of interventions.

- Monitoring, Evaluation, and Reporting: Align monitoring, evaluation, and reporting frameworks with GCF to ensure that project impacts are adequately captured and contribute to the GEF-GCF long-term vision for complementarity and coherence. This alignment will also facilitate the aggregation of results and the demonstration of collective impact in the GGW region.

- Briefly describe in more detail the programme components (interventions and activities) identified in the theory of change. Provide brief information on each intervention, the main thrust and basis (including scientific) of the proposed solutions, how they address the problem, their justification as a robust solution, and the critical assumptions and risks to achieving them.

The GGW region has potential for renewable energy, the growth of agriculture, and the development of tourism. However, the zone is generally characterised by environmental degradation, drought and desertification, food insecurity, high levels of poverty, conflicts and political instability, climate change and extreme weather events, and lack of infrastructure. Countries within the zone face serious constraints to address these challenges. These challenges are related to poverty, weak technical and institutional capacities, resource degradation, weak adaptation, and low investments in agro-sylvo-pastoral production systems, lack of strong coalitions, no robust monitoring system, no technological tools, and weak environmental mainstreaming in development programs, sectoral approach, and weak sustainability.

The overall programme objective will be achieved through four integrated components listed below.

- Component 1: Strengthening the enabling environment for gender-responsive, climate-resilient restoration of the Sahel
- Component 2: Leveraging sustainable finance for scaling up investment in climate change adaptation
- Component 3: Increasing resilience of ecosystems and communities through sustainable land management (SLM) practices, natural resource management (NRM) and ecosystem-based adaptation (EbA)
- Component 4: Enhancing knowledge management and information dissemination across the GGW countries

The programme components are described in more detail below.

Component 1: Strengthening the enabling environment for gender-responsive, climate-resilient restoration of the Sahel

Countries in the Sahel have limited capacities to coordinate gender-responsive, climate-resilient restoration of their production landscapes effectively. Component 1 aims to strengthen an environment that enables this

restoration by coordinating CCA training of government stakeholders, developing community engagement frameworks, strengthening financial policies, and establishing transnational partnerships.

Under Component 1, the Programme will bolster gender-responsive organizational structures and expertise to address the unique challenges that communities face due to gendered roles vis-à-vis the access and use of natural resources, but also the ability to cope with the impacts of climate change. The Programme will support interventions to integrate gender perspectives into climate adaptation strategies, ensuring equitable access to resources and decision-making processes. This will entail developing specialized training programs, fostering partnerships, and deploying technologies tailored to local contexts. By promoting women's participation and leadership roles, the Programme under this component will harness diverse knowledge and experiences to devise more gender-responsive effective solutions. Strengthening institutional frameworks enables coordinated efforts and resource allocation, while technical advancements enhance monitoring, early warning systems, and sustainable land practices. Component 1 is rationalised on the understanding that ineffective institutional integration and coordination in addressing climate-related challenges lead to minimal collective efforts and sporadic achievements.[1] Ultimately, this approach will be posed to empower communities to mitigate climate risks, conserve natural resources, and build resilience, fostering inclusive and sustainable development across the Great Green Wall region.

Outcome 1.1: Enhanced institutional and technical capacity to support gender-responsive climate change adaptation and SLM across the GGW region

Baseline scenario

There is limited institutional and technical capacity for implementing CCA and SLM in the GGW region. Land use regulations do not meet the required standards for the GGW programme in the region and land use is disproportionately managed by men. In communities, women tend to take on different roles than men. Institutions often overlook the contributions of women and they are seldom consulted when making land-use decisions. Furthermore, institutions at all levels in the GGW region have limited CCA knowledge. Governments have limited technical and institutional capacity to inform and train communities on the importance of and steps involved in CCA and EbA. An enabling environment must be established on a regional scale to facilitate gender-responsive, climate-resilient restoration in the Sahel.

Programme approach

Under Outcome 1.1, the institutional and policy frameworks to support CCA and SLM will be strengthened. This will be achieved by promoting horizontal and vertical coordination in and between national institutions and strengthening the technical capacity of institutions at the regional and national levels.

In order to meet the aims of Outcome 1.1, regionally coordinated climate resilience training, gender-responsiveness training and CCA sensitisation programmes will be delivered to governments (Output 1.1.1). These programmes will prepare governments to contribute to the programme by reinforcing a standardised understanding of gender equity and CCA practices in governments across the Sahel. As governments are being

trained in gender-responsive CCA practices, a framework for sharing this knowledge with communities will be developed (Output 1.1.2). Media access varies between countries in the Sahel. Consequently, governments are best equipped to deliver information to their communities effectively.

In order to ensure effective use of programme funds, CCA, NRM and financial policies will be strengthened and aligned with the broader GGW goals (Output 1.1.3). The programme will harmonise policies across the GGW region to prepare governments for collaboration in on-the-ground activities. This harmonisation will reinforce regional communication and coordination by establishing partnerships between governments to facilitate this (Output 1.1.4) in line with the programme's overall objective.

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Outputs

- **1.1.1.** Regionally coordinated climate resilience training, gender-responsiveness training and CCA sensitisation programmes delivered to governments: Activities under this output will equip officials with the knowledge and tools to integrate gender perspectives into climate resilience efforts, ensuring inclusivity and effectiveness. By fostering collaboration among regional governments, the activities enhance collective capacity to address climate challenges, promote sustainable development, and empower vulnerable communities across the Great Green Wall region.

- **1.1.2.** Framework developed for equitable community engagement and participation in climate change adaptation across the GGW region: The Programme will support the establishment of guidelines and mechanisms for a framework to involve diverse community stakeholders, including marginalized groups and women, in decision-making processes. By promoting inclusivity and local ownership, the framework will facilitate the development and implementation of adaptive strategies that reflect community needs and priorities, fostering resilience and sustainability in the face of climate change.

- **1.1.3**. Climate Change Adaptation, Natural Resources Management and financial policies strengthened and aligned: This output entails the revision and alignment of existing policies to integrate climate resilience and sustainable land management principles. By strengthening regulatory frameworks and enhancing financial mechanisms, the Programme will facilitate the implementation of adaptation measures and promote the conservation of natural resources. This alignment fosters coordinated action and resource allocation, enhancing the region's capacity to mitigate climate risks and promote sustainable development.

- **1.1.4.** Transnational partnerships established to facilitate communication and coordination: This output will involve establishing collaborative networks among governments, organizations, and communities in participating countries. These partnerships enable the sharing of knowledge, resources, and best practices, enhancing collective efforts to address climate challenges and promote sustainable development. By fostering cross-border cooperation, partnerships will become instrumental in strengthening resilience and promoting inclusive growth, fostering a more cohesive and effective approach to addressing environmental and socio-economic issues in the region. Indeed, the inclusion of this output draws on the understanding that strong and diverse regional knowledge arenas, where data is shared and common understandings develop across diverse constituencies, contribute to resilience and inclusive growth in communities.[2]

Overall, under Outcome 1.1, the institutional and policy frameworks to support CCA and SLM will be strengthened. This will be achieved by promoting horizontal and vertical coordination in and between national institutions and strengthening the technical capacity of institutions at the regional and national levels.

Component 2: Leveraging sustainable finance for scaling up investment in climate change adaptation

Given economic and financial facilities, countries within the GGW region are not prepared to distribute programme funds effectively. Under Component 2, the Programme will support initiatives and mechanisms to mobilize funds from diverse sources to support resilience-building initiatives. This approach will include attracting private sector investment, accessing international climate finance mechanisms, and harnessing innovative financial instruments such as green bonds and impact investing. By aligning investment strategies with climate adaptation priorities, the Programme will unlock resources for projects that enhance agricultural productivity, promote reforestation, and build community resilience to climate shocks. Additionally, it involves strengthening financial institutions' capacity to assess and manage climate risks, thereby increasing investor confidence and fostering sustainable development. Overall, leveraging sustainable finance will empower the Great Green Wall region to implement transformative adaptation measures, mitigate the impacts of climate change, and achieve long-term environmental and socio-economic sustainability.

Outcome 2.1: Investment in climate change adaptation (CCA), SLM and natural resource management enhanced and up-scaled using innovative financing mechanisms

Baseline scenario

The Great Green Wall Initiative has produced positive, though inconsistent, results in the GGW countries. Overall, the GGW region has not restored the area of land it was expected to under the initiative. Funds have been disbursed in an inefficient way, resulting in underdelivery of the initiative's targets. Robust financial facilities and innovative financing mechanisms must be established to spend funds effectively and meet GGW targets.

Programme approach

The GGW region experiences high levels of poverty, food insecurity, and limited economic opportunities, with women being disproportionately affected by these challenges. Under Outcome 2.1, the programme will improve economic development by promoting local enterprises, establishing public-private partnerships (PPPs) and introducing payment for ecosystem services (PES) schemes while ensuring gender equity. This approach offers income generation and economic growth opportunities in the GGW region and supports sustainable natural resource management.

Effective use of funds necessitates reliable systems to process cash transfers and manage investments. The programme will establish financial facilities to disburse funds and investments to GGW countries (Output

2.1.1). Given the limited institutional capacity across the region, Outcome 2.1 will encourage investment in programme activities by establishing PPPs to enhance cross-sectoral investment in these activities (Output 2.1.2). Since the programme objective is to restore degraded land that benefits communities and stakeholders throughout the GGW region, there is an opportunity to source additional funds through PES schemes (Output 2.1.3). Potential investors in PES schemes are stakeholders whose profits will likely be affected by the climate hazards and impacts identified for the region, including those in the agricultural, construction and tourism industries. Given the large scale of the GGW programme, these innovative financing mechanisms will be crucial for ensuring its longevity.

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Outputs

- **2.1.1.** Financial facilities established for the disbursement of funds and investments to GGW countries: The facilities to be established under output 2.1.1 will serve as mechanisms for channeling, particularly to women, financial resources from various sources, including international donors, private investors, and development banks, to support GGW initiatives. By providing streamlined processes for accessing funding, the facilities will enhance the capacity of GGW countries to implement climate change adaptation, sustainable land management, and resilience-building interventions, fostering inclusive and sustainable development across the region.

- **2.1.2.** PPPs established for enhanced cross-sectoral investment in programme activities: The partnerships under output 2.1.2 will bring together government entities, private sector actors, and civil society organizations to jointly finance and implement GGW initiatives. By leveraging the expertise, resources, and networks of multiple stakeholders, PPPs enable more efficient and impactful delivery of climate change adaptation, sustainable land management, and resilience-building projects. They promote collaboration, innovation, and shared responsibility, driving inclusive and sustainable development in the GGW region.

- **2.1.3.** PES schemes established to incentivise conservation and sustainable management of ecosystems: The Programme will support mechanisms to compensate landowners or communities for maintaining or restoring ecosystem services such as carbon sequestration, water purification, and biodiversity conservation. The mechanisms will encourage sustainable land use practices, reduce deforestation and land degradation, and promote resilience to climate change. They enhance local livelihoods, foster community engagement, and contribute to the long-term sustainability of the GGW region.

Component 3: Increasing resilience of ecosystems and communities through sustainable land management (SLM) practices, natural resource management (NRM) and ecosystem-based adaptation (EbA)

Component 3 will increase the climate resilience of the GGW region and local communities by incorporating SLM, NRM (including sustainable water management) and EbA into landscape restoration and community livelihoods. Interventions under this component will shift environmental management from top-down focused approaches that are disconnected from local livelihoods to a participatory approach where crop and livestock farmers actively lead ecosystem restoration and EbA integration. The implementation of site-specific interventions will involve collaboratively identifying these options with local stakeholders and jointly executing them. This integrated approach will safeguard ecosystems, water resources and farmers against climate-related hazards, thereby improving climate resilience.

This component will capture and build on environmentally-friendly management practices appropriate and practised within the GGW regional countries. These include, for example, Farmer Managed Natural Regeneration (e.g. developed in Niger), the water harvesting and water and soil conservation techniques very well adapted to the region. All these measures will significantly contribute to building and strengthening the socioecological resilience in the face of impacts of climate change. The success of these efforts will be captured and disseminated through Component 4, creating a feedback loop that reinforces the project's overall effectiveness.

Outcome 3.1: Improved biodiversity and ecosystem health through conservation and restoration efforts,including by women, leading to enhanced resilience of semi-arid environments to climate stressors

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Baseline scenario

Ecosystems in the GGW have experienced considerable degradation as a result of deforestation, intensive agriculture to support a growing population, overgrazing, inefficient water use and unsustainable land management. Erratic rainfall and prolonged droughts as a result of climate change have decreased the region's resilience and led to the loss of ecosystem services and biodiversity.

Programme approach

Under Outcome 3.1, the ecosystem services necessary for improving land productivity, retaining soil moisture and reducing desertification and erosion risk will be restored by rehabilitating grasslands, savannas, forests and woodlands (Output 3.1.1). The management of these ecosystems will also be improved by promoting the uptake of practices to improve soil and vegetative cover, restore native species and reduce land-use intensity (Output 3.1.2). Rehabilitation, restoration and sustainable land management will improve land condition, resource availability and biodiversity conservation. Potential site-specific restoration activities include natural land regeneration, active rangeland rehabilitation, reseeding, invasive species control and reforestation.

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Outputs

- **3.1.1.** Grasslands, savannas, woodlands and forests conserved, rehabilitated and restored, including by women: This output will involve implementing sustainable land management practices such as afforestation, reforestation, and agroforestry to restore degraded ecosystems and protect biodiversity. By enhancing vegetation cover and soil health, these efforts will mitigate desertification, combat land degradation, and increase carbon sequestration. Restoring natural habitats also provides ecosystem services, such as water regulation and habitat for wildlife, contributing to climate resilience and sustainable development in the GGW region; and

- **3.1.2.** Sustainable grassland, savanna, woodland and forest resource management practices introduced: This output will involve implementing strategies such as rotational grazing, controlled burning, and community-based natural resource management to promote ecosystem health and resilience. By fostering sustainable land use practices, these initiatives enhance biodiversity, improve soil fertility, and mitigate desertification and land degradation. Moreover, they support local livelihoods, empower communities, and contribute to the long-term sustainability of natural resources in the GGW region.

Outcome 3.2: Increased agricultural and pastoral productivity achieved including by women, through the implementation of climate-smart techniques and resilient crop and livestock varieties to ensure food security and economic stability

Baseline scenario

Local communities in the GGW are reliant on agro-pastoral activities for both livelihood and food security. Crops including maize, potatoes and wheat are vulnerable to heat stress as a result of increasing temperature, resulting in lower yields and crop quality. Livestock are increasingly susceptible to disease and heat stress, leading to decreases in milk production and weight gain. Food security in the GGW region is consequently highly climate-sensitive.

Programme approach

Under Outcome 3.2, food production will be improved through the introduction of drought-, pest- and disease-resistant crop varieties and the implementation of climate-resilient agricultural techniques that enhance soil health and water management (Output 3.2.1). Potential management techniques include cover cropping, conservation tillage, agroforestry, rainwater harvesting and drip irrigation. Enhanced livestock management through rotational grazing, the selection of locally-adapted livestock breeds and improved feed will also contribute to increasing food production (Output 3.2.2).

Outputs

- **3.2.1.** Climate-resilient crops and climate-smart agricultural techniques implemented, including by women: This output will involve introducing drought-tolerant crop varieties, conservation agriculture practices, and efficient water management techniques to enhance agricultural productivity and resilience to climate change. By diversifying crops, improving soil health, and reducing water usage, these initiatives will help farmers (both men and women) adapt to changing climatic conditions while safeguarding food security and livelihoods. They further promote sustainable land management and contribute to the overall resilience and sustainability of agricultural systems in the GGW region; and

- **3.2.2.** Climate-smart livestock management and pastoral practices led by men and women, introduced: This output will entail implementing strategies such as rotational grazing, improved animal husbandry techniques, and water management systems to enhance the resilience of pastoralist communities to climate change. By optimizing land use, preserving rangeland ecosystems, and mitigating the impacts of drought and desertification, these initiatives will promote sustainable livelihoods and food security. Additionally,

they support the cultural heritage of pastoralist communities while contributing to the overall resilience and sustainability of the GGW region.

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Outcome 3.3: Enhanced water availability and quality through integrated water resource management strategies supporting men and women led agro-pastoralism and ecosystem health

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Baseline scenario

Access to reliable, adequate water supplies for domestic and agricultural use in the GGW region is limited. Climate change has exacerbated the frequency and intensity of droughts, and in conjunction with inefficient ground and surface water management practices has resulted in water insecurity throughout the region.

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Programme approach

Under Outcome 3.3, water quantity and quality will be improved by developing water harvesting techniques like rainwater harvesting, employing conservation-based irrigation interventions, and planting vegetation that encourages soil water retention and reduces runoff and sedimentation in catchments (Output 3.3.1). Catchment management will also be improved by restoring wetlands and vegetation cover, thereby enhancing water retention, and implementing erosion control interventions such as terracing and vegetation buffer strips (Output 3.3.2).

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Outputs

- **3.3.1**. Integrated agro-pastoral water management systems led by men and women introduced: This output will involve implementing techniques such as rainwater harvesting, small-scale irrigation, and water recycling to enhance water availability and efficiency. By integrating water management across agro-pastoral activities, these systems will improve crop and livestock productivity, strengthen resilience to climate variability, and mitigate the impacts of drought while encouraging soil water retention and reduces runoff and sedimentation in catchments. Overall, the activities promote sustainable land use practices, conserve water resources, and contribute to the overall resilience and sustainability of the GGW region; and

- **3.3.2.** Climate-smart water management technology led by men and women, implemented in catchment ecosystems: This output will support deploying innovative techniques to optimize water use and minimizing wastage. These technologies improve agricultural productivity, support ecosystem health, and mitigate the impacts of climate change-induced water scarcity.

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Outcome 3.4: Strengthened community resilience through diversified livelihood options including for women to reduce dependency on climate-sensitive activities

Baseline scenario

Over two-thirds of livelihoods in the GGW region are reliant on climate-sensitive activities such as agriculture[3], with few options available to local communities to transition away from activities that are projected to be negatively impacted by climate change.

Programme approach

In addition to enhancing the climate resilience of existing livelihoods, the proposed programme will introduce alternative climate-resilient income-generating activities (Output 3.4.1), thereby diversifying the income sources for pastoral, agropastoral and farming communities in the GGW region, particularly for women. Several income-generating activities will be introduced, with potential options including: i) agro-processing; ii) marketing, distribution and trade of food, feed, fibre and non-timber forest products; iii) animal product processing; iv) artisanal industries; v) horticulture and community horticulture nurseries; vi) craft and basket making; vii) beekeeping and viii) textile work. Livelihood security will be enhanced by creating linkages between farmers, processors, wholesalers and retailers and encouraging local processing — such as milling and packaging — of agricultural products (Output 3.4.2).

Outputs:

- **3.4.1.** Alternative climate-resilient livelihoods led by men and women introduced and supported: The Programme will support activities under this output to reduce reliance on climate-sensitive sectors like agriculture and pastoralism, these livelihood options help buffer against environmental shocks, create employment opportunities, and improve economic stability; and

- **3.4.2.** Market linkages and value chains developed for climate-resilient livelihoods led by men and women: Under this output, the Programme will facilitate links between producers of climate-resilient goods and services and markets, locally and regionally and internationally. By facilitating access to markets, improving market infrastructure, and providing training in business skills, these initiatives will enable communities to capitalize on their climate-resilient products. This will enhance income generation, diversify livelihoods, and strengthen the overall resilience of communities in the GGW region. This specific output will employ an ecosystem approach for Integrated Agribusiness Hubs, drawing on experiences from IFAD.

Component 4: Enhancing knowledge management and information dissemination across the GGW countries

The development and implementation of CCA and sustainable land management strategies across the GGW zone have been limited by insufficient regional knowledge management and limited awareness of EbA, SLM and sustainable NRM practices at the community level. Component 4 will strengthen the generation, management and sharing of CCA and SLM knowledge among target populations in the Sahel, to enable

strengthened evaluation, optimisation and upscaling of strategies to restore ecosystems and improve the climate resilience of communities in the GGW region. Additionally, Component 4 will expand the use of climate information and early warning systems (CIEWS) and climate hazard knowledge to improve the disaster risk preparedness of communities in the GGW.

Outcome 4.1: Integrated knowledge management systems established and shared through targeted awareness campaigns to facilitate learning, communication and coordination

Baseline scenario

While CCA and SLM projects in the GGW region have been valuable in combatting desertification and livelihood loss, their capacity for transformational change has not been fully realised. To date, the GGW region lacks standardised monitoring and evaluation (M&E) systems to collect data on the progress, effectiveness and longevity of CCA and SLM projects in relation to their targets. There is also an absence of a regional KMS to collate, store, and disseminate CCA and SLM knowledge to GGW member countries. This has contributed to the fragmented and uncoordinated development of CCA and SLM projects across the Sahel, in turn limiting regional upscaling and increasing incidents of project duplication and maladaptation. Successful public engagement has been observed in the region where local communities have been engaged in the co-creation and implementation of ecosystem restoration and CCA projects. However, the degree of public engagement is inconsistent throughout the CCA process and across the region. This can be attributed to the lack of efficient, widespread, and coordinated methods of engaging communities in appropriate CCA processes.

Programme approach

Under Outcome 4.1, knowledge collection, management and sharing will be facilitated by establishing and digitising user-friendly platforms and systems including targeting women, as well as on-the-ground public engagement strategies. This will help build an enabling environment for effective CCA and SLM coordination and implementation by enhancing the knowledge base for current and future EbA, SLM, and sustainable NRM projects.

Given the risks of maladaptation, duplication, and social exclusion in CCA, EbA, SLM, and sustainable NRM projects, M&E frameworks and systems will be developed under this programme (Output 4.1.1). These M&E frameworks will focus on guiding community-based monitoring and supervision activities to maximise the use of project resources and to improve community engagement.

The developed gender sensitive M&E frameworks and systems will enable the collection of data to evaluate the context-specific appropriateness and longevity of CCA and SLM projects in the GGW region, which will in turn enable for a comprehensive description of practices and lessons learned for the region. This information will be collated, stored, and disseminated on a regional integrated KMS that will be developed under this programme (Output 4.1.2). The integrated KMS will be digitised to ensure that it is user-friendly and accessible to all stakeholders and policymakers.

Moreover, the project will develop targeted public awareness programs (Output 4.1.3) to enhance community access to knowledge about ecosystem degradation, climate change, EbA, sustainable agricultural technologies, and the most viable adaptation options using the best available practices. Awareness-raising efforts will be tailored to different community groups, employing context-specific communication methods. Potential channels include community village meetings, radio and TV programs, social media platforms, posters, flyers, signboards, experiential learning activities, village clubs and community outreach units. The campaigns will be designed to be inclusive, considering the communities' gender, transport and language needs. This output will enhance the local understanding of EbA and its conservation benefits, thereby encouraging the regional uptake and scaling of CCA strategies.

Of particular importance for the synergy and complementarity (the added value of the coordination project in the area of adaptation and SLM) is the approach to be used by the Regional Coordination Project which will include periodic consultation with all the key players including agencies implementing/executing GEF and GCF projects particularly IFAD, in order to agree on who should focus on what taken into account comparative advantage of respective partners. For example, UNEP will coordinate with IFAD to ensure that while IFAD project on Great Green Wall Climate Change Adaptation Regional Support Project (GEF ID 11000) which objective is to improve access to best practices, foster innovation and digital transformation and facilitate cross-learning across Great Green Wall countries for enhanced sustainability and resilience to climate change impacts; through Knowledge Management Platform; Innovation and Digital Transformation; UNEP Coordination Project of this programme will ensure that the anticipated interconnected GGW Platform initiated by the UNCCD Accelerator which will be taken over by the Panafrican Agency of the GGW, will support mainstreaming of the IFAD project outputs including implementation of the adaptation actions in various sectors at national level through the capacity building of the multisector GGW National Coalition/National Alliance. The same approach will be used to mainstream innovation and digital transformation at national level in different sectors relevant to the GGW to ensure national uptake of adaptation actions in the GGW implementation. UNEP will also collaborate with the Knowledge for Great Green Wall Action (K4GGWA): Launched in 2023, the programme is led by CIFOR-ICRAF and the Food and Agriculture Organization of the United Nations (FAO). It aims to enhance their knowledge management and sharing mechanisms, develop learning and data platforms, foster dialogue at national and regional levels, and fund innovations. It also aims to strengthen policies and institutions and enhance the capacities of national and regional GGW agencies.

Outputs

- **4.1.1.** Gender responsive Frameworks and systems developed for strengthened regional data capture through monitoring and evaluation: This output will entail establishing standardized methodologies, tools, and platforms for collecting, analyzing, and disseminating data on climate change impacts, adaptation measures, and natural resource management. By enhancing data availability and quality, these frameworks enable evidence-based decision-making, facilitate adaptive management practices, and promote accountability in the implementation of climate resilience initiatives across the region.

- **4.1.2.** Gender responsive Digital integrated knowledge management platform established to store, report and disseminate knowledge between GGW countries: The Programme under this output will capitalize on the IFAD GEF ID 11000 indicated above, to support activities for creating a robust repository for sharing information, mainstreaming best practices, and lessons learned on climate change adaptation, sustainable land management,

and gender-responsive approaches. By promoting knowledge exchange and collaboration, the platform will facilitate informed decision-making, enhance coordination, and foster innovation in resilience-building efforts across the GGW region. The coordination project will use national GGW coalition to mainstream adaptation and natural resources best practices, innovation and digital transformation to support across sectors GGW implementation.

- **4.1.3.** Gender responsive Community awareness-raising campaigns organized to enhance access to shared programme knowledge: The Programme will support campaigns utilizing various communication channels and formats to disseminate information about climate change adaptation, sustainable land management practices, and gender-responsive approaches. By raising awareness and promoting understanding among local communities, these campaigns empower individuals to actively engage in resilience-building efforts, fostering ownership and sustainability of GGW initiatives across the region.

Outcome 4.2: Disaster risk preparedness of communities enhanced through strengthened climate information and early warning systems

Baseline scenario

Climate hazards in the region are increasing in frequency and intensity (see Problem Tree). Sudden disasters, including heatwaves, floods, droughts and wildfires threaten climate-vulnerable communities and ecosystems in the Sahel. Currently, communities and ecosystems are unprepared for these threats. Governments have had insufficient capacity to implement effective climate information and early warning systems (CIEWS) to alert communities ahead of natural disasters. As a result, avoidable loss of livelihoods and lives accompany natural disasters in the GGW region.

While climate hazards impact communities and ecosystems, CCA efforts are hindered by the infrastructure damage these hazards cause. Infrastructure damage, including power failures, road closures, building damage and machinery breakdown, impede CCA activities, ultimately prolonging the vulnerability of communities and ecosystems. The impacts of natural disasters must be mitigated to improve the effective delivery of CCA activities.

Programme approach

Outcome 4.2 will be achieved by strengthening climate information and early warning systems (CIEWS) across the GGW region (Output 4.2.1). Policies strengthened under Outcome 1.1 will facilitate the establishment of a framework for CIEWS. A project already addressing the need for EWS in Burkina Faso (see Annex I) will serve as a point of reference for the coordinated upscaling of CIEWS in the other GGW countries. CIEWS implementation will strengthen communities' and ecosystems' resilience and safeguard ongoing and future CCA and SLM efforts in the GGW region.

Outputs

- **4.2.1.** Climate information and early warning systems established and implemented: Early warning systems integrated into development and disaster planning processes can significantly reduce disaster risk and improve preparedness.[4] The Programme will support the creation of systems while strengthening existing ones to integrate meteorological data, satellite imagery, and local knowledge to anticipate and respond to extreme weather events, droughts, and desertification. By providing timely alerts and actionable information to communities and authorities, they enhance preparedness, reduce vulnerability, and save lives. Additionally, they support adaptive decision-making and resource allocation, contributing to the region's resilience and sustainable development goals.

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This component will focus on establishing and enhancing climate information and early warning systems (CIEWS) that integrate advanced meteorological data, satellite imagery, and local knowledge to effectively predict and respond to climate-related hazards such as extreme weather events, droughts, and desertification processes. The Programme will not only support the creation of new systems but also strengthen existing infrastructures to ensure that they incorporate comprehensive climate information services.

These enhanced systems will provide timely alerts and actionable information to communities, government authorities, and stakeholders, thereby improving preparedness, reducing vulnerability, and safeguarding lives and livelihoods. Additionally, the systems will support adaptive decision-making and efficient resource allocation, contributing significantly to the resilience and sustainable development of the region.

To ensure the effectiveness and accuracy of the climate information services, the Programme will collaborate with the World Meteorological Organization (WMO). This partnership will leverage WMO's expertise in meteorology to enhance the capacity of national meteorological and hydrological services in the nine participating GGW countries.

During the Project Preparation Grant (PPG) phase, the Programme will actively explore co-financing opportunities with the Sustainable Ocean Finance Facility (SOFF) to support the integration of these advanced systems. This effort will aim to secure additional resources to expand and enhance the scope of climate information services and early warning systems across the GGW initiative.

The incremental reasoning for the Programme is outlined in the table below:

Baseline	**Alternative**	**Incrementality** (Global Environmental Benefits and Adaptation Benefits)
Component 1: Strengthening the enabling environment for gender-responsive, climate-resilient restoration of the Sahel		

At regional and national levels:	*In the alternative:*	*Incremental benefits generated:*
Lack of an enabling environment on a regional scale to facilitate gender-responsive, climate-resilient restoration in the Sahel	Climate resilience training, gender-responsiveness training and CCA sensitisation programmes will be delivered to governments	An enabling environment that fosters collaboration between governmental bodies, local communities and international partners
Limited institutional and technical capacity at all administrative levels for implementing CCA and SLM in the GGW region	A framework will be developed for equitable community engagement and participation and for knowledge sharing with communities	Strengthened technical capacity of institutions at the regional and national levels
Limited CCA knowledge of institutions at all levels	CCA, NRM and financial policies will be strengthened and aligned with the broader GGW goals	A standardised understanding of gender equity and CCA practices strengthened in governments
Limited technical and institutional capacity of governments to inform and train communities on the importance of and steps involved in CCA and EbA	Partnerships will be established between governments to facilitate regional communication and coordination	Strengthened institutional and policy frameworks to support CCA and SLM, and harmonised policies across the GGW region
Insufficient coordination and collaboration between GGW countries as well as between project developers		Collaborative networks among governments, organizations, and communities for sharing knowledge, resources, and best practices
Component 2: Leveraging sustainable finance for scaling up investment in climate change adaptation		
At regional and national levels:	*In the alternative:*	*Incremental benefits generated:*
Scarce financial resources, constraining sustainable land management and climate-resilient livelihood initiatives in the GGW region	Financial facilities will be established to disburse funds and investments to GGW countries	Robust financial facilities for the disbursement of funds and investments from various sources to meet GGW targets
	Public-private partnerships (PPPs) will be established to	

Absence of efficient and equitable financial distribution systems across the region and poor investment attraction	enhance cross-sectoral investment in programme activities Limited CCA knowledge of institutions at all levels	Streamlined processes for accessing funding for enhancing the capacity of GGW countries to implement climate change adaptation, sustainable land management, and resilience-building interventions
Limited partnerships with private sector investors, and a lack of innovative financing mechanisms	Innovative financing mechanisms such as PES schemes will be introduced	Innovative financing mechanisms, that incentivize sustainable land use practices, reduce deforestation and land degradation, and promote resilience to climate change, as well as enhancing local livelihoods and contributing to the long-term sustainability of the GGW region
Inefficient funds disbursement, resulting in under-delivery of the GGW initiative's targets		
Component 3: Increasing resilience of ecosystems and communities through sustainable land management (SLM) practices, natural resource management (NRM) and ecosystem-based adaptation (EbA)		
At regional and national levels:	*In the alternative:*	*Incremental benefits generated:*
Degraded ecosystems as a result of deforestation, intensive agriculture, overgrazing, inefficient water use and unsustainable land management	Ecosystem services for improving land productivity, retaining soil moisture and reducing desertification and erosion will be restored by rehabilitating grasslands, savannas, forests and woodlands	Enhanced climate resilience through the integration of SLM, NRM and EbA into landscape restoration and community livelihoods
Decreased resilience and loss of ecosystem services and biodiversity as a result of erratic rainfall and prolonged droughts	Sustainable natural resource management practices will be introduced	Improved land condition, resource availability and biodiversity conservation through rehabilitation, restoration and sustainable land management
Highly climate-sensitive agropastoral livelihoods and food security	Drought-, pest- and disease-resistant crop varieties will be introduced and climate-resilient agricultural and livestock management practices will be implemented	Improved food production, enhanced food security and sustainable livelihoods
Limited access to reliable, adequate water supplies for domestic and agricultural use		Improved water quantity and quality, and enhanced sustainable water management practices

Over-reliance on climate-sensitive activities such as agriculture, with few options available to local communities	Integrated agro-pastoral water management systems will be introduced and sustainable water management approaches implemented Catchment management will be improved by restoring wetlands and vegetation cover, and implementing erosion control interventions Alternative climate-resilient income-generating activities will be introduced and market linkages and value chains developed	Diversified livelihoods and income sources for pastoral, agropastoral and farming communities 2,621,000 ha of terrestrial protected areas brought under improved management; 264,800 ha of land and ecosystems restored; 7,000,600 ha of landscapes brought under improved practices; and 550,000 metric ton of CO2e Greenhouse Gas Emissions mitigated
Component 4: Enhancing knowledge management and information dissemination across the GGW countries		
At regional and national levels:	*In the alternative:*	*Incremental benefits generated:*
Insufficient M&E and regional knowledge management to collate, store, and disseminate CCA and SLM knowledge Fragmented and uncoordinated development of CCA and SLM projects, limiting regional upscaling Limited awareness of EbA, SLM and sustainable NRM practices Lack of efficient, widespread, and coordinated methods of	Frameworks and systems will be developed for strengthened regional data capture through monitoring and evaluation Digital integrated knowledge management platform will be established to store, report and disseminate knowledge Knowledge collection, management and sharing will be facilitated by establishing and digitising user-friendly platforms and systems	Strengthened evaluation, optimisation and upscaling of strategies to restore ecosystems and improve the climate resilience An enabling environment for effective CCA and SLM coordination and implementation by enhancing the knowledge base Evidence-based decision-making, adaptive management practices, and enhanced accountability

engaging communities in appropriate CCA processes Lack effective climate information and early warning systems (CIEWS) to alert communities ahead of natural disasters, resulting in avoidable loss of livelihoods and lives	Community awareness-raising campaigns organized to enhance access to shared programme knowledge Climate information and early warning systems (CIEWS) will be strengthened across the GGW region	Strengthened communities' and ecosystems' resilience and safety through CIEWS

Consistent Approach Across Participating Countries: Nine (9) countries are participating in the GGW Programme. As a Green Wall program, interventions can significantly reduce land degradation in the Sahel region, with a potential social benefit-cost ratio of 1.7 to 2.9 USD per $1 [1]. These countries could be said to be differentiated by names and national-level prioritisation and approaches to environmental and socioeconomic challenges. However, these countries are bound by similar natural resources management, climate change, policy and institutional capacities and knowledge management issues. The approach of the Programme in addressing these issues through the programme components is consistent with the GEFTF (funding Chad, Ethiopia, Gambia, Niger, Nigeria and Senegal Child Projects) as well as the LDCF (funding Mauritania, Mali and Burkina Faso Child Projects) in the following ways:

Table showing Trust Fund Priorities and their Relevance to the GGW Programme

TF Element	Trust Fund		Programme relevance to GEF and LDCF TFs
	GEF priority elements	***LDCF priority elements***	
Partnerships	E.g. Interdisciplinary partnerships and sound analytics and knowledge management at the global level with regional level coordination and engagement. Partnership with private sector entities for them to play an important role in protected area management models and habitat restoration.	E.g. Partnerships for efficient, effective and responsive to climate risks in LDCs, to accelerate global climate adaptation action through thought leadership with influential partners and to address social equity.	Component 1: Strengthening the enabling environment for gender-responsive, climate-resilient restoration of landscapes across the Sahel Component 2: Leveraging sustainable finance for scaling up investment in CCA
Ecosystem restoration	E.g. Ecosystem Restoration Integrated Programme (Forest landscape and ecosystem restoration	Facilitation and support towards land restoration projects to mobilize finance at scale for adaptation solutions.	Component 2: Leveraging sustainable finance for scaling up investment in CCA

	work at the local level, Innovative solutions for restoring degraded lands, Restoration for healthy and resilient ecosystems to support people)		Component 3: Increasing resilience of ecosystems and communities through sustainable land management (SLM) practices, natural resource management (NRM) and ecosystem-based adaptation (EbA)
Livelihoods / socioeconomic opportunities	E.g. Secure livelihoods within the Healthy Planet, Healthy People framework; and Support towards measures to restore land and improve its management contribute to food and water security, improved livelihoods, jobs, and avoided conflicts and migration.	E.g. Supporting LDCs to reduce and manage risks and vulnerabilities systematically and bridge the financing gap, with a view to safeguard livelihoods and natural ecosystems that societies depend upon.	Component 2: Leveraging sustainable finance for scaling up investment in CCA Component 3: Increasing resilience of ecosystems and communities through sustainable land management (SLM) practices, natural resource management (NRM) and ecosystem-based adaptation (EbA)
Gender considerations	E.g. Integrating gender considerations into restoration efforts and digitalization are desirable from a gender equality perspective and promotes the efficiency and effectiveness of restoration work	E.g. Women's exposure to physical hazards and their capacity to cope with risks are influenced by gender norms and power dynamics, impacting their access to, and use of, natural resources and economic assets, mobility and migration, decision-making power, and expectations of households and communities.	Cross-cutting in all the four components of the Programme
Institutional capacity building and policy strengthening	E.g. Cross-scale support: This will catalyze access to knowledge, technical expertise and capacity development on issues that represent common challenges	E.g. Lever of transformation 2 - Strengthened governance combined with a dedicated effort to enhance institutional capacity in LDCs, SIDS and other vulnerable	Component 1: Strengthening the enabling environment for gender-responsive, climate-resilient restoration of landscapes across the Sahel

	across multiple countries or specific geographical regions.	countries will support in both design and implementation of projects with transformation potential.	
Knowledge management	E.g. Facilitating knowledge management and sharing lessons learned between national and global stakeholders; Promote regional cooperation: South-South learning, technical exchanges, intergovernmental cooperation, knowledge management, and communication strategies; Promote best practices, ensure multi-stakeholder involvement, and establish a comprehensive approach to knowledge management and capacity building, all geared towards leveraging and upscaling impactful investments of GEF and its long-standing partners.	E.g. Strengthening knowledge exchange and learning on effective climate adaptation strategies, especially tailored for the needs of Least Developed Countries (LDCs). Enhancing the capacity of LDCs to generate, access, and use climate-related knowledge for informed decision-making and policy development. Supporting initiatives that foster regional and South-South cooperation for shared learning and collaborative approaches to climate change adaptation. Encouraging the integration of traditional knowledge and community-led practices in climate adaptation planning and implementation. Promoting innovative and technology-driven solutions including women capacity building on financial management through digitalization, to improve knowledge management systems for climate resilience.	Component 4: Enhancing knowledge management and information dissemination across the GGW countries Specifically, the proposed programme aligns with LDCF's priority elements by: Developing and implementing a robust framework for capturing, storing, and disseminating knowledge generated from climate adaptation activities within the GGW region. This framework supports LDCs in leveraging lessons learned and best practices to bolster their climate resilience efforts. Facilitating platforms and mechanisms for knowledge exchange among participating countries, stakeholders, and partners, fostering an environment of collaborative learning and capacity building. This directly supports LDCF's focus on regional cooperation and knowledge sharing. Integrating traditional ecological knowledge and practices into the programme's knowledge management system, ensuring that climate adaptation strategies

			are culturally relevant and grounded in local realities. This approach respects and amplifies LDCF's emphasis on community-led and traditional knowledge-based adaptation measures. Leveraging modern technologies and digital tools to enhance the programme's knowledge management capabilities, ensuring real-time access to data, insights, and learning resources. This innovative approach to knowledge management aligns with LDCF's support for technology-driven solutions in climate adaptation efforts. Conducting targeted capacity-building initiatives aimed at improving the knowledge management skills of local institutions, community leaders, and stakeholders. These initiatives aim to ensure that LDCs have the necessary capabilities to effectively manage and utilize climate adaptation knowledge for sustainable development.
Innovative Financing Mechanisms	E.g. Exploring and implementing innovative financing mechanisms to mobilize	E.g. Mobilization of additional resources to address the immediate and long-term needs of Least Developed	Component 2 is intricately designed to enhance the capacity for sustainable financing of climate adaptation projects, increase the engagement of the private sector in climate adaptation

		resources and facilitate particularly by women for climate adaptation and sustainable development projects.	Countries (LDCs) in the face of climate change. Supporting innovative and scalable approaches to climate finance that enhance climate resilience, particularly in vulnerable communities. Facilitating access to finance including for women for climate adaptation projects, with a focus on inclusivity and sustainability. Encouraging private sector engagement and investment in climate adaptation efforts to leverage additional financial resources. Developing financial products and services that are tailored to the specific needs of climate-vulnerable populations particularly women and sectors.	efforts, and establish scalable and innovative financing models for climate resilience. This component's focus on leveraging and facilitating access particularly to women, innovative financing mechanisms such as climate adaptation funds, payment for ecosystem services (PES) schemes, and green bonds directly aligns with LDCF priorities by: Addressing financial barriers to climate adaptation in LDCs and ensuring the implementation of effective climate resilience measures. Promoting the development and use of innovative financial instruments that cater to the unique challenges and opportunities of climate adaptation in vulnerable regions. Enhancing the capacity of local institutions and communities to access and manage climate finance, thereby increasing their resilience to climate impacts. Fostering public-private partnerships and mobilizing private sector investments to support a broad range

			of climate adaptation initiatives. Demonstrating the viability and impact of innovative financing models in supporting climate adaptation efforts particularly for women, thereby encouraging scalability and replication across LDCs.
Innovation	E.g. Leveraging technology for enhanced efficiency in environmental management and climate forecasting, including the use of geospatial tools and digital solutions for project management.	E.g. Enhancing adaptive capacity and resilience to climate change impacts through technological innovation including facilitating access to finance by women. Deploying cutting-edge solutions for climate data analysis, forecasting, and sustainable resource management. Promoting community-based adaptation approaches by leveraging technology and improving digital literacy including for women.	Component 2: Leveraging sustainable finance for scaling up investment in CCA Component 3: Increasing resilience of ecosystems and communities through sustainable land management (SLM) practices, natural resource management (NRM) and ecosystem-based adaptation (EbA) Component 4: Enhancing knowledge management and information dissemination across the GGW countries. Specific alignment with the GEF priorities is given in detail below. By implementing state-of-the-art technologies for environmental analysis, climate forecasting, and project management, this component ensures targeted and

			efficient adaptation strategies. Specific initiatives like the development of data-driven insights for land management, policy support for technology integration, and programs to enhance access to technological tools for local communities underscore the commitment to using technological innovation for bolstering climate resilience. These efforts are key to enabling informed decision-making and sustainable practices that address the unique challenges posed by climate change in the Sahel, reflecting LDCF's focus on supporting the most vulnerable populations in adapting to climate variability and securing sustainable development pathways.

As has already been noted, the proposed Programme is therefore conceived to simultaneously implement the GEF and the LDCF Trust Funds priority elements in a manner that is seamless to address environmental degradation, build socioecological resilience in the GGW participating countries while supporting local community socioeconomic context.

Thus, as a Programme, it will be fully developed to simultaneously address land degradation, biodiversity and climate adaptation concerns in the GGW region by linking interventions in the areas, but also responding to the socioeconomic needs of local communities in the participating countries – where combined crises are pushing people to seek refuge in neighbouring coastal countries such as Ivory Coast, Togo and Ghana, which is grappling with its worst economic crisis in a generation.[1] Schematically, the simultaneous approach address land degradation, biodiversity and climate adaptation challenges within the GGW region this is represented in the graph on the right.[2]

The conception of the Programme acknowledges that in the Sahel region, the intricate interplay between land degradation, biodiversity loss, and climate change exacerbates environmental and socioeconomic challenges. Rising temperatures and changing precipitation patterns contribute to prolonged droughts and desertification, triggering soil degradation. This, in turn, disrupts ecosystems, leading to loss of biodiversity. The decline in vegetation cover further amplifies climate change impacts by reducing carbon sequestration capacity and exacerbating the vulnerability of local communities who already wallow in socioeconomic and security challenges. Simultaneously, biodiversity loss weakens ecosystem resilience, hindering natural adaptation mechanisms. In a vicious cycle, climate change intensifies land degradation, diminishing the region's ability to support diverse life forms. Addressing this nexus, the Programme proposes holistic strategies that integrate sustainable land management, conservation efforts, and climate-resilient practices to safeguard both biodiversity and human well-being in the fragile

Sahel environment. It should be mentioned that the Programme's focus on natural resources management, livelihoods, institutional capacity development and knowledge management are consistent with LDCF thematic priorities as follows:

- Theme 1: Agriculture, Food Security, and Health: Component 3 of the Programme (Increasing resilience through sustainable land management (SLM) practices, sustainable natural resource management (NRM) and ecosystem-based adaptation (EbA)) will focus on activities that will lead to increased agricultural and pastoral productivity achieved through the adoption of climate-smart techniques and resilient crop/livestock varieties to ensure food security and economic stability. This will include support towards local enterprises of selected value chains and NWFPs to enhance PPPs and diversify local resilient livelihoods – through a gender responsive approach that will enhance women's access to socioeconomic opportunities. PPPs efforts in Component 3 will build on PPPs that will be established under Component 2 for enhanced cross-sectoral investment in programme activities. Aspects and activities that will be considered under Component 3 are consistent with LDCF thematic area 1. The focus on agriculture will contribute to food and nutrition security, and overall to the health of human populations.

- Theme 3: Nature-Based Solutions: By definition, ecosystem-based Adaptation (EbA), also referred to as Nature-based Solutions for Adaptation, involves a wide range of ecosystem management activities, such as the sustainable management of forests, grasslands, and wetlands, that increase the resilience and reduce the vulnerability of people and the environment to climate change.[3] The Programme will support activities that will lead to improved biodiversity and ecosystem health through conservation and restoration efforts, leading to enhanced resilience of semi-arid environments to climate stressors. The Project will support reforestation initiatives, such as tree planting to restore degraded production landscapes, enhance biodiversity and contribute to carbon sequestration (Component 3). Additionally, the Programme will support sustainable agriculture practices, like agroforestry and cover cropping which will promote soil health and biodiversity. Support towards protected areas and wildlife corridors will preserve habitats and support diverse ecosystems. These nature-based solutions in the Programme will address environmental challenges while offering co-benefits for biodiversity conservation, climate change mitigation, and the well-being of communities.

Additionally, it is recalled here that the Programme is also consistent with the LDCF's transformational levels:

- Policy coherence and mainstreaming of climate adaptation and strengthened governance for adaptation (levers 1 and 2, respectively): The Programme includes Component 1 (Strengthening the enabling environment for gender-responsive, climate-resilient restoration of the Sahel) dedicated to institutional capacity building and policy strengthening - including stakeholder mobilization, advocacy and communication. Overall, activities to be supported under Component 1will lead to enhanced institutional and technical capacity across administrative levels to support climate change adaptation, sustainable natural resource management and ecosystem restoration while mainstreaming gender responsiveness.

- Knowledge exchange and collaboration (lever 3): The Programme includes Component 4 (Improving knowledge management and information dissemination) dedicated to activities that will lead to integrated knowledge management systems established and shared through targeted awareness campaigns to facilitate learning, communication and coordination.

Therefore, from an LDCF perspective, the Programme simultaneously addresses community adaptation needs in terms of improved natural resources management (biodiversity conservation and land and ecosystem restoration), food and nutritional security, job creation – but also the mitigation potential of carbon emission through such sustainable land management interventions related to land and ecosystem restoration. In this regard, the Programme is strategic as a multifocal area design that will address land degradation, biodiversity conservation and climate change adaptation as well as climate change mitigation. The Programme is cognizant that climate change in the Sahel region could affect development, security, food security, and conflict risk, with improved measures and policies needed to increase resilience[4] – and therefore, its design also includes the creation of a technical enabling environment for SLM, BD conservation and resilience building within the GGW region (Component 1).

The GGW Programme Strategic Approach and Rationale – 'Generating Multiple Environmental Benefits'

Forests and trees can also mitigate climate change by sequestering carbon; on a large scale, restoration could reduce the concentration of carbon dioxide in the atmosphere. Restoration can help people weather the impacts of climate change, helping adapt to global warming by ensuring water supplies or reducing the impacts of extreme weather events notably droughts and floods – but also weather-related challenges such as zoonotic diseases, and crop diseases, including locusts which are not unusual in the Sahelian region. Climate change is an important factor for the future of the Central Sahel, impacting livelihoods, food security, mobility, communal violence, and violent extremism.[5] The GGW Programme is one unique opportunity that brings together resources from biodiversity, least developed countries fund and land degradation programming priorities to respond the environmental and socioeconomic challenges in the GGW region – doing so simultaneously complementing and synergizing with other investments from different partners.

The GGW region has opportunities in the midst of complex and multifaceted socioeconomic, political and environmental challenges that compete for severely limited financial resources. How can the GGW Programme therefore, spur impact at scale in a sustainable way? Innovation to manage complementarity and synergies holds promise to ensure impact at scale in a context of financial scarcity with various complex and multifaceted competing development needs. The innovative approach is in addressing environmental challenges together (land degradation, biodiversity loss, impacts of climate change and constrained adaptation options) in a holistic fashion, rather than in isolation - recognizing that, for example, sustainable land management can address dryland degradation, climate change, and biodiversity, while reducing greenhouse gas emissions and improving livelihoods for communities dependent on the land[6] - following the logic and wisdom in the 'Generating Multiple Environmental Benefits'.

Investing in land rehabilitation, biodiversity conservation, and building resilience and adaptation to climate change in Chad, Ethiopia, Gambia, Mauritania, Niger, Nigeria, and Senegal, all Sahelian countries, is crucial due to a multitude of interconnected reasons. The development of the GGW Programme acknowledges that ecological restoration, when implemented effectively and sustainably, contributes to biodiversity protection, human health, and economic prosperity, while supporting climate change mitigation and adaptation.[7][45] Sustainable land management practices such as the inclusion of multipurpose trees in agro-pastoral landscapes in the GGW region can enhance soil fertility, conserve soil moisture and boost food production while contributing to diversity richness of tree species. The design of the Programme is embedded in the following tabulated scientific bases, acknowledging that:

Table highlighting the scientific basis of the Programme

Biodiversity, Climate and Land Degradation scientific basis	Priorities in Participating Countries
[1]. Sustainable land management practices, as as agroforestry, mulching, and water harvesting, can reduce CO_2 emissions and adapt to climate change for small-scale land users in sub-Saharan Africa.**[8]**[46]	Burkina Faso; Chad; Mauritania; Mali; Niger; Nigeria; Senegal
[2]. Adopting sustainable land management techques can both adapt to and mitigate climate change in developing countries, particularly in areas affected by tropical forest ecosystems, savannah and rangeland ecosystems, world cropland soils, and salinized and degraded lands.[9][47]	Burkina Faso; Chad; Ethiopia; Mauritania; Mali; Niger; Nigeria
[3]. Restoring forests on degraded lands can improve ecosystem services and biodiversity conservation, but requires adaptative management and resilience to climate change, habitat fragmentation, and other anthropogenic effects.[10][48]	Burkina Faso; Ethiopia; The Gambia; Chad; Mauritania; Mali; Niger; Nigeria; Senegal
[4]. Restoration can speed up the recovery of degraded lands, complementing nature reserves, and providing hope for the future of biodiversity preservation.[11][49]	Burkina Faso; The Gambia; Mauritania; Mali; Niger; Nigeria; Senegal
[5]. Ecological restoration can play a crucial role in conserving biological diversity by creating habitat on disturbed sites, enlarging and redesigning existing reserves, and reintroducing species through various management activities.[12][50]	Burkina Faso; Chad; The Gambia; Mauritania; Mali; Niger; Nigeria

Biodiversity, Climate and Land Degradation scientific basis	Priorities in Participating Countries
[6]. Sustainable land management (SLM) can combat desertification, climate change, and biodiversity loss in drylands, reducing poverty and vulnerability to climate change.[13]51	Ethiopia; Mauritania; Mali; Niger; Nigeria
[7]. Biodiversity-based techniques can effectively manage human-modified lands as 'working landscapes' to support biodiversity and provide sustainable resources for humanity.[14]52	The Gambia; Ethiopia; Mauritania; Niger; Senegal

Investing in land rehabilitation, biodiversity conservation and building resilience and adaptation to climate change in Burkina Faso, Chad, Ethiopia, Gambia, Mali, Mauritania, Niger, Nigeria and Senegal in this GGW Programme is undergirded by the following considerations:

- *Vulnerability to Climate Change*: Sahelian countries are among the most vulnerable to climate change impacts, experiencing recurrent droughts, erratic rainfall, and extreme weather events. Climate change exacerbates land degradation, biodiversity loss, and water scarcity, threatening food security, livelihoods, and ecosystem integrity. Investing in resilience and adaptation measures is essential for enhancing the region's capacity to cope with climate variability and mitigate the impacts of climate change on vulnerable populations.
- *Land Degradation*: The Sahel region is highly susceptible to land degradation, including desertification, soil erosion, and deforestation. Unsustainable land use practices, population pressure, and climate variability contribute to land degradation, leading to reduced agricultural productivity, loss of vegetation cover, and depletion of natural resources. Investing in land rehabilitation and sustainable land management practices is crucial for restoring degraded lands, enhancing soil fertility, and improving water availability for agriculture and livestock.
- *Biodiversity conservation*: The Sahel region harbours unique biodiversity, including diverse ecosystems, wildlife species, and plant varieties. However, biodiversity loss due to habitat destruction, overexploitation of natural resources, and climate change threatens the region's ecological integrity and resilience. Investing in biodiversity conservation efforts such as protected area management, habitat restoration, and species conservation is essential for preserving ecosystem services, maintaining genetic diversity, and safeguarding the region's natural heritage.
- *Water scarcity*: Water scarcity is a significant challenge in Sahelian countries, exacerbated by climate change, population growth, and unsustainable water management practices. Limited access to clean water for drinking, agriculture, and sanitation undermines human health, agricultural productivity, and economic development. Investing in water resource management, including water harvesting, irrigation infrastructure, and groundwater recharge, is essential for ensuring water security and resilience in the face of climate variability.
- *Food security*: Sahelian countries face persistent food insecurity due to climate variability, land degradation, and limited access to resources. Vulnerable populations, including smallholder

farmers and pastoralists, are particularly at risk of food shortages and malnutrition. Investing in climate-resilient agriculture, improved crop varieties, and sustainable livestock management practices is essential for enhancing food security, promoting nutrition, and building resilience to climate change-induced shocks and stresses.

- *Sustainable Development Goals*: Investing in land rehabilitation, biodiversity conservation, and climate resilience aligns with the Sustainable Development Goals (SDGs), particularly Goal 13 (Climate Action), Goal 15 (Life on Land), and Goal 17 (Partnerships for the Goals). These interventions contribute to poverty reduction, environmental sustainability, and inclusive growth, promoting the overall well-being and prosperity of Sahelian populations.
- *Regional cooperation*: Addressing environmental challenges such as land degradation, biodiversity loss, and climate change requires collaborative efforts and regional cooperation among Sahelian countries. Investing in joint initiatives, knowledge sharing, and capacity building fosters solidarity, enhances resilience, and maximizes the effectiveness of interventions across borders.

In sum, the GGW Programme provides a unique opportunity to invest in land rehabilitation, biodiversity conservation, and building resilience and adaptation to climate change in Sahelian countries is imperative for promoting sustainable development, poverty reduction, and resilience. By addressing the underlying drivers of environmental degradation and climate vulnerability, these investments contribute to building a more sustainable and prosperous future for the Sahel region and its people.

Building on the afore-going, beyond the Programme's focus on conservation, protection and management of resources, the Programme has been deliberate on integrating climate change adaptation. This is supported by the scientific evidence from the Sahel as follows:

- Climate change in the Sahel region includes decreased rainfall, increased wind speeds and temperature, and degradation of soils, water resources, vegetation, and fauna.[15][53]

- Climate change in the Sahel is accompanied by challenges such as accelerated population growth, low economic productivity, political conflicts, inter-communal violence, and violent extremism.[16][54]

- Climate change exposure and gender roles in agriculture contribute to monthly food shortages in the Sahel, with men dominating cash crop production and ground water levels decreasing.[17][55]

- Climate change in the Sahel region can lead to food, water, and energy scarcities, destabilizing population movements and conflicts, requiring adoption of new technologies and varieties.[18][56]

- 98% of adaptation actions in the Sahel are driven by climate change, with income diversification and water harnessing being the most used options.[19][57]

- Gender inequalities in the Sahel pose challenges for adaptation and resilience strategies, affecting vulnerability and resilience efforts.[20][58]

- The Sahel's climate features extreme variability in precipitation, making it vulnerable to climate change, making it a pressing security concern for OECD countries.[21][59]

Adaptive Management for Resilience and Sustainability in the GGW Programme

Recognizing the dynamic and unpredictable nature of environmental challenges in the Sahel region, the Great Green Wall (GGW) Programme employs a robust adaptive management approach to ensure resilience and sustainability. This section details the programme's adaptive management strategy, which is designed to respond effectively to new information and changing conditions throughout the program's lifespan.

Iterative Planning and Implementation: The programme design incorporates iterative planning cycles, which allow for regular review and adjustment of strategies and activities based on monitoring data and stakeholder feedback. This process ensures that the interventions remain relevant and effective under changing environmental and socio-economic conditions.

Stakeholder Involvement: A wide range of stakeholders have been engaged, including local communities, government agencies, and NGOs, in the monitoring and evaluation processes. This inclusive approach ensures diverse perspectives are considered in decision-making, enhancing the adaptability and acceptance of management actions.

Monitoring and Feedback Mechanisms: A comprehensive monitoring system is in place to gather data on key indicators of environmental health, community well-being, and project effectiveness. Feedback from this system is regularly analyzed and used to inform adjustments in project tactics and strategies.

Flexible Funding Structures: Financial mechanisms within the programme are designed to be flexible, allowing for the reallocation of resources to areas where they are most needed, based on performance assessments and emergent priorities.

Capacity Building for Adaptive Management: To support adaptive management, the programme will invest in capacity building for project staff and stakeholders including for local communities. Training programs focus on adaptive management techniques, scenario planning, and resilience building, empowering stakeholders to effectively respond to changes and challenges.

To reiterate, the Programme has strategically been conceived to comprehensively respond to natural resources management (NRM), climate change adaptation (CCA) and socioeconomic issues in the GGW region (more details on CCA countries are provided under the section, 'Climate Adaptation Child Project Contributions to the GGW Programme'). The Table below succinctly brings together the different elements of NRM, CCA and socioeconomic (SOE) priorities in response to identified priority barriers.

Table summarizing the Programme's NRM, CCA SOE Priorities in Response to Barriers:

Component	Outcome	Output	Barriers addressed

Component 1: Strengthening the enabling environment for gender-responsive, climate-resilient restoration of the Sahel	**Outcome 1.1.** Enhanced institutional and technical capacity across administrative levels to support climate change adaptation, sustainable natural resource management and ecosystem restoration while mainstreaming gender responsiveness	**1.1.1.** Regionally coordinated climate resilience training, gender-responsiveness training and sensitization programmes for governments **1.1.2.** Framework developed for equitable community engagement and participation in climate change adaptation **1.1.3.** CCA, NRM and financial policies strengthened and aligned **1.1.4.** Transnational partnerships established to facilitate communication and coordination	**Barrier 1.** Limited technical and institutional capacity at all administrative levels to implement CCA and land-use changes
Component 2: Leveraging sustainable finance for scaling up investment in climate change adaptation	**Outcome 2.1.** Investment in CCA, sustainable land use and natural resource management scaled and enhanced using innovative financing mechanisms	**2.1.1.** Facilities established for the disbursement of funds particularly to women and investments to GGW countries **2.1.2.** PPPs established for enhanced cross-sectoral investment in programme activities **2.1.3.** PES schemes established to incentivize conservation and sustainable management of ecosystems	**Barrier 1.** Limited technical and institutional capacity at all administrative levels to implement CCA and land-use changes **Barrier 2.** Limited integration of CCA into sustainable NRM at the regional and local level **Barrier 4.** Limited access to finance and opportunities to diversify value chains and livelihoods
Component 3: Increasing resilience through sustainable land management (SLM) practices, sustainable natural resource management (NRM) and ecosystem-based adaptation (EbA)	**Outcome 3.1.** Improved biodiversity and ecosystem health through conservation and restoration efforts including by women, leading to enhanced resilience of semi-arid environments to climate stressors	**3.1.1.** Grasslands, savannas, woodlands and forests conserved, rehabilitated and restored including by women **3.1.2.** Sustainable forest and grassland resource management practices introduced	**Barrier 2.** Limited integration of CCA into sustainable NRM at the regional and local level **Barrier 3.** Regional and national social tensions over limited access to resources

	Outcome 3.2. Increased agricultural and pastoral productivity achieved including by women through the adoption of climate-smart techniques and resilient crop/livestock varieties to ensure food security and economic stability	**3.2.1.** Climate-resilient crops and climate-smart agricultural techniques adopted including by women **3.2.2.** Climate-smart livestock management and pastoral practices led by men and women introduced	**Barrier 3.** Regional and national social tensions over limited access to resources **Barrier 6.** Limited awareness of EbA, SLM and sustainable NRM in communities
	Outcome 3.3. Enhanced water availability and quality through integrated water resource management strategies supporting men and women led agropastoralism and ecosystem health	**3.3.1.** Integrated agro-pastoral water management systems led by men and women introduced **3.3.2.** Climate-smart water management technology led by men and women introduced in catchment ecosystems	**Barrier 2.** Limited integration of CCA into sustainable NRM at the regional and local level **Barrier 3.** Regional and national social tensions over limited access to resources **Barrier 6.** Limited awareness of EbA, SLM and sustainable NRM in communities
	Outcome 3.4. Strengthened community resilience through diversified livelihood options including for women to reduce dependency on climate-sensitive activities	**3.4.1.** Alternative climate-resilient livelihood options led by men and women introduced and supported **3.4.2.** Development of market linkages and value chains for climate-resilient livelihood options led by men and women.	**Barrier 3.** Regional and national social tensions over limited access to resources **Barrier 4.** Limited access to finance and opportunities to diversify value chains and livelihoods
Component 4: Improving knowledge management and information dissemination	**Outcome 4.1.** Integrated knowledge management systems established and shared through targeted awareness campaigns to facilitate learning, communication and coordination	**4.1.1.** Gender responsive Frameworks and systems developed for strengthened regional data capture through monitoring and evaluation **4.1.2.** Gender responsive Digital integrated knowledge management platform established to store, report and disseminate knowledge between GGW countries **4.1.3.** Gender	**Barrier 5.** Insufficient monitoring and knowledge management systems at the regional level **Barrier 6.** Limited awareness of EbA, SLM and sustainable NRM in communities

		responsive Community awareness-raising campaigns to enhance access to shared programme knowledge	
	Outcome 4.2. Disaster risk preparedness of communities enhanced	**4.2.1.** Early warning systems established and implemented	**Barrier 5.** Insufficient monitoring and knowledge management systems at the regional level

- Describe how each of the child projects (country or thematic) are aligned with and will contribute to programme-level components for successful delivery of the overall programme; this should be supported by details in the accompanying concept notes for each child project (Annex H).

After consultations at national level, but also regional meetings that were held in Accra, Ghana; Bamako, Mali; Lome, Togo; and Nairobi, Kenya, the context of the GGW region has been defined in terms of opportunities but also socioeconomic and environmental challenges. The four components and focus for the Programme have been drawn from the socioeconomic and environmental context of the GGW region. Largely, the process has been inductive, building from country specific socioecological system to the general regional level. This allowed for the possibility to capture the general trends in the socioeconomic and environmental context to generalize to the regional level. Therefore, based on this thought process, regional priorities have been identified, considering country-level socioeconomic and environmental dynamics to understand how the Child Project will deliver or support successful delivery of the overall Programme. To facilitate the demonstration of the linkage, the table below summarizes how Child Projects will support the delivery of the Programme through thematic connections.

Programme thematic focus	**Country Child Projects**	**Programme delivery through Child Projects**
Creating technical enabling environment to overall support SLM, BD conservation and resilience building, including strengthening institutions and policy coherence to enhance the implementation of the GGW Initiative *Focus: Enabling environment for gender-responsive climate change adaptation, sustainable natural resource management and ecosystem restoration* *(Programme component 1: Strengthening the enabling environment for gender-responsive, climate-resilient restoration of the Sahel)*	Burkina Faso; The Gambia, Chad; Mauritania; Ethiopia; Niger; Mali, Nigeria; Senegal	All countries will support the Programme through the implementation of Integrated NRM practices to improve land productivity, land cover and soil organic carbon. Mali, Burkina Faso, and Mauritania will enhance the Programme through climate adaptation projects focusing on resilient agricultural practices, water resource management, and biodiversity conservation. This aligns with the integrated NRM practices to improve land productivity, land cover, and soil organic carbon. Through Child Projects, the countries will support the Programme delivery through capacity building, policy and institutional strengthening thereby

Programme thematic focus	Country Child Projects	Programme delivery through Child Projects
		improving the implementation of the GGWI. The countries will bolster the Programme by developing and strengthening policy frameworks and institutional capacities related to climate adaptation and sustainable NRM.
Establishing gender-responsive marketing opportunities, policy and legal frameworks for alternative resilient livelihood income streams, including support for local SMEs and PPPs *Focus: Strengthening community resilience through diversified livelihood options to reduce dependency on climate-sensitive activities, including NWFPs and value addition of selected products (Programme component 3: Increasing resilience through sustainable land management (SLM) practices, sustainable natural resource management (NRM) and ecosystem-based adaptation (EbA))*	Burkina Faso; Chad; Mauritania; Ethiopia; Mali, Niger; Nigeria; Senegal	All countries will support the Programme through local enterprises of selected value chains and NWFPs to enhance PPPs and diversify local resilient livelihoods. Mali, Burkina Faso, and Mauritania will contribute through developing market linkages for climate-resilient crops and products, enhancing the value chain of local NWFPs, and fostering PPPs for sustainable and resilient livelihoods. Burkina Faso, Mali, Mauritania, Chad and Senegal Child Project will support Programme delivery through gender mainstreaming to enhance women's access to socioeconomic opportunities. Burkina, Mali and Burkina will contribute by integrating gender-focused approaches in climate adaptation projects, promoting women's participation in climate-resilient agricultural activities, and capacity building for women-led enterprises.
Strengthening integrated knowledge management and coalitions to support stakeholder mobilization, advocacy and communication for the GGW Initiative *Focus: Creating an integrated knowledge management system to facilitate knowledge sharing learning, communication and coordination, including update tools and equipment for monitoring and evaluation – reinforcing regional accountability and monitoring and evaluation framework through development of a platform and technical capacity training (Programme component 4: Improving knowledge management and information dissemination)*	Burkina Faso, Chad, Mali, Mauritania; Ethiopia; Niger; Nigeria; Burkina Faso; Chad; Senegal	These countries will support Programme delivery through stakeholder participation and engagement and improved communication to enhance the implementation of the GWW Initiative. Mali, Burkina Faso, and Mauritania will support the Programme by integrating their climate adaptation efforts into the regional M&E framework, enhancing regional collaboration, and sharing best practices in climate resilience. All countries will support Programme delivery through a functional platform to enhance transparent implementation and reporting of the GGW Initiative. Mali Burkina and Mauritania will participate in the development and utilization of a regional platform for monitoring and evaluating climate adaptation efforts, ensuring transparency and accountability.
Innovative Financing for scaling up CCA, sustainable land use and integrated natural resource management practices	Burkina Faso, Mali, Mauritania	The focus on innovative financing mechanisms across these countries aims to enhance the financial sustainability and scalability of climate adaptation and environmental restoration efforts. Key initiatives may include the development of

Programme thematic focus	Country Child Projects	Programme delivery through Child Projects
Focus: Through PPPs, develop functional financing models and opportunities to scale up resilience building within the GGW region while improving NRM and livelihood opportunities for local communities. *(Programme component 2: Leveraging sustainable finance for scaling up investment in climate change adaptation).*		climate adaptation funds, payment for ecosystem services (PES) schemes, microfinance products tailored to climate-resilient agriculture, public-private partnerships (PPPs), green bonds, and carbon finance frameworks. These financial models are designed to attract investment, support smallholder farmers, and leverage private sector engagement in climate resilience projects. Specifically, Mali, Burkina Faso, and Mauritania will pilot and scale up these innovative financing models, demonstrating their effectiveness in securing necessary funding and fostering sustainable economic growth within the context of the Great Green Wall Initiative.

It should be noted from the table above that the Child Projects are distributed across and aligned with the Programme's thematic focus areas. Details in each of the Child Projects shed additional light on how each project will deliver on the Programme. The table below shows unpacks all the nine participating (9) Child Projects according at the level of: i) Enabling Environment (Component 1); ii) On-the-ground Interventions (Component 3); iii) Knowledge Management Systems (Component 4) and Innovative Financing Mechanisms (Component 2).

Table showing alignment of Child Projects with Programme Components:

Country	Enabling Environment (Component 1)	On-the-ground Interventions (Component 3)	Knowledge Management Systems (Component 4)	Innovative Financing Mechanisms (Component 2)
Burkina Faso	Building capacity for climate adaptation and food security (1.1): 5,000 farmers trained in climate adaptation (3,000 women, 2,000 men). 500 women supported in climate-focused entrepreneurship. Integration of climate adaptation into 40 communal development plans.	Restoration of ecosystems in arid and semi-arid zones (3.1): 15,000 hectares restored with climate-resilient species. 10 structures for preventing soil erosion and floods. Collaborations with private enterprises for restoration technologies.	Effective digital monitoring of climate and food security initiatives (7.1): Development and operationalization of a detailed gender responsive M&E plan. Utilization of digital tools for real-time data collection and analysis. Annual climate and food security evaluation reports generated.	Private sector invests in digital solutions for climate adaptation and food security (6.1)

		Improved agricultural practices for climate resilience and enhanced food security (4.1): 2 climate-smart food storage facilities operational. 40 climate-resilient community water points serving 2,000 individuals. 10 value chains for climate-resilient agricultural products developed.	Efficient digital project management for climate adaptation and policy impact (2.1)	
		Climate-resilient water conservation for agriculture (5.1)		
Chad	Capacity building through training stakeholders to enhance GGW implementation (3.1)	Forest ecosystem restoration for improved community living conditions (2.1)		
	Investments in forest management and practices enhance water and soil resources conservation (1.1)	Investments in forest management and practices enhance water and soil resources conservation (1.1)		
Ethiopia	Institutional capacities at national and sub-national levels developed to support the sustainable management of natural resources within the Ethiopian GGW region (1.1)	Diversified, resilient and sustainable livelihoods promoted leading to sustainable resource management practices (2.1)	Platform to facilitate KM and monitoring system in place to enhance reporting and accountability. (4.1)	
		Natural resource management for land restoration (3.1)		
The Gambia	Development of restoration plans for degraded land (1.1)	Improve rural landscape management (1.2)	Monitoring and evaluation of Payment for Ecosystem Services (2.3)	Payment for Ecosystem Services (2.3)
	Frameworks for Payment for Ecosystem Services (2.3)	Implementation of restoration plans for degraded land (1.1)	Strengthened gender-responsive knowledge management and learning. (4.1)	
	EWS and community capacity building using low-carbon development (3.2)	Sustainable livelihoods to conserve biodiversity (2.1)	Effective gender-responsive monitoring and evaluation of project activities and impacts (4.2)	
		Payment for Ecosystem Services (2.3)		
		Key ecosystems restored through agroforestry (3.1)		

Niger	Land-use plans (4.1)	Restoring degraded agricultural and pastoral land to increase productivity (1.1)		Strengthening value chains for agricultural products (2.1)
		Agriculture diversification and intensification (2.1)		Value chains for NTFPs (3.1)
		Livelihood diversification (3.1)		
Nigeria	Building technical and institutional capacity to implement GGW (1.1)	Integrated land management through ecosystem restoration and agro-silvo-pastoralism (2.1)		Value chain development and community empowerment - women-led enterprises (3.1)
Mali	Enhanced capacity for waste management, climate change adaptation and mitigation and income generating activities (1.1): Training of 1,250 producers on natural resource management and climate change. Empowerment of 5 organizations in waste recovery. Enhancement of 3 gum Arabic grove units for women's and youth groups. Training of 50 local leaders in conflict resolution related to rangeland management. Training of 500 women in milk and cheese processing techniques.	Restoring degraded lands - vegetation and soil (2.1): Planting and maintenance of 750,000 plants. Restoration of 150,000 ha of degraded land Enrichment of 225,000 ha of forest across communities. Installation of 12 solar-powered boreholes. Development of 50 ha of burgundy fields.	Project monitoring, evaluation, learning and adaptive management (5.1): Development of a detailed gender responsive M&E plan. Integration of digital tools for real-time data collection and analysis. Generation of annual climate and food security evaluation reports.	
		Development of income generating activities for enhanced food security (3.1) Installation of 5 FACI with solar-powered irrigation systems. Distribution of 6,000 seedlings of improved forestry species. Development of value chains benefiting 10		

		women's groups. Establishment of 2 local mini-dairies and cheese dairies.		
		Promotion of renewable energy (4.1) Installation of 2 bioethanol packaging units. Distribution of 70 bioethanol stoves. Installation of 2 photovoltaic power plants. Installation of 70 solar kits in public places.		
Mauritania	Enhanced capacity of stakeholders across all levels (1.1) 450 individuals from governmental institutions at national, regional and local level are trained in the planning, implementation and monitoring of Ecosystem based Adaptation (EbA) measures 1,350 individuals from community-based groups and private sector are trained in the planning, implementation and monitoring of EbA measures adapted to their ecosystems 22 Regional and Local Development Plans taking into account climate change adaptation and EbA approaches developed and shared	EbA to strengthen community resilience (2.1) 2,500 ha of degraded ecosystems restored and sustainably managed using EbA approaches Water and soil retention practices promoted and implemented in 40 communities 1,500 ha of gender-inclusive agroforestry established 80 hectares of degraded coastal ecosystems (seagrass and algae) restored using an EbA approach	Increased awareness of EbA practices and dissemination of info for scaling up EbA (3.1) Knowledge management products developed and disseminated at national and regional level Awareness of EbA practices and climate change adaptation integrated into youth programs and curricula Bi-annual roundtables/meetings of people and organizations engaged in EbA approaches in Mauritania organized to promote knowledge sharing and networking Awareness campaigns on key institutions and stakeholders engaged in climate change adaptation and EbA rolled out.	Comprehensive assessment of ecosystem-based IGA options, including economic analysis, undertaken in each Wilaya, taking into consideration previous experiences 90 community run sustainable IGAs supported in 9 Wilayas 300 CBO members trained in strategy building, financial planning, and leadership skills 80 Integrated Community Agriculture Farms (FACI) created
		Income generating activities and sustainable livelihoods (2.2)	Increased awareness of institutional framework and support for EbA (3.2)	
Senegal	Natural resource management frameworks, mainstreaming policies for gender-responsive climate change adaptation,	Sustainable land management and use of natural resources and	Developing communication strategies (4.1)	

	sustainable land management (3.1)	improved biodiversity conservation (1.1)		
		Livelihood diversification to enhance community resilience (2.1)		
Regional Coordination	Strengthening institutional capacity and implementing NRM (1.1)	Strengthening institutional capacity and implementing NRM (1.1)	Building KMS for regional and national reporting on GGW Initiative (4.1)	Strengthening value chains and NWFPs and diversifying CR livelihoods (2.1)
		Capacity building, policy and institutional strengthening enhance planning for climate impacts and extreme weather events (3.2)		
		Capacity building to enhance coordination of GGWI (3.1)		

Climate Adaptation Child Project Contributions to the GGW Programme

The Child Projects within Mali, Burkina Faso, and Mauritania are integral to the success of the GGW Programme. They are strategically designed to complement the Programme's four key components, contributing significantly to regional efforts in sustainable land management, biodiversity conservation, and climate change adaptation. These contributions are detailed as follows:

Creating Technical Enabling Environment for SLM and BD Conservation:

- Mali: Focuses on innovative water management techniques to combat drought, aiming to restore 150,000 hectares of degraded land.
- Burkina Faso: Implements community-led forestry initiatives, targeting the restoration of 15,000 hectares with climate-resilient species.
- Mauritania: Prioritizes the restoration and sustainable use of terrestrial and coastal ecosystems managing 4,000 hectares for climate resilience.

Establishing Marketing Opportunities and Policy Support for SMEs and PPPs:

- Mali: Develops market linkages for climate-resilient agricultural products, enhancing local value chains.

- Burkina Faso and Mauritania: Strengthen PPPs by integrating local SMEs into sustainable agribusiness networks.

Strengthening Regional and National Coalitions for GGW Initiative:

- Mali, Burkina Faso, and Mauritania: Actively participate in regional monitoring and evaluation, sharing best practices and lessons learned in climate resilience.

Women Empowerment Strategies:

- Mali and Burkina Faso: Implement gender-focused agricultural training, promoting women's participation in resilient agricultural activities.
- Mauritania: Focuses on capacity building for women-led enterprises in climate-sensitive sectors.

Strengthening Institutions and Policy Coherence:

- Mali, Burkina Faso, and Mauritania: Develop and strengthen policy frameworks and institutional capacities for sustainable land management and climate adaptation.

Supporting Deployment of Regional Accountability and gender responsive M&E Framework:

- Mali, Burkina Faso, and Mauritania: Contribute to the development and use of a regional platform for monitoring climate adaptation efforts.

Synergies and Collaborations:

These projects promote inter-country collaborations, leveraging shared experiences and resources for greater regional impact. For instance, Mali's water management strategies could inform similar initiatives in Burkina Faso and Mauritania.

Quantitative Targets and Progress Updates:

Mali aims to train 1,900 individuals (60% women) in climate resilience, while Burkina Faso and Mauritania focus on strengthening 40 communal development plans and 20 private sector enterprises, respectively. Preliminary successes include increased community engagement in Mali and enhanced biodiversity conservation efforts in Mauritania.

Risk Management: Each project incorporates risk management strategies like diversifying income sources to mitigate climate risks and fostering inclusive governance to navigate political challenges.

Innovative Approaches: Mali's use of bioethanol stoves and photovoltaic power plants exemplifies innovative approaches to renewable energy, aligning with the programme's focus on promoting sustainable energy solutions.

Impact on Local Communities: These projects directly benefit local communities by enhancing food security, creating job opportunities, and empowering women and marginalized groups.

In summary, the child projects on climate adaptation in Mali, Burkina Faso, and Mauritania are pivotal to achieving the GGW Programme's objectives. They offer practical, region-specific solutions while contributing to broader goals of environmental sustainability, economic resilience, and social equity.

- Explain how the programme will support the generation of multiple global environmental benefits which would not have accrued without the GEF programme (additionality).

In the description of the Programme's approach and theory of change, it has been mentioned that the Programme will embrace a two tired-approach to implementation. That is, it will have a regional project (primarily focusing on soft interventions to support country-level implementation) as well as a national-level (primarily focusing on concrete interventions and secondarily, on soft interventions based on country-context needs). This structure facilitates the generation of multiple global environmental benefits (GEBs) across participating countries. The inclusion of climate adaptation projects in Mali, Burkina, and Mauritania enhances this aspect significantly, specifically targeting the enhancement of resilience to climate change through sustainable land management practices, promoting biodiversity conservation, and employing innovative approaches to restore degraded lands.

Each of the countries has indicated its contributions to the core indicators related to the creation of multiple environmental benefits. From the Table above, it can be seen that all the participating countries will support the delivery of the Programme through the implementation of integrated NRM practices to improve land productivity, land cover and soil organic carbon (Component 3). Similarly, all the participating countries will support the delivery of the Programme through a functional platform to enhance transparent implementation and reporting of the GGW Initiative (Component 4). Combined, the Programme will remain strategic by generating multiple environmental benefits and then have a mechanism within its design to manage lessons related to generation of GEBs and diffuse them to support sustainability and scaling up.

The adaptation benefits to be generated from the programme will include: a) adaptation theme 1 Agriculture, Food Security, and Health through Component 3 of the Programme which will ensure that local enterprises of selected value chains and NWFPs enhance PPPs and diversify local resilient livelihoods, but also that gender mainstreaming enhances women's access to socioeconomic opportunities; b) adaptation theme 3: Nature-Based Solutions through the support to reforestation initiatives, such as tree planting to restore degraded production landscapes, enhance biodiversity and contribute to carbon sequestration (Component 3). Additionally, the Programme will support sustainable agriculture practices, like agroforestry and cover cropping which will promote soil health and biodiversity. Support towards protected areas and wildlife corridors will preserve habitats and support diverse ecosystems. These nature-based solutions in the Programme will address environmental challenges while offering co-benefits for biodiversity conservation, climate change mitigation, and the well-being of communities; c) Policy coherence and mainstreaming of climate adaptation and Strengthened governance for adaptation. The Programme includes Component 1 dedicated to institutional capacity building and policy strengthening, including stakeholder mobilization, advocacy and communication; and d) Knowledge exchange and collaboration (lever 3): The Programme includes Component 4 dedicated to Monitoring and Evaluation including knowledge management, and regional monitoring and accountability.

The climate change adaptation benefits will be generated through the child projects and more specifically:

Mali, Burkina, and Mauritania's Climate Adaptation Projects: These projects specifically target the enhancement of resilience to climate change by implementing sustainable land management practices, promoting biodiversity conservation, and employing innovative approaches to restore degraded lands. These interventions align with the Programme's objectives and significantly contribute to its overarching goal of generating GEBs.

Multiplier Effect of Investments: The Programme's additionality is evident in its capacity to amplify the impact of investments at both national and regional levels. The climate adaptation projects in Mali, Burkina, and Mauritania bring unique insights and approaches, thereby enriching the Programme's scope and sustainability.

Sustainability of Outcomes and Results: Building institutional capacities and training natural resources managers in Mali, Burkina, and Mauritania strengthen policies to create an enabling environment for the implementation of the GGW Initiative. This approach consolidates national efforts across the GGW region and ensures long-term sustainability of the Programme's impact.

Stakeholder Engagement and Knowledge Exchange: The multifaceted challenges within the GGW region require engagement from various stakeholders, including those involved in the climate adaptation projects in Mali, Burkina, and Mauritania. The exchange of ideas and experiences among these stakeholders, including private sector entities, academia, and local communities, enriches the Programme and fosters an environment conducive to sustainable production systems.

Regional Project Alignment with National Policies: The regional project, particularly with the inclusion of climate adaptation projects in Mali, Burkina, and Mauritania, is strategically aligned with national priorities. This alignment facilitates support for national policy coherence and strengthens the implementation of the GGW Initiative.

Inclusive Approach and Strong Partnerships: The Programme's inclusive approach, bolstered by the climate adaptation projects in Mali, Burkina, and Mauritania, establishes strong partnerships and collaborations with key stakeholders at various geographic scales and sectors. This ensures that national-level projects are enriched by regional insights and experiences, thereby enhancing the overall impact of the Programme.

In the current scenario, the baseline investments with interventions on improving the management of natural resources do generate GEBs. However, the scope, sustainability and impact at scale are limited compared to what can be achieved through a 2-tiered implementation approach that includes building capacities, knowledge management, livelihoods, among others. In this regard, the Programme brings an important aspect of additionality to ensure the 'multiplier effects' of investments when done at both national and regional level by bringing together different stakeholders around a common agenda – to have a socio-ecologically resilient GGW region with enhanced regional and country institutional and policy capacity to sustainably manage vulnerable natural resources in support of livelihoods, peace and security. Beyond the multiplier effect of a two-tiered approach, the Programme will also ensure sustainability of outcomes and results – it will build institutional capacities and train natural resources managers and strengthen policies to create an enabling environment to enhance the implementation of the GGW Initiative. The Programme will be able to consolidate national efforts across the GGW region.

The success of this Programme hinges on the engagement of various stakeholders. The socioeconomic and environmental challenges with the GGW region are multifaceted. Logically, there is no single silver bullet to address all the challenges. Therefore, this calls for continued engagement of various stakeholders ranging from policy makers, academia, development partners, women and youth groups, and communities, among others. Various stakeholder have already involved in the consultations that have led to the development of this PFD. For details regarding their potential roles, please refer to the section above. Their engagement in the Programme will be an opportunity for them to exchange ideas with others to support enrich their areas of work – in the case of the private sector, an opportunity to grow their businesses but also to learn about sustainable production systems that are not harmful to the environment.

It should be reiterated here that the two-tiered approach is strategic in bringing different stakeholders together around a common cause – but it should be noted that the various stakeholders at different geographic (regional vs national and sub-national levels) and different academic background, socioeconomic persuasion etc. will be an opportunity for uptake of knowledge that will be generated. It has already mentioned that after a decade of implementation of M&E at PANGGW, knowledge generation is marred with irregularity in the collection of field data which tend to be very obsolete (and therefore not reflective of the current socioeconomic and environmental dynamics) and the lack of adequate computer equipment and associated upgraded systems for monitoring. Through component 4, the Programme will be deliberate about knowledge generation. The Programme will support collecting, analyzing, and interpreting data to gain insights and inform decision-

making. This can be achieved through a variety of methods such as conducting field surveys, remote sensing, and stakeholder consultations, depending on the data that need to be collected. The Programme through the regional and national projects, will collaborate with local communities and organizations to incorporate traditional knowledge and increase Programme relevance and acceptance. Additionally, monitoring and evaluation processes will provide feedback on Programme performance or effectiveness and identify areas for improvement. The Programme will share findings and best practices through publications, workshops, and an online platform (the Programme will have a functional platform) will support the further dissemination of knowledge and encourage learning and innovation. Overall, generating knowledge in this Programme will be essential for informed decision-making, effective Programme implementation, and sustainable resource use.

The functional platform will be housed in the PANGGW and will work in synch with national-level infrastructure to allow for seamless access to information by project developers, policy makers, civil society organizations, and other users. Housing the knowledge management platform at the PANGGW will be appropriate given their institutional mandate and support that they have to offer to member countries of the GGW Initiative. The annual meetings that member countries hold in different members states under the hospice of the PANGGW present an important opportunity for different stakeholders to learn about the Programme once under implementation. Sessions will be organized for countries and project managers to present about the country and regional projects, including lessons – these will be used for future programs and projects.

Regarding how the Programme will support participating countries to improve or develop national policies, including an improved alignment of existing policies, it is important to reiterate the strategic approach to implementation of the Programme. Essentially, the regional project will be aligned with national priorities to serve and support national-level implementation. For this to work harmoniously it will be important to clearly define the project's goals and objectives, as well as the stakeholders and actors who will be affected by or involved in the project. This will help to ensure that all parties are aware of their roles and responsibilities, and that their needs and concerns are taken into account throughout the scaling-up process – but beyond that, to clarify the ways in which the Programme can support national policies through the regional project (which will primarily focus on soft interventions to support country-level implementation). Broadly, the regional project will support technical enabling environment integrated natural resources management, support marketing opportunities and policy and legal for local SMEs and PPPs; strengthen institutions and policy coherence to enhance the implementation of the GGW Initiative; and support monitoring and evaluation framework to ensure accountability in the implementation of the GGW. In this regard, the Programme is well positioned to support national policy coherence in participating countries.

Finally, working at different levels with various stakeholders, as it has already been mentioned, will ensure an inclusive approach to establishing strong partnerships and collaborations with key stakeholders and actors at different geographic scales and different sectors with various yet complementary experiences in natural resources management. National level projects would remain as such without a regional complementary role that will ensure the representation of stakeholders, experiences, opportunities (such as links to regional and global markets) beyond national-level contexts. Scaling up by leveraging the portfolio of investments under the Programme will require strategic planning, collaboration, and effective communication. National-level implementation will ensure concrete actions on the ground – Through the national-level, the Programme will engage with local communities and stakeholders to ensure that practices are culturally appropriate and sustainable. Beyond this important local level, the Programme will integrate knowledge management and monitoring and evaluation systems to provide feedback on its progress and identify areas for improvement. Using different mechanisms, the Programme will share successes and lessons learned through publications,

workshops, and platforms, meetings and other outreach efforts that will be identified to promote wider adoption and encourage ongoing learning and innovation to support the implementation of the GGW Initiative. In this way, the Programme will not be a summation of Child Project, but will go beyond that enriched by Programme priority areas that go beyond national-level priorities – but leveraging partnerships, securing funding and collaborating with government agencies, academia, the private sector beyond national borders, civil society organisations, and development partners, among others.

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Monitoring and Evaluation

Describe the approach to program-level Monitoring and Evaluation, including ways to ensure coherence across Child Projects and to allow for adapting to changing conditions, consistent with GEF policies. In addition, please list results indicators that will track the Program Objective, beyond Core Indicators. (Max 1-2 pages).

UN Environment Programme as the Lead Agency of the programme will serve as the hub for the programme, soliciting inputs from the GEF Secretariat, GEF Agencies, and STAP. It will follow UN Environment's standard monitoring, reporting and evaluation processes and procedures, consistent with the GEF Monitoring and Evaluation policy. The monitoring and evaluation system will track progress of all child projects and support adaptive management across the programme.

As has already been mentioned, the Programme will develop a functional platform that will be housed at the PANGGW – in this platform, the Programme will feed innovations and policies developed under its child projects to facilitate access by different stakeholders, to support sustainable use and to transfer knowledge. The Programme will work with different stakeholders at global, regional, national and subnational levels with vested interest in the priorities of the GGW Initiative. Thus, the proposed institutional structure for the Programme will build on existing networks of stakeholders at local, national, regional and global levels. For example, PANGGW has antennae within the GGW region through national agencies for the GGW, but also collaborations with institutions such as AGRHYMET, OSS, Birdlife International, ICRAF and civil society organisations such as MOSAIC, among many others.

For this Programme, component 4 is dedicated to Knowledge Management (KM) that will complement the M&E process. It will involve capturing, storing, and sharing knowledge generated through activities. Given the level of stakeholders, the approach to implementation and thematic focus of the Programme, knowledge will be generated that will be related to best practices, lessons learned, and other insights gained during the implementation. In this regard, KM will ensure that the knowledge generated is not lost when the Programme ends, and it can be used to inform future natural resources management projects in the GGW region.

Combined, gender responsive M&E and KM will ensure that the Programme is successful, sustainable, and able to achieve its objectives. By implementing these practices, project managers will ensure the success and sustainability of these projects, and future projects can benefit from the lessons learned and knowledge gained during their implementation. These aspects are critical for this Programme because participating countries are mandated to report on their implementation of GGW initiatives at national levels – and the Pan African Agency of the Great Green Wall (PANGGW) has a coordinating function in its interactions with member states.

The implementation of the gender responsive M&E and the monitoring processes will have to remain coherent across Child Projects. For this Programme that will build on existing structures of PANGGW at regional and national levels, but also other networks across the GGW region, it will be important the existing processes are strengthened where weak, and established where absent. The monitoring and evaluation processes will be informed by different stakeholders at regional and national level feeding into the existing PANGGW structures – which are accessible to members states of the GGW Initiative.

During consultations, it was noted that after a decade of implementing and M&E system at PANGGW, member states are not consistent in terms of regularity in the collection of data. When collected, it is often outdated, compromising the quality of recommendation and policy guidelines that should reflect the changing socioeconomic and environmental dynamics within the GGW. Indeed, in the current scenario, country and regional level accountability is weak with regards to data collection, diffusion, sharing of knowledge and lessons and having a robust evidence-based policy information and formulation system. The Programme will support the deployment of regional accountability and monitoring and evaluation framework with a centralized platform in which national-level implementation will feed. In this way, the Programme will ensure coherence across all participating country projects.

Monitoring and Evaluation Enhancement with Climate Adaptation Projects in Mali, Burkina, and Mauritania

The Monitoring and Evaluation (M&E) approach for the Great Green Wall (GGW) programme, incorporating the specific gender consideration and climate adaptation projects in Mali, Burkina, and Mauritania, will be aligned with the UN Environment Programme's (UNEP) standard processes, in accordance with the GEF Monitoring and Evaluation policy. This approach will emphasize not only tracking the progress of all child projects but also ensuring their coherence and adaptability in response to changing conditions.

Programme-Level M&E Approach:

Centralized Monitoring and Adaptation: The UNEP, as the lead agency, will use its established monitoring systems to oversee the progress of all child projects, including those focusing on climate adaptation in Mali, Burkina, and Mauritania. This centralized monitoring will ensure consistency and coherence across all projects.

Adaptive Management: Recognizing the dynamic nature of environmental and climatic challenges in the GGW region,

the M&E system will facilitate adaptive management. This will allow for timely adjustments in project strategies and interventions in response to emerging challenges or opportunities, particularly in the climate-sensitive regions of Mali, Burkina, and Mauritania.

Functional Platform at PANGGW: The Pan African Agency of the Great Green Wall (PANGGW) will host a functional platform, integrating innovations and policies developed under the child projects. This platform will be instrumental in disseminating knowledge and best practices, especially those emerging from the climate adaptation projects, ensuring their wider application and impact.

Key Aspects for Climate Adaptation Projects:

Innovations and Policies Integration: The platform will assimilate key findings and innovative approaches from the climate adaptation projects, facilitating access to this information for stakeholders across the GGW region.

Engagement with Stakeholders: The programme will collaborate with a diverse range of stakeholders at global, regional, national, and subnational levels, ensuring that the insights and experiences from the climate adaptation projects are incorporated and leveraged for broader benefits.

Knowledge Management and Monitoring:

Complementarity with M&E: The Knowledge Management (KM) component will complement the M&E process, capturing, storing, and disseminating knowledge generated, especially from the climate adaptation projects.

Informed Decision-Making: The combined gender responsive M&E and KM approach will support informed decision-making, including at local level, ensuring the success, sustainability, and achievement of the programme's objectives.

Reporting Mandates: The programme aligns with the reporting mandates of participating countries on GGW initiatives, with PANGGW playing a coordinating role.

Ensuring Coherence across Child Projects:

Strengthening Existing Structures: The programme will enhance the existing PANGGW structures at regional and national levels, ensuring consistent data collection and reporting across all child projects.

Addressing Data Collection Issues: The programme will tackle the challenges of irregular and outdated data collection, enhancing the quality and timeliness of information, particularly from climate-sensitive areas.

Centralized Accountability Framework: A regional accountability and monitoring framework will be deployed, ensuring coherent and integrated reporting from all child projects, including those focused on climate adaptation.

Additional Results Indicators Beyond Core Indicators:

Climate Resilience Metrics: Indicators measuring the effectiveness of climate adaptation strategies in Mali, Burkina, and Mauritania, such as changes in adaptive capacities, reduced vulnerability, and improved resilience of ecosystems and communities.

Innovation and Policy Uptake: Indicators tracking the adoption and impact of innovative practices and policies emerging from the climate adaptation projects.

Stakeholder Engagement and Knowledge Dissemination: Metrics assessing the extent of stakeholder engagement and the effectiveness of knowledge dissemination, particularly insights from the climate adaptation projects.

This enhanced M&E approach, incorporating the specificities of the climate adaptation projects, will ensure that the GGW programme not only achieves its objectives but also adapts and responds effectively to the evolving environmental and climatic challenges in the region.

In the implementation of the gender responsive M&E, the following will be tracked:

- Number of green jobs created
- Number of local enterprises created
- Number of value chains promoted
- Number of women and youth enterprises
- Number of training programs
- Number of ha of degraded land restored
- Number of ha forestland restored
- Number of ha under integrated land and water management
- Number of ha of grazing land under improved management
- Restoration of agricultural land (ha)
- Ha of land under management of Protected Areas (ha)
- Ha of land under creation of new Protected Areas / Community Forests (ha)
- tCo_2 Eq (millions) sequestered/avoided.

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M&E Framework for GGW Programme for Climate Adaptation Projects:

Mali:

Project Core Indicators	Expected at PIF

Number of direct beneficiaries (sex disaggregated)	- 2500 people, with women constituting approximately 60% of this number. Thus, around 1500+ women and 800+ men could be direct beneficiaries.
(a) Area of land managed for climate resilience (hectares)	- 375,000 hectares (150,000 ha of degraded land restored and 225,000 ha of forest enriched).
Number of policies/plans/ frameworks/institutions for to strengthen climate adaptation	- 15 institutions, plans, or frameworks strengthened or developed to foster an enabling environment for comprehensive climate adaptation.
Number of people trained or with awareness raised (sex disaggregated)	- 2100 people expected to be trained with 60% of them being women (1260 women and 840 men approximately)
Number of private sector enterprises engaged in climate change adaptation and resilience action	- 10 organizations involved in waste recovery, indicating private sector engagement in adaptation and resilience actions

Burkina:

	Project Core Indicators	Expected at PIF
1	Number of direct beneficiaries (sex disaggregated)	7,000 (3,500 females & 3,500 males.
2	(a) Area of land managed for climate resilience (hectares)	15,000 ha
3	Number of policies/plans/ frameworks/institutions for to strengthen climate adaptation	40 communal development plans
4	Number of people trained or with awareness raised (sex disaggregated)	5,500 (3,000 Female & 2,500 Male)
5	Number of private sector enterprises engaged in climate change adaptation and resilience action	9 Enterprises

Mauritania:

1. Number of direct beneficiaries: 298,000 (52% women)
   This number is based on the 2023 population projections in the 9 target wilayas, assuming that 10% of the populations will benefit from at least on output (the majority under Component 4).

2. (a) Area of land managed for climate resilience (ha): 4,000
   The project projects to directly contribute to improved management of 4,000 ha of land, utilizing EbA approaches, under component 2 (Outputs 2.1.1 and 2.1.3).
   (b) Coastal or marine area managed for climate resilience (ha): 80
   There will be a specific focus on the Baie de l'Étoile, which is located in the Baie du Lévrier in Dakhlet-Nouadhibou wilaya (output 2.1.1.4)

3. Total number of policies, plans and frameworks that will mainstream climate resilience: 22

   Under Component 1, 22 PDR and/or LDR will be developed; this figure will be revised at PPG stage.

4. Number of people trained or with awareness raised: 298,000 (% women to be confirmed)
   Taking into consideration awareness, the number is estimated to roughly represent 10% of the 9 target wilayas. In terms of direct training, under components 1 to 3, it is estimated that roughly 3,100 will benefit from specific training (gender split to be estimated at PPG phase).

Existing M&E Indicators to be Tracked Alongside Adaptation Projects:

The inclusion of these specific climate adaptation metrics for Mali, Burkina, and Mauritania in the gender responsive M&E framework ensures a comprehensive and contextualized evaluation of the programme's impact, addressing the unique challenges and opportunities presented in these regions. The M&E indicators for the adaptation components of the programme will include:

1. Number of direct beneficiaries: 298,000 (52% women)
   This number is based on the 2023 population projections in the 9 target wilayas, assuming that 10% of the populations will benefit from at least on output (the majority under Component 4).

2. (a) Area of land managed for climate resilience (ha): 4,000
   The projects to directly contribute to improved management of 4,000 ha of land, utilizing EbA approaches, under component 2 (Outputs 2.1.1 and 2.1.3).
   (b) Coastal or marine area managed for climate resilience (ha): 80
   There will be a specific focus on the Baie de l'Étoile, which is located in the Baie du Lévrier in Dakhlet-Nouadhibou wilaya (output 2.1.1.4)

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5. Number of people trained or with awareness raised: 298,000 (% women to be confirmed)
   Taking into consideration awareness, the number is estimated to roughly represent 10% of the 9 target wilayas. In terms of direct training, under components 1 to 3, it is estimated that roughly 3,100 will benefit from specific training (gender split to be estimated at PPG phase).

6. Number of private sector enterprises engaged in climate change adaptation and resilience action: 20

At PIF stage, it is estimated that the project would look to engage at least 20 private sector entities

Coordination and cooperation with Ongoing Initiatives and Programs.

Is the GEF Agency being asked to play an execution role on this program? Yes

If so, please describe that role here. Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing (max. 500 words, approximately 1 page)

Implementation and Execution Arrangements:

UNEP in this programme will play both the Implementing Agency for the Programme and as the Executing Agency for the Regional Coordination Child Project. The dual role will be executed within GEF rules and to maintain a firewall between the IA and EA to be performed by different Units of the organization. UNEP will be the Lead Implementing Agency of the Programme. UNEP's Ecosystems Division will execute the coordination child project. Country Child Projects will be executed each by the designated National Executing Agency and implemented (IA) by West Africa Development Bank for the Mali and Burkina Faso projects, UNEP Adaptation Unit for Mauritania and UNEP Biodiversity and Land Degradation Unit for Chad, Ethiopia, The Gambia, Niger, Nigeria and Senegal projects.

As the Lead Agency, UNEP will be responsible for:

- Coordinating progress between Child Projects to ensure Programme results are achieved;
- Convening workshops and meetings to ensure all partners and the countries understand, confirm and coordinate to achieve overall purposes of the project;
- Convening regional, and global high-level meetings on behalf of the Programme;
- Initiating the annual Programme report with the Country Child Projects;
- Compiling an annual report with contributions from all child project partners and submit to the GEF Secretariat;
- Conducting the mid-term and final Programme evaluations and;
- Convening and chairs the Programme Steering Committee;

- Seeking synergies with external institutions and partners.
- Ensure close collaboration with Panafrican Agency of the GGW, the African Union and other key partners

Programme Coordination Unit: Since 2021 at the start-up of the implementation of the GEF 7 MSP ''Harnessing the Great Green Wall Initiative (GGWI) for a Sustainable and Resilient Sahel'' in support of the GGW implementation, UNEP through a dedicated programme coordinator, had engaged wide consultations with countries, agencies, CSO, indigenous people, parliamentarians, research institutions and other stakeholders. These consultations have led to the design of the programme and were further strengthen with support and guidance from GEF secretariat in order to ensure more synergy and complementarity but also to secure a real engagement of stakeholders which will lead during the PPG to an effective stakeholder's engagement plan. In addition to the Six (6) regional programme design meetings, an interagency meeting was organized in February 2024 under the GEF secretariat leadership. This meeting set the basis for closer interagency coordination and commitment for establishment of a long-term platform of collaboration. Follow up online meetings were organized bilaterally with FAO and IFAD after Nairobi GEF led inter-agencies consultation meetings but also face to face with FAO, UNDP, World Food Programme (WFP), and UNCCD Accelerator in March 2024 in Ouagadougou, Burkina Faso in margin of the Regional GGW Residential Seminar. These meetings favor more engagement between agencies and commitment for continuous collaboration to be materialized by a dedicated coordination and collaboration platform to be agreed upon during the PPG. These consultations will be supported by a comprehensive mapping of projects and programs in the GGW region.

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In mean time, at regional level, the coordination mechanism will build on: i) the institutionalize Expert Committee which meets prior the council of Ministers meeting; ii) the Residential Seminar which become the widely attended informal gathering of the GGW stakeholders; and the iii) the Regional Steering Committee established by the African Union but which seems not to be adopted by all stakeholders, to come up with a single consensual mechanism for collaboration and coordination. The aim is to use the PPG phase to reach agreement between the stakeholders on composition, mandate and institutional anchorage of the coordination platform. The mechanism will gain from the recommendation of the ongoing institutional audit financed by the AfDB and coordinated by a Task Force which include UNEP, the Pan-African Agency and the National GGW Agencies. UNEP, in collaboration with Pan-African Agency, is planning a regional meeting with all stakeholders to agree on the platform, it mandate and its modus operandi. To ensure the sustainability of the mechanism, it is envisaged that the platform be institutionalized in the GGW institutional set up within the framework of the evident amendment of the Convention establishing the Panafrican Agency of the GGW.

At national level, the National Coalition which brought together all stakeholders including different line ministries, CSO, local community representatives, private sector and other stakeholders (parliamentarians', projects and programs coordination, etc.) will serve as the coordination mechanism. The UNEP/GEF 8 Programme will explore entry points for their strengthening and capacity building. While the Regional platform will be institutionalized at regional level, the National Coalition will also be institutionalized at national level in order to ensure sustainability and establishing a supporting coordination and collaboration mechanism to the national GGW process.

At the Local Level: In addition to the National Coalition (page 124 of PFD) established in participating countries, the local approach will build on the existing coordination and frameworks currently operating in the participating countries and which clearly define role of local communities not only as beneficiaries but as active

participants in the implementation of the GGW initiatives in each participating country. The table below provides the current mechanism and coordination which define the role of local communities either directly or through communities-based organizations or through municipal councils. The programme will ensure that each child project considers and strengthens these role through dedicated capacity building programmes.

Local communities' coordination and engagement mechanisms in the implementation of the GGW

Countries	Local coordination and mechanism in engaging local communities beyond beneficiaries in the implementation of the GGW at local level
Mauritania	Surveillance and securing of investments in their areas. Community – Based organization commit on behalf of their communities fulfilment of their commitments in term of role in the projects. Direct financing through their efforts and materials used for physical activities on the ground. Mobilize other donors to finance activities in the GGW areas Contribute in the sensitization on the GGW objectives and activities on the ground
Chad	Signatory of the Convention through Community Based organization between the GGW Agency and the communities to conduct activities. Take the responsibility of the project operations in their area and are responsible of the sites management and surveillance. Ensure liaison between the GGW agency and communities on all issues related to the initiatives
B. Faso	Participate in the Diagnostic analysis of the local context and definition of the priority actions to be undertaken. Decide on the type of activities to be conducted by the GGW in their area. Influence the policy and political decision by advocating consideration of their priorities in the government decisions and policies. Contribute actively in the promotion of good practices and influence adaption of those practices
Nigeria	Participate in the planning committee at local level. Supervise and coordinate the at community level activities of the GGW Participate in decision making process at community level. Decide on the type od the project activities
Niger	Communities' representatives in the Municipality constitute the entry point of the GGW They contribute in the development of Communal Development Plans and ensure the GGW activities are very well included

	Contribute physically and through their farming materials in the execution of activities on the ground. They contribute in resources mobilization from other partners
Senegal	Territorial contract with municipalities where local communities are represented. Evaluate annually the implementation of local action plans. Communities based organisation like farmers cooperatives, pastoral community's organisation, fishermen association, etc represent their members in the municipal community in charge of planning, monitoring and evaluation of operations on the ground
Mali	Set up Management committee to oversee interventions at community level. Local communities' organizations participate in the GMV activities. Participate in the decision-making process at local level. Ensure complementarity with local administration and other partners

The programme coordination Unit will provide coordination and manage the knowledge management, Capacity Building, Communications functions of the overall Programme. It will also manage the standardized gender responsive M&E system to be harmonized, track programme results, outcomes and risks. It will also provide Technical Assistance service on specific targeted issues such as: IPLCs and women groups engagement with the Private sector, Public-Private Collaboration on Deforestation-Free commodity and supply Chains, engagement with financial institutions coordination with IFAD, GCF,FAO, WFP, UNDP, the African Union GGW Coordination and the Pan-African Agency of the Great Green Wall, engagement with other Global Platform and initiatives such as CILSS, G5 Sahel, Regional Economic Commission (ECOWAS), the inclusive development of Indigenous Peoples and Local Communities, and other national and regional partners.

The GGW Programme Steering Committee (SC): The members of the SC will be representatives of: UNEP, IFAD, BOAD, FAO, the GEF Secretariat, country focal points, Panafrican Agency of the GGW, Representative of the Environment Department of African Union Commission, Regional Coordination of Indigenous People, Private sector representative, Women, Youths and Parliamentarians and other relevant institutions. UNEP will

serve as the Secretariat of the meetings and chair of the meetings as the Lead Agency of the Programme. The Steering committee will be a coordination forum and a monitoring platform during the implementation phase of the Programme. The role of the SC members will be to report on the progress of their child projects and advise on the types of support they need under the Programme and promote coordination between Programme and child projects. The SC will meet every year, or more frequently by request of one of the advisory committee members. Meetings will be virtual or face to face and where possible in conjunction with other meetings to manage costs.

Country Child Project governance arrangements: **National alliance** Each Country Child Project will have its own governance arrangements, which the IA will define during project development. As a minimum, however, each Country Child Project's steering committee will involve representatives of relevant ministries, civil society, women groups, representatives of pilot sites, GEF Agency implementing the child project, IFAD representative, other donors/partners operating in the project area, and UNEP. During the PPG phase, in each country there will be discussion on the role of the National Coalition/Alliance particularly to act as the project Steering Committee.

Coordination and Cooperation with Ongoing Initiatives and Programs: Informed by the lessons learned from previous Great Green Wall projects and other regional initiatives, the programme has developed a comprehensive approach to enhance coordination and cooperation with ongoing initiatives. This approach is aimed at optimizing resource utilization and maximizing the impacts of collective efforts in the Sahel-Sahara region. Recognizing the multitude of existing efforts in the region, the programme seeks to align strategically with these initiatives to avoid duplication and foster synergies. This alignment involves a thorough analysis of ongoing projects, identifying areas of overlap, and establishing clear channels for collaboration. For example, the initiatives on land restoration will coordinate with existing reforestation projects to amplify impact and ensure cohesive land management practices across the region. Building on the understanding that shared knowledge resources significantly enhance the efficacy of environmental programs, the programme will establish and utilize shared platforms. These platforms will facilitate the exchange of data, best practices, and lessons learned, fostering an environment of continuous learning and improvement among all stakeholders involved. Leveraging past lessons that highlight the importance of robust monitoring and evaluation, the programme will work with other initiatives to develop joint frameworks for tracking progress and outcomes. This collective approach will not only reduce the redundancy of monitoring efforts but also enhance the accuracy and reliability of impact assessments. To maximize financial and human resources, the programme emphasizes coordinated funding efforts with other agencies and organizations. This coordination involves joint planning sessions to ensure that funding is allocated efficiently and effectively, targeting the most critical areas of need and avoiding unnecessary overlaps in funding streams. The programme will strengthen institutional partnerships by formalizing cooperative agreements with key stakeholders, including governmental bodies, NGOs, and community organizations. These partnerships are crucial for the grounded implementation of projects and ensure that initiatives are supported by local governance structures and policy frameworks**.**

Engagement of Local Communities in Coordination Efforts: Consistent with the lessons from previous interventions, the programme places a strong emphasis on the engagement of local communities in the coordination process. By involving communities in the planning and execution phases of projects, we ensure that the initiatives are culturally relevant, locally supported, and more likely to succeed in the long term**.**

By applying these coordinated efforts, informed by robust historical data and proven best practices, the programme aims to create a unified front against land degradation, climate change, and biodiversity loss in the region. This collaborative approach is designed to foster a greater collective impact, enhancing the resilience of ecosystems and communities across the Sahel-Sahara landscape.

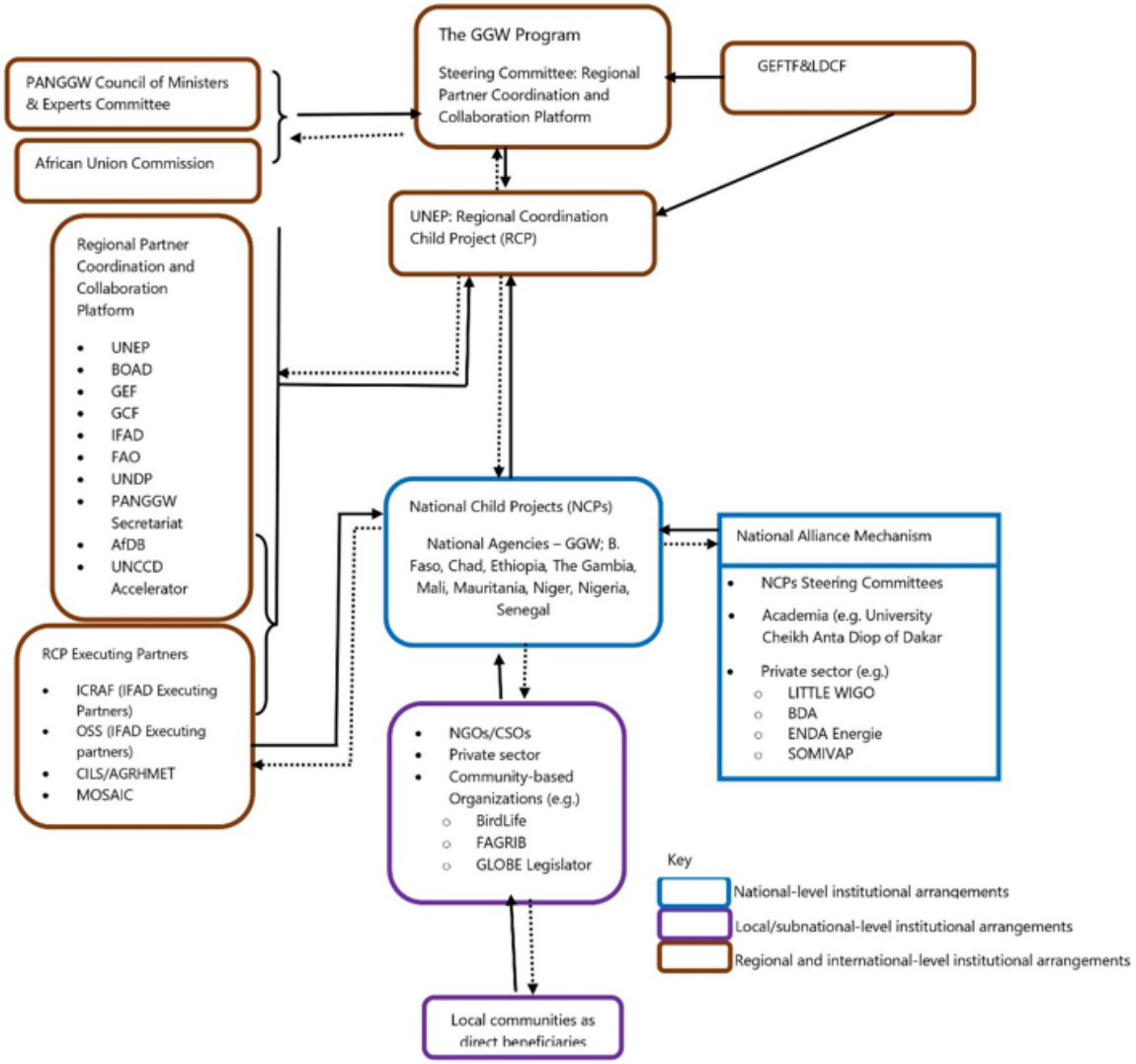
Leveraging Synergies and Enhancing Impact Through Collaborative Initiatives

Building on coordinated efforts, the Programme is strategically designed to enrich and extend the reach of existing initiatives targeting climate change, desertification, and sustainable development across the Sahel. By weaving innovative financing, community empowerment, and cross-sectoral partnerships into the fabric of the project's approach, the aim is to amplify the collective impact of these efforts. This section outlines how this project complements and enhances the existing landscape of interventions through key areas of focus.

A common protocol for the Programme will be agreed at the PPG phase. The common protocol will comprise:

a. Framework for reporting, transparency and grievance mechanism.
b. Visual identity of the GGW Programme (including branding materials and resources).
c. Standard format and language for documentation to ensure that all stakeholders are using the same documentation templates and terminology.
d. Common platform for communication and material repository (for e.g Teams, Zoom, Cloud Storage, Data access, mapping and visualization).

The Programme indicative Institutional Arrangements



Indicative institutional arrangement (to be fine-tuned during PPG)

Table On Core Indicators

Indicator 1 Terrestrial protected areas created or under improved management

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
2621000	0	0	0

Indicator 1.1 Terrestrial Protected Areas Newly created

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

2621000	0	0	0

Name of the Protected Area	WDPA ID	IUCN Category	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
		Protected area with sustainable use of natural resources	2,621,000.00			

Indicator 1.2 Terrestrial Protected Areas Under improved Management effectiveness

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
0	0	0	0

Name of the Protected Area	WDPA ID	IUCN Category	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)	METT score (Baseline at CEO Endorsement)	METT score (Achieved at MTR)	METT score (Achieved at TE)

Indicator 3 Area of land and ecosystems under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
264800	0	0	0

Indicator 3.1 Area of degraded agricultural lands under restoration

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 3.2 Area of forest and forest land under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 3.3 Area of natural grass and woodland under restoration

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
Woodlands	264,800.00			

Indicator 3.4 Area of wetlands (including estuaries, mangroves) under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
6938600	0	0	0

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
603,600.00			

Indicator 4.2 Area of landscapes under third-party certification incorporating biodiversity considerations

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
6,335,000.00			

Indicator 4.4 Area of High Conservation Value or other forest loss avoided

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4.5 Terrestrial OECMs supported

Name of the OECMs	WDPA-ID	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)

Documents (Document(s) that justifies the HCVF)

Title

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO_2e (direct)	550000	0	0	0
Expected metric tons of CO_2e (indirect)	0	0	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO_2e (direct)	550,000			
Expected metric tons of CO_2e (indirect)				
Anticipated start year of accounting	2025			
Duration of accounting	20			

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO_2e (direct)				
Expected metric tons of CO_2e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)

Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	2,708,709			
Male	2,341,551			
Total	**5,050,260**	**0**	0	**0**

Explain the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators (max. 250 words, approximately 1/2 page)

These proposed figures emerged during consultations in Ghana, Mali and Togo based on national-level estimated demographics within the GGW zone, but also the estimates that individual countries participating in the Programme have envisaged to be able create as protected areas or bringing under improved management (hectare), that is, 2,521,000 ha. The same is true for area of land and ecosystems under restoration (259,800 ha) and the area of landscapes under improved practices (6,895,600 ha). The same logic has been applied to the estimation of the level of carbon emissions to be mitigated through the use of improved practices on production landscapes (275,000 metric ton of CO2e). The figures therefore are summations that take into account population densities and household sizes at national level but also estimations within the GGW zones of each participating country. During PPG, the figures will be confirmed after additional consultations and national-level studies.

META INFORMATION – LDCF

LDCF **true**	SCCF-B (Window B) on technology transfer **false**	SCCF-A (Window-A) on climate Change adaptation **false**
Is this project LDCF SCCF challenge program? **false**		

This Project involves at least one small island developing State(SIDS).

false

This Project involves at least one fragile and conflict affected state.

true

This Project will provide direct adaptation benefits to the private sector.

true

This Project is explicitly related to the formulation and/or implementation of national adaptation plans (NAPs).

true

This project will collaborate with activities begin supported by other adaptation funds. If yes, please select below

Green Climate Fund	Adaptation Fund	Pilot Program for Climate Resilience (PPCR)
true	**true**	**false**

This Project has an urban focus.

false

This project will directly engage local communities in project design and implementation

true

This project will support South-South knowledge exchange

true

This Project covers the following sector(s)[the total should be 100%]: *

Agriculture	20.00%
Nature-based management	20.00%
Climate information services	10.00%
Coastal zone management	2.00%
Water resources management	10.00%
Disaster risk management	10.00%
Other infrastructure	10.00%
Tourism	8.00%
Health	10.00%
Other (Please specify comments)	0.00%
Total	100.00%

This Project targets the following Climate change Exacerbated/introduced challenges:*

Sea level rise	Change in mean temperature	Increased climatic variability	Natural hazards
false	**true**	**true**	**true**

Land degradation	Coastal and/or Coral reef degradation	Groundwater quality/quantity
true	**true**	**true**

CORE INDICATORS – LDCF

	Total	Male	Female	% for Women
CORE INDICATOR 1 Total number of direct beneficiaries	4,850,260	2,281,551.00	2,568,709.00	52.96%
CORE INDICATOR 2 (a) Area of land managed for climate resilience (ha)	394,000.00			

(b) Coastal and marine area managed for climate resilience (ha)	0.00			
CORE INDICATOR 3 Number of policies/plans/ frameworks/institutions for to strengthen climate adaptation	77.00			
CORE INDICATOR 4 Number of people trained or with awareness raised	10,700	4,704.00	5,996.00	56.04%
CORE INDICATOR 5 Number of private sector enterprises engaged in climate change adaptation and resilience action	39.00			

Key Risks

	Rating	Explanation of risk and mitigation measures
CONTEXT		
Climate	High	The GGW area is highly vulnerable to the impacts of climate change, and the region is characterized by desertification, floods in some areas and droughts in others. The Programme will consider the Climate Risk analyse conducted in many countries with support partners including e.g. GIZ in Mauritania and the recommended mitigation measures will be considered. See further mitigation measures below the table.
Environmental and Social	High	As has been shown in this document, the GGW region has serious environmental challenges particularly drought, flooding, and the region is socio-economically fragile. During the PPG; fragile and conflict assessment and analysis in the countries and/or regional/cross border level will be conducted to identify any environmental and social risks, particularly to the most vulnerable population and integrate mitigation measures as a part of project design. These assessments will be conducted by each National Child Project and the coordination project will ensure harmonization and transboundary consideration.
Political and Governance	High	The GGW is known to be a zone with security concerns which lead to migration and displacements. Some countries in the programme are facing governance challenges as result of Military Coups which disrupted the democratically established institution. However, the buying of the situation by the majority of the population on what happen has avoided civil unrest and there is hope that a democratic process will resume soon in those countries as the during of the transition are negotiated.
INNOVATION		
Institutional and Policy	Moderate	Member states do have strategies and policies. Some of them require strengthening while others require alignment. Countries face the challenge to implement the policies partly due to financial constraints but also due to lack of capacities. As above, institutional capacity for

		implementation and sustainability is low. This Programme will reinforce the capacities but also build on existing networks from different stakeholders to bridge the capacity gap. Also, the AfDB co-financing has planned capacity building nd institutional strengthening for countries and regional coordination.
Technological		
Financial and Business Model	Moderate	The socioeconomic context of the GGW region is that poverty levels are elevated, and access to means of production is limited. This is exacerbated by the political situation as result of Military Coup. However, there is clear indication of the resilience building among the population and innovative approaches taken here and here promises emergence of the economy based on new partnership and approaches which are given strong weigh to local solutions.
EXECUTION		
Capacity	Substantial	As above, institutional capacity for implementation and sustainability is low. This Program will reinforce the capacities but also build on existing networks from different stakeholders to bridge the capacity gap. Also, the AfDB co-financing has planned capacity building nd institutional strengthening for countries and regional coordination.
Fiduciary	Moderate	Though the institutional capacity is low in the region, the Implementing Agency will support Financial Management and Procurement processes through training and ad hoc in country missions.
Stakeholder	Low	The Programme is being developed with a broad range of stakeholders at different levels. This level of engagement will continue even during implementation. The national coalition will be reinforced and created where necessary.
Other	Moderate	Risk of Duplication: Consultations were conducted during the programme design and more closely during the Nairobi Workshop led by the GEF secretariat. These consultations will be supported by a comprehensive mapping of projects and programs in the GGW region during the PPG and it will yield to a concreate collaboration, synergy and complementarity mechanism to be institutionalized withing the GGW institutional arrangement.
Overall Risk Rating	High	High: During the PPG; a fragile and conflict assessment and analysis in the countries and/or regional/cross border level will be conducted to identify any environmental and social risks, particularly to the most vulnerable population and integrate mitigation measures as a part of project design. These assessments will be conducted by each National Child Project and the coordination project will ensure harmonization and

		transboundary consideration Updated Safeguard Risk Identification Form (SRIF) will be provided at CEO endorsement.

C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES

Describe how the proposed interventions are aligned with GEF- 8 programming strategies and country and regional priorities, including how these country strategies and plans relate to the multilateral environmental agreements.

Confirm that any country policies that might contradict with intended outcomes of the project have been identified. (approximately 2-3 pages)

The GGW Programme is aligned with the GEF-8 programming directions. It should be mentioned that the GGWI has been mentioned in the GEF-8 programming direction (paragraph 151) as an opportunity and The Great Green Wall Initiative (GGWI) is a country-driven platform that engages diverse partners for advancing integrated responses to the effects of climate change, biodiversity loss, desertification and land degradation, in the context of promoting landscape restoration and socio-economic development and resilience across the Sahel. The nature of this programme makes it naturally eligible to Land Degradation Set aside but also to the Integrated Program approach incentive which unfortunately was not planned for the GGW program. Given the countries committed their STAR allocation, it should be a fair approach to allow some set aside from LD but also other FA to support this program. The GGW Programme is a response to demands from the GGWI countries and consistent with focal areas priorities - enabling countries to programme their STAR allocation based on specific needs and opportunities to achieve impactful outcomes while generating multiple global environmental benefits. The Programme has been conceived to promote best practices, ensure multi-stakeholder involvement, and establish a comprehensive approach to knowledge management and capacity building so as to leverage and scale up impactful investments of GEF resources as well as those of other players or development partners – multilateral and bilateral institutions.

The design of the Programme will ensure that it advances the engagement of diverse partners to support integrated responses to the effects of climate change, biodiversity loss, and desertification and land degradation, in the context of promoting landscape restoration and socio-economic development and resilience in the member states, particularly those participating in the Programme. The GEF-8 Land Degradation Focal Area acknowledges and recognises the GGW Initiative as platform that is poised to profoundly scale-up and accelerate efforts to sustain livelihoods, conserve biodiversity, and combat desertification and climate change.

The GGW Programme is also aligned with the GEF-8 Ecosystem Restoration Integrated Programme (ERIP) – particularly as the ERIP is proposed to generate multiple environmental benefits, create jobs and secure livelihoods through the restoration of degraded ecosystems globally. The GGW Programme will make a significant contribution to achieving LDN and complement efforts towards restoration under the LDFA for multiple benefits and at a larger scale. As has already been alluded to various times, the GGW Programme will link Sahelian countries for scaling up their project-based efforts through accessing platforms, knowledge products, and best practices. For example, countries participating in the GGW Programme will working across multiple sectors and crosscutting themes such as gender and knowledge management.

The GGW Programme is conceived to contribute to the objectives of the biodiversity, land degradation, and climate change focal areas under GEF-8 as tabulated below:

Focal Area	FA Objective	GGW Programme contribution to FA objective
Biodiversity	To improve conservation, sustainable use, and restoration of natural ecosystems	Component 3 of the GGW Programme will contribute to this BD objective 1 through integrated approach to protected areas management, sustainable use of biodiversity, and management of production landscapes within the GGW region to achieve more durable results in conservation, sustainable use, and restoration. Components 1 and 3 of the GGW Programme are also aligned with the Biodiversity Focal Area priorities as they relate to gender roles that affect economic, political, social, and ecological opportunities and

		constraints faced by both men and women vis-à-vis access and use of biodiversity resources. Further, the GGW Programme is aligned with the Biodiversity Focal Area strategy as it relates providing capacity building and technical training to help enterprises improve production practices to totally avoid causing negative impacts on biodiversity.
Climate Change	Promote Nature-based Solutions with high mitigation potential (Objective 1.4)	Nature-based solutions are actions to protect, sustainably manage, or restore natural ecosystems that address societal challenges such as climate change, human health, food and water security, and disaster risk reduction effectively and adaptively, simultaneously providing human well-being and biodiversity benefits. Thus, the GGW Programme's Components 2 and 3 are aligned with Climate Change Focal Area Objective 1.4 as the component relates to the generation of significant co-benefits, notably in terms of climate adaptation and improved livelihoods for large numbers of farmers and rural communities, enhanced biodiversity and reduced land degradation. Additionally, Component 2 is also aligned with the gender considerations under biodiversity objective 1.4 as it espouses that gender gaps in the access to and control of natural resources are further exacerbated by the impacts of climate change, which disproportionately affect the poor and most vulnerable, especially women. The design the Programme under Component 2 considers and responds to gender-specific differences in the access to resources, services, information and employment opportunities for the sustainable and productive use of natural resources, and in capacity for resilience to climate change.
Land Degradation	Avoid and reduce land degradation through sustainable land management (SLM) *(Objective 1)*	The GGW Programme is aligned with land degradation focal area objective 1 through component 3, particularly as it relates to: agro-ecological methods and approaches including conservation agriculture, agroforestry, and agro-silvo-pastoral practices; improving rangeland management and sustainable pastoralism; strengthening community-based natural resource management; and implementing integrated pest management approaches to improve soil fertility and water management.
	Reverse land degradation through landscape restoration *(Objective 2)*	Through Component 3, the GGW Programme is aligned with land degradation objective 2 as it relates to the restoration of agro-ecosystem services and avoidance of the reduction of trees and vegetative cover, and the restoration of forests, avoidance of forest loss and degradation, including sustainable forest management.
	Address desertification, land degradation, and drought (DLDD) issues, particularly in drylands *(Objective 3)*	Through Component 3 and Component 1, the GGW Programme is aligned with land degradation objective 3 as it focuses on drylands to support the use of drought databases and tools such as the UNCCD drought toolbox; and the implementation of drought-smart land management (D-SLM), including croplands, rangelands, dryland forests, and mixed land-uses.
	Improve the enabling policy and institutional framework for LDN *(Objective 4)*	The GGW Programme under Component 1 seeks to build institutional capacities and strengthen policy coherence. In this regard, the GGW Programme is aligned with land degradation objective 4 as it relates to improving policy coherence and financing systems, as

		well as developing the institutional and regulatory framework and build capacity.

It should be noted that LDFA investments focus on addressing the drivers of land degradation in production landscapes where agricultural, forestry and rangeland management practices underpin the livelihoods of rural communities, smallholder farmers and pastoralists. In this regard, the GGW Programme is intimately aligned with the land degradation focal area.

The proposed Programme, and specifically the adaptation-focused projects in Mali, Burkina and Mauritania are aligned with the GEF-8 Programming Strategy on Adaptation to Climate Change for the LDCF and SCCF. Three of the four main themes are covered in the Programme: Agriculture Food Security and Health (Theme 1), Water (Theme 2), and Nature-based Solutions (Theme 3). Similarly, the project responds to the requested intervention scales, namely:

- Ecosystem and nature-based adaptation approaches;
- Landscape and value-chain based approaches;
- Regional approaches.

Furthermore, the Programme touches upon all three LDCF Priority Areas.

- *Priority Area 1*: Scaling Up Finance. While it is not anticipated that there will be any direct development of local policy, the Programme will indirectly contribute to this by building awareness of the institutional framework surrounding the GGW and implementation of ecosystem restoration and adaptation approaches, and strengthening capacity at local level to be able to take part in the development of policy and strategies, unlocking scaled up finance.
- *Priority Area 2*: Strengthening Innovation and Private Sector Engagement. Under Component 2, the Programme will look to promote local enterprises and public-private partnerships for strengthening selected value chains and NWFPs to diversify local resilient livelihoods. It also looks to promote innovation through encouraging multi-stakeholder cooperation (including private sector).
- *Priority Area 3*: Fostering Partnership for Inclusion and Whole-of-Society Approach. This is underlying to all the project components. The capacity building under Component 3 includes individuals from national to local level, including government, CBOs, NGOs, and clearly ensuring that women are encouraged to participate. This component builds the base for promotion of horizontal transfer of knowledge and skills at the local level. Under Components 1 and 2, women and youth will be specifically targeted, as they represent most resource users.

The inclusion of specific climate adaptation projects in Mali, Burkina, and Mauritania enhances the alignment of the Great Green Wall (GGW) Programme with the GEF-8 programming strategies and country/regional priorities, particularly in the context of multilateral environmental agreements. These projects are tailored to address the unique climate-related challenges in these countries, reinforcing the Programme's commitment to climate resilience, biodiversity conservation, and sustainable land management.

The GGW Programme, incorporating these adaptation projects, aligns with the Climate Change Focal Area Objective 1.4 of GEF-8, which promotes Nature-based Solutions with high mitigation potential. The projects in Mali, Burkina, and Mauritania specifically focus on actions to protect, manage, and restore ecosystems, contributing significantly to climate change adaptation, biodiversity enhancement, and reducing land degradation. For instance, the initiatives in Mali involving advanced renewable energy technologies and in Burkina and Mauritania focusing on ecosystem restoration and sustainable land management are prime examples of nature-based solutions that deliver multiple environmental benefits.

The climate adaptation projects also align with the Land Degradation Objectives of GEF-8, particularly objectives 1 and 2, which emphasize sustainable land management and landscape restoration. These projects contribute directly to reversing land degradation and restoring ecosystem services in dryland areas, which are particularly susceptible to desertification and climate change impacts.

Furthermore, these projects support Land Degradation Objective 3 by addressing desertification, land degradation, and drought issues, especially in the drylands of Mali, Burkina, and Mauritania. This includes the use of drought-smart land management practices, enhancing resilience to climate variability and securing livelihoods of the rural communities, smallholder farmers, and pastoralists.

In terms of policy and institutional frameworks (Objective 4 of the Land Degradation Focal Area), these projects aim to strengthen capacities, improve policy coherence, and develop regulatory frameworks tailored to the specific needs of these countries. This enhances the enabling environment for achieving Land Degradation Neutrality (LDN) and supports the overarching goals of the GGW Programme.

Integration of National Drought Plans into the GGW Programme: The Great Green Wall (GGW) Programme is acutely aware of the critical importance of aligning with national strategies to effectively address the pressing challenges posed by drought in the Sahel region. In recognition of this, the programme will take into consideration the National Drought Plans developed by the participating countries in order contribute to its implementation. During the PPG, each country's child project will consider the analysis of the National Drought Plan to identify the entry points as relevant to support implementation. However, the programme strategies and activities are developed in close coordination with national environmental and agricultural ministries to ensure they align with and support the objectives outlined in each country's National Drought Plan. This includes adopting practices that are endorsed by these plans, such as sustainable land management, water conservation, and drought-resilient agricultural practices. The programme will provides technical assistance and capacity building to national and local government agencies to help implement the drought mitigation strategies outlined in their National Drought Plans. This includes training on drought monitoring and early warning systems, as well as the implementation of advanced irrigation and water management technologies. By leveraging international funding and partnerships, the GGW Programme assists countries in mobilizing the necessary resources to implement their National Drought Plans effectively. This includes support for infrastructure projects that are critical for drought preparedness and response, such as water storage and conservation facilities. The programme will work to raise awareness and engage local communities in the execution of National Drought Plans. This involves community-driven projects that enhance resilience to drought and promote sustainable agricultural and water use practices as recommended by these plans. The programme including child projects will collaborate with national meteorological and environmental agencies to enhance the monitoring and evaluation components of National Drought Plans, ensuring that interventions are effective and adapted to changing conditions.'

In summary, the inclusion of climate adaptation projects in Mali, Burkina, and Mauritania enriches the GGW Programme's alignment with the GEF-8 strategies and country/regional priorities. It ensures a comprehensive approach to addressing the multifaceted challenges of environmental degradation, climate change, and socio-economic vulnerabilities in these specific contexts. These projects not only address the unique needs of each country but also contribute to the broader objectives of the GGW Programme, thereby supporting the generation of global environmental benefits in line with GEF-8 programming directions.

Finally, the GGW Programme is also aligned with the **Global Biodiversity Framework** as tabulated below:

Table showing the Programme Contribution to the Global Biodiversity Framework:

Framework	GBDF target and goals	Country directly contributing to GBDF**
Global Biodiversity Framework[1]60	Target 2: Have restoration completed or underway on at least 30% of degraded terrestrial, inland waters, and coastal and marine ecosystems	Burkina Faso, Chad, Ethiopia, Gambia, Mali, Mauritania, Niger, Nigeria, Senegal

	Goal A.1: The integrity, connectivity and resilience of all ecosystems are maintained, enhanced, or restored by 2050	Burkina Faso, Chad, Ethiopia, Gambia, Mali, Mauritania, Niger, Nigeria, Senegal
	Goal B: Biodiversity is sustainably used and managed and nature's contributions to people, including ecosystem functions and services, are valued, maintained and enhanced, by 2050.	Burkina Faso, Chad, Ethiopia, Gambia, Mali, Mauritania, Niger, Nigeria, Senegal
	Target 8: Minimize the impact of climate change and ocean acidification on biodiversity and increase its resilience through mitigation, adaptation, and disaster risk reduction actions.	Burkina Faso, Chad, Ethiopia, Gambia, Mali, Mauritania, Niger, Nigeria, Senegal
	Target 10: Ensure that areas under agriculture, aquaculture, fisheries and forestry are managed sustainably.	Burkina Faso, Chad, Ethiopia, Gambia, Mali, Mauritania, Niger, Nigeria, Senegal
	Target 11: Restore, maintain and enhance nature's contributions to people, including ecosystem functions and services	Burkina Faso, Chad, Ethiopia, Gambia, Mali, Mauritania, Niger, Nigeria, Senegal
	Target 14: Ensure the full integration of biodiversity and its multiple values into policies, regulations, planning and development processes, poverty eradication strategies	Burkina Faso, Chad, Ethiopia, Gambia, Mali, Mauritania, Niger, Nigeria, Senegal

**All countries will essentially contribute to aspects of each of the GBDF targets and goals tabulated above, albeit to varying degrees. For most Child Projects, land restoration will not only improve the productive capacity of degraded production landscapes, but also contribute to biodiversity conservation, building ecological resilience, ecological functioning for goods and services to local livelihoods etc. It is noted that restoring forests can improve ecosystem services and enhance biodiversity conservation, while combining it with sustainable rural livelihoods and community participation.[1] This also follows the similar logic of 'generating multiple environmental benefits' as restoring ecosystems using a strategic approach can triple conservation gains and halve costs, contributing to both livelihoods and biodiversity conservation.[2][61]

Climate Adaptation alignment with GGW Initiative Pillars

The inclusion of climate adaptation projects in Mali, Burkina, and Mauritania within the GGW Programme further strengthens its alignment with the GGW Initiative's pillars. These specific projects contribute to each pillar in the following ways:

- Pillar 1: Investment in Small and Medium-Sized Farms and Strengthening of Value Chains, Local Markets, Organization of Exports: The climate adaptation projects in these countries focus on improving agricultural practices, promoting climate-resilient crops, and enhancing water management. This directly supports small and medium-sized farms, boosting productivity and resilience. They also contribute to developing and strengthening local and regional value chains, particularly in areas like sustainable agriculture and renewable energy, enhancing market access for smallholders and contributing to the organization of exports.

- Pillar 2: Land Restoration and Sustainable Management of Ecosystems: Projects in these countries are heavily focused on land restoration and the sustainable management of ecosystems. Initiatives include reforestation, soil conservation, and the restoration of degraded lands, which align perfectly with this pillar.

- Pillar 3: Climate Resilient Infrastructures and Access to Renewable Energy: The introduction of renewable energy technologies, as seen in Mali's bioethanol and photovoltaic plant projects, directly supports the development of climate-resilient infrastructures and broadens access to renewable energy sources.

- Pillar 4: Favourable Economic and Institutional Framework for Effective Governance, Sustainability, Stability, and Security: These projects contribute to creating a conducive economic and institutional environment. For example, strengthening local governance structures for natural resource management and integrating climate adaptation into policy frameworks enhances overall governance, sustainability, and stability.

- Pillar 5: Capacity-building: A significant component of these projects involves capacity-building, ranging from training farmers in climate-resilient agricultural techniques to empowering local communities in renewable energy management. This aligns with the fifth pillar by bolstering local capacities to effectively manage and adapt to climate change.

In summary, the climate adaptation projects in Mali, Burkina, and Mauritania not only align with but actively reinforce the GGW Initiative's pillars. They bring localized, context-specific solutions and innovations to the broader objectives of the GGW Programme, ensuring a comprehensive and integrated approach to addressing the environmental, economic, and social challenges across the Sahel region.

Child Project Selection Criteria. Outline the criteria used or to be used for child project selection and the contribution of each child project to programme impact.

The member states within the GGW region have been engaged and have been invited to participate in broader consultations that were held in Nouakchott, Mauritania; Niamey Niger; Accra, Ghana; Bamako, Mali and recently in Lome Togo. Countries first conducted national baseline assessment in the GGW area and from the assessment priority areas were identified and adopted at national level. Each country presented it project idea at regional level during regional workshops. The national project were reviewed and the final design was adopted by each country. The regional workshop in Accra has allowed consolidation and common thematic issues identified based on which the programme architecture has been agreed upon. Based on the information related to baseline investments, alignment of the concept idea to the GEF-8 Programming Directions (as only GEF STAR would be applicable), articulation of the socioeconomic and environmental challenges, potential impacts that would potential be made, national projects were finally designed. Other considerations included the following:

- High potential to generate global environmental benefits
- Alignment with national, regional and global strategies
- Support from key stakeholders including the government, academia, civil society organizations
- Target beneficiaries and the potential impact
- Potential to build, leverage and catalyze existing investments.

In addition the following criteria were considered for the selection of climate adaptation projects in Burkina, Mali and Mauritania:

- *Climate adaptation relevance*: Projects should demonstrate a clear focus on climate adaptation strategies relevant to the specific environmental and socio-economic contexts of Mali, Burkina, and

Mauritania. This includes actions to enhance resilience to climate variability, improve water management, and combat land degradation.

- *Integration with environmental and socioeconomic challenges*: The projects must address the unique challenges faced by these countries in terms of drought, desertification, and other climate-related issues, and how these interact with socioeconomic factors like agriculture, livelihoods, and community resilience.

- *Potential for scalability and replicability*: Child projects should have the potential to be scaled up or replicated in similar contexts within the GGW region, contributing to broader regional environmental and climate adaptation goals.

- *Stakeholder engagement and community participation*: Projects should demonstrate strong engagement with local communities, including marginalized groups, ensuring that climate adaptation strategies are inclusive and locally driven.

- *Synergy with GGW Programme objectives*: The projects should align with and contribute to the overarching objectives of the GGW Programme, including land restoration, biodiversity conservation, sustainable land management, and promotion of renewable energy.

- *Capacity building and knowledge transfer*: Projects should include components that build local capacities in climate adaptation techniques and promote the transfer of knowledge and best practices within and between the participating countries.

By incorporating these criteria, the GGW Programme can ensure that the selected child projects in Mali, Burkina, and Mauritania are not only aligned with the broader programme goals but also address the specific needs and challenges related to climate adaptation in these regions. This will enhance the overall impact and effectiveness of the GGW Programme in promoting environmental sustainability and resilience in the Sahel.

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[1] Chazdon, R. (2008). Beyond Deforestation: Restoring Forests and Ecosystem Services on Degraded Lands. *Science*, 320, 1458 - 1460. https://doi.org/10.1126/science.1155365.

[2] Strassburg, B. et al. (2018). Strategic approaches to restoring ecosystems can triple conservation gains and halve costs. *Nature Ecology & Evolution*, 3, 62 - 70. https://doi.org/10.1038/s41559-018-0743-8.

[1] Corresponding notes shortened based on COP15: Nations Adopt Four Goals, 23 Targets For 2030 In Landmark UN Biodiversity Agreement here

D. POLICY REQUIREMENTS

Gender Equality and Women's Empowerment

We confirm that gender dimensions relevant to the program have been addressed as per GEF Policy and are clearly articulated in the Program Description (Section B).

Yes

Stakeholder Engagement

We confirm that key stakeholders were consulted during PFD development as required per GEF policy, their relevant roles to program outcomes and plan to develop a Stakeholder Engagement Plan in the Coordination Child Project before CEO endorsement has been clearly articulated in the Program Description (Section B).

Yes

Were the following stakeholders consulted during PFD preparation phase:

Indigenous Peoples and Local Communities: Yes

Civil Society Organizations : Yes

Private Sector : Yes

Provide a brief summary and list of names and dates of consultations

The following stakeholders have been consulted and will have role to play in the implementation of the programme:

- **The African Union (AU)**: It launched the initiative in 2007 and continues to oversee the project, and has received backing from various organizations, including the United Nations, the World Bank and several donor countries. The Commission has a GGW Coordination entity in the Department of Environment and has established a regional Steering Committee of the initiative. The Commission will continue to play its oversight role in collaboration with all relevant stakeholders.

- **Panafrican Agency of the GGW (PANAGGW)**: The Agency has supported the mobilization of countries, and jointly, UNEP held stakeholder consultation with member countries of the GGW Initiative. Building on its comparative advantage and functions within the GGW region, PANAGGW will support with stakeholder mobilization, advocacy and monitoring and evaluation of activities implementation in support of the GGW Initiative.

- **The National Great Green Wall Agencies/structures in respective countrie**s: The GGW countries have created national agencies or focal points to supervise and coordinate the implementation of national GGWI priority actions. These agencies work closely with local communities, non-governmental organizations and other stakeholders. These entities have taken the lead of the programme development including participation to all the consultations meetings, the coordination of the national baseline assessment and coordination of both national and international stakeholders. These institutions will be the National Executing Entities of the child projects at national level. They will be guided by their national line ministries, the Panafrican Agency of the GGW and the National Coalition.

- **The National Coalition:** With support of partners including IUCN, UNEP and UNCCD/GM Accelerator, countries have established or are in the process of establishing National Coalition or National Alliances (denomination vary from country to country). These bodies are expected to play an important role in the governance of the programme, coordination of stakeholder participation and ensuring coherence at national and regional levels of the implementation of the initiative.

- **The Parliamentarians**: The development of the Programme has been enriched and graced by active participation of high-level policy makers who have expressed complete support for the Programme. The Parliamentarians will remain key stakeholders and will play an important role to ensure the Programme remains consistent with national but also regional priorities in terms of natural resources management and socioeconomic wellbeing of local communities in the GGW region.

- **The Research institutions**: e.g., CIFOR/ICRAF, Aghrymet/CILSS and Sahel and Sahara Observatory (OSS): Research institutions has participated in the consultations that have shaped the draft of the PFD – and will play a critical role (i) in informing land rehabilitation and ecosystem restoration approaches and practices in the GGW region and (ii) in strengthening the technical and institutional capacities of national and regional structures for data management and support transparent reporting on the implementation of the GGWI. This will build on institution's years of research in the Sahel. For example, the OSS has been responsible for aggregating country gender responsive M&E projects data into regional gender responsive M&E data to monitor the indicators of the Sahel and West Africa Programme in support of the GGW initiative implemented by World Bank and using geospatial applications. Currently, OSS is also responsible of the knowledge management component of the project being set up aimed at improving and promoting cross-learning between the stakeholders for the development of smart, sustainable and prosperous agriculture to face the climate change challenges in the Great Green Wall (GGW) region. The partnership with OSS which is already functional with UNEP on other UNEP/GEF Projects in support of the GGW implementation and UNCCD processes in certain countries, will ensure a sound KM system in place with the support of the coordination project of the programme.

- **UNCCD Accelerator Programme**: The UNCCD through the Accelerator Programme is an important stakeholder that has participated in the process of developing this PFD. The Programme will support the formulation of regional and national-level interventions to ensure consistence with the UNCCD LND agenda, particularly given that all participating countries are parties to the UNCCD.

- **Academia/research**: The University Cheikh Anta Diop of Dakar has participated in consultations – and the academia will play a role of improving the understanding and prioritization of value chains and non-wood forest products that will be considered in local enterprises for the Programme.

- **Women group**: The Association for the Advancement of Women and Children in Mali (APROFEM), the NGO Tatali Iyali (Caring for Family) from Niger as structures for transformation and social justice in favor of greater equity in the relationship between men and women, has contributed to the

consultation. The Women Groups will play a role in encouraging and mobilizing women to fully participate in the Programme, but also ensuring equity and gender representation in the Programme.

- **Youth Groups:** UNEP and GEF have supported Great Green Wall Youths Caravan in the first 2 editions, 2022 and 2023. This is a youth sensitization and advocacy campaign on the GGW Initiative and encouraging youth to find employment in the region on sustainability issues. These Caravans have yield projects ideas which will be implemented through child projects and will serve at regional level for resources mobilization for specific youths-oriented actions. The agency will give due consideration to the youths' concerns and will ensure that the Stakeholders Action Plan will provide an important consideration to youths' issues in the region. The partnership with the private sector envisaged in the program will be instrumental in youths' consideration in the program both at regionals and at child projects level.

- **International and Regional Banks**: Islamic Development Bank; African Development Bank (AfDB) and West Africa Development Bank (BOAD): International and Regional Banks have participated in the consultation and will be a strategic development partner. During the last meeting in Lome Bamako (26-30th September 2023), IFAD who participated remotely (but with physical presence of OSS executing partner of the IFAD – GCF-GEF Project) in Niamey meeting in 2021, Bamako meeting in 2023, participated physically in Lome meeting and has actively contributed including by chairing session during the workshop. The Banks have a wealth of experience in the region and has potential financing windows that have just been approved such as The Climate Action Window (CAW) for AfDB– which is a new Fund established under the African Development Fund (ADF-16) to fill the climate financing gaps in the 37 poorest and most vulnerable African countries. The collaboration with these banks and partners will be institutionalized within the framework of the Regional Child Project of this programme. A system like the one established by the World Bank (the sole Implementation Agency of GEF-SAWP Programme) will be put in place and amelioration will be considered taken into account lessons learn from World Bank led SAWAP Programme. The OSS, who is in the consortium of the research partners of this programme and who acts as the EA of the IFAD-GCF-GEF Umbrella programme, will be an executing partner of the regional child project, creating again opportunities for synergy and complementarity.

- **Global and Regional Civil Society Organisation**: These include among others (i) Biotechnology for sustainable development in Africa (BDA): which is an International Foundation that supports the creation of African farmer-oriented SMEs, operating in the formal economy, creating jobs in the agricultural and botanical industry – ensuring the products meet international standards for export. BDA has participated in the stakeholder consultations will play an important in the promotion of value chains and NWFPs and linking producers to regional and international markets; ii) Birdlife International (BLI): which, more than 2 years is supporting the GGW countries on mainstreaming biodiversity, participated in all the stakeholder consultations for this programme. With an active presence in the Sahel, BLI will play a role in supporting the establishment of a regional-level landscape restoration framework for biodiversity and ecosystem services integrating these in GGW implementation for the benefit of local communities; iii) ENDA ENERGIE: A very well know NGO in the region and which is currently implementing the integrated resilience of agro-pastoralists and carbon sobriety in the Sahel, and will be part of regional-level steering committees to provide technical advice on best practices regarding local community mobilization and strengthening awareness on SLM but also the identification of fodder production and balanitis.

- **Indigenous People and Local Communities**: Aire et territoire du Patrimoine Autochtone Communautaire (APAC - *Area and Territory of Indigenous Community Heritage*): This is a

consortium for improving the management of natural resources by local communities following community-agreed upon regulation. The Regional Coordination of APAC participated in the consultations and will play an important role in implementation of activities related to integrated sustainable management of natural resources, including biodiversity conservation, as well as building community resilience and promoting alternative livelihoods. The Regional Coordination will ensure implication and coordination with national APAC and their participation in each participating country. It should be noted that local communities have an important role in the overall Programme. They already have an appreciable understanding of the impacts of climate change on their assets. For example, farmers in the Sahel attribute poor livestock health, reduced crop yields, and other problems to climate factors, especially wind.[1][62]

- **Local Farmers and Farm Cooperatives**: Local farmers are the lifeblood of this region due to the high proportion of the rural population, and their active participation is crucial for the project's enduring success. Their intimate familiarity with the land, accrued over generations, provides a wealth of knowledge about local soil types, micro-climates, and seasonal patterns. They also harbor time-tested agricultural techniques that, although may seem traditional, are often sustainable, having evolved over time to suit the unique climatic conditions of the region.

- **Special Interest Groups:** These stakeholders may have specific interests related to the project, such as environmental conservation, women's empowerment, or indigenous rights. By engaging with these groups, the project can tap into specialized knowledge and ensure that interventions are inclusive and aligned with broader societal goals. The GIE structure in countries like Burkina, Chad, Mali and Niger is very popular, especially in rural areas. They are structures with an economic vocation, endowed with a legal personality and financial autonomy allowing them to carry out borrowing, purchasing and/or marketing on behalf of their members. The youth targeted as key beneficiaries for this project will be grouped into GIEs, to help them earn income in addition to the business management skills they will be able to acquire.

Five key workshops have organised to provide an opportunity to different stakeholders who participate to make their contributions. The stakeholders came from institutions, countries and professional backgrounds. During these workshops, the consultations with stakeholders helped to identify and build consensus around the context of the GGW region, the barriers, what potential actions could be appropriate to implement to address the socioeconomic and environmental challenges, among other topics. The following two of the five major consultations were held:

- Accra, Ghana, 04-07 October 2022
- Bamako, Mali, January 23 – February 03, 2023
- Lome, Togo, 25 - 30 September 2023
- Nairobi, Kenya, 22 – 23 February 2024.

No	Name	Institution
1	Sakhoudia Thiam	APEMU
2.	Melissa de Kock	UNEP
3.	Soumana Kanta	ROPPA
4.	Mona Ali	G.G. Sudan
5.	Bitew Shibabaw	EFD
6.	Mariam Tangara	AEDD
7.	Colv Bakary	Smair Miles
8.	Abdoulfatah Abdourahman	ANGNU/Djibouti
9.	Cheiku Fofana	DEEC
10.	Tabi Joda	AU Ambassador
11.	Djibril Diallo	Bird life
12.	Njagga Touray	MEA Gambia
13.	Marcelin Sanou	APGRV
14.	Bounama Sacko	ANGMV
15.	Tenin Bagayoko	ANGMV
16.	Dadji Rahmata	CAMOJET
17.	Margaret Oduk	UNEP
18.	Amzaton Kone	
19.	Dr. Alenyi, Innocent Onu	NAGGW, Nigeria
20.	Mohammed Kabir Jeddah	Rep. OFP, Nigeria
21.	Muhammed Jaitah	The Gambia forestry Dept.
22.	Kodou Choukou	ANGMV/Tchad
23.	Fredrik Kuria	UNEP
24.	Mamadou Diallo	BID
25.	Lalla 'Tangona	Studio Toman
26.	Goumaily Oumar	FEM/Tchad
27.	Ichaka Camara	Deguva Vat. Office
28.	Emmanuel Seck	Enda ENERGIE
29.	Salateu Sambu	Consortum APAC
30	Andrew Chilombo	UNEP
31.	Aliou Guisse	UCAD/OHM
32.	Moussa Doumda	Interpreter
33.	Daouda Traore	Interpreter
34.	Dahouindji M. Olive	BOAD
35.	Toe Honore	BOAD
36.	Juliette Zuigan	Ass/Not Senegal
37.	Abdulmumin Abdulsalam	Parliament of Nigeria
38.	Yusuf Maina Bukar	NAGGW-Nigeria
39.	Patrick Bisimwa	BDA
40.	Doulkom Adama	GMV BF
41.	Amadou Momene Bako	APGMV
42.	Toumany Diallo	ANGHV
43.	Geoffroy Citegaise	Bird Life
44.	Tamboura Oumar	UNDP
45.	Aissata Sylla	MEAD
46.	Malamine Keita	MEAD
47.	Oumar Guindo	MEAD
48.	Abdou Maisharou	ME/LCD-Nigeria
49.	Gambo Amadou	NGO/Niger
50.	Adamou Bouhari	UNEP
51.	Maiga Baba Sidi yahia	APRDFEM
52.	Elizabeth Basepag	Consultant

Pictures taken during consultation workshop in Bamako with various stakeholders, including government agencies, parliamentarians, private sector, civil society organisations, researchers, youth groups and development partners.

No	Name	Institution
53.	Diallo Oumar	ANGMG
54	Gora Diop	
55.	Oumar Kane	GMVT
56.	Sawasan Khair	Sudan
57.	Ibrahim Maso	GEF
58.	Soumaila Oumar Gady	OFP GEF Chad
59.	Bako Mamane	AGRHYNET
60.	Kahoui Isidose	RCO
61.	Hamidou N'Gatta	RCO

[1] Mertz, O., Mbow, C., Reenberg, A., & Diouf, A. (2009). Farmers' Perceptions of Climate Change and Agricultural Adaptation Strategies in Rural Sahel. *Environmental Management*, 43, 804-816. https://doi.org/10.1007/s00267-008-9197-0.

(Please upload to the portal documents tab any stakeholder engagement plan or assessments that have been done during the PFD preparation phase)

Private Sector

Will there be private sector engagement in the program?

Yes

And if so, has its role been described and justified in section B program description?

Yes

Environmental and Social Safeguards

We confirm that we have provided indicative information regarding Environmental and Social risks associated with the proposed program and any measures to address such risks and impacts (this information should be presented in Annex D).

Yes

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
High or Substantial			

E. OTHER REQUIREMENTS

Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described in the Program Description (Section B)

Yes

ANNEX A: FINANCING TABLES

GEF Financing Table

Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	GEF Program Financing ($)	Agency Fee($)	Total GEF Financing ($)
BOAD	LDCF	Burkina Faso	Climate Change	LDCF Country allocation	9,000,000.00	810,000.00	9,810,000.00
UNEP	LDCF	Mauritania	Climate Change	LDCF Country allocation	18,048,624.00	1,624,376.00	19,673,000.00
UNEP	GET	Ethiopia	Biodiversity	BD STAR Allocation: BD-1	221,858.00	19,967.00	241,825.00
UNEP	GET	Ethiopia	Land Degradation	LD STAR Allocation: LD-1	2,573,550.00	231,620.00	2,805,170.00
UNEP	GET	Ethiopia	Climate Change	CC STAR Allocation: CCM-1-4	1,641,748.00	147,757.00	1,789,505.00
UNEP	GET	Chad	Land Degradation	LD STAR Allocation: LD-3	2,778,117.00	250,031.00	3,028,148.00
UNEP	LDCF	Chad	Climate Change	LDCF Country allocation	1,659,038.00	149,313.00	1,808,351.00
UNEP	GET	Gambia	Biodiversity	BD STAR Allocation: BD-1	2,389,908.00	215,092.00	2,605,000.00
UNEP	GET	Gambia	Land Degradation	LD STAR Allocation: LD-1	2,000,000.00	180,000.00	2,180,000.00
UNEP	GET	Gambia	Land Degradation	LD STAR Allocation: LD-3	2,752,294.00	247,706.00	3,000,000.00
UNEP	GET	Nigeria	Land Degradation	LD STAR Allocation: LD-1	666,257.00	59,963.00	726,220.00
UNEP	GET	Nigeria	Land Degradation	LD STAR Allocation: LD-2	666,257.00	59,963.00	726,220.00
UNEP	GET	Nigeria	Biodiversity	BD STAR Allocation: BD-1	1,695,926.00	152,634.00	1,848,560.00
UNEP	GET	Senegal	Biodiversity	BD STAR Allocation: BD-1	867,431.00	78,069.00	945,500.00
UNEP	GET	Senegal	Land Degradation	LD STAR Allocation: LD-3	3,569,725.00	321,275.00	3,891,000.00
UNEP	GET	Niger	Biodiversity	BD STAR Allocation: BD-1	3,364,838.00	302,835.00	3,667,673.00

UNEP	GET	Niger	Land Degradation	LD STAR Allocation: LD-1	1,238,024.00	111,422.00	1,349,446.00
UNEP	GET	Niger	Climate Change	CC STAR Allocation: CCM-1-4	1,615,122.00	145,361.00	1,760,483.00
UNEP	GET	Niger	Land Degradation	LD STAR Allocation: LD-3	4,000,000.00	360,000.00	4,360,000.00
UNEP	GET	Regional	Land Degradation	LD Global/Regional Set-Aside	7,139,450.00	642,550.00	7,782,000.00
BOAD	LDCF	Mali	Climate Change	LDCF Country allocation	10,000,000.00	900,000.00	10,900,000.00
Total GEF Resources ($)						**7,009,934.00**	**84,898,101.00**

Project Preparation Grant (PPG)

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	PPG($)	Agency Fee($)	Total PPG Funding($)
BOAD	LDCF	Burkina Faso	Climate Change	LDCF Country allocation	175,000.00	15,000.00	190,000.00
UNEP	LDCF	Mauritania	Climate Change	LDCF Country allocation	300,000.00	27,000.00	327,000.00
UNEP	GET	Ethiopia	Biodiversity	BD STAR Allocation: BD-1	7,500.00	675.00	8,175.00
UNEP	GET	Ethiopia	Land Degradation	LD STAR Allocation: LD-1	87,000.00	7,830.00	94,830.00
UNEP	GET	Ethiopia	Climate Change	CC STAR Allocation: CCM-1-1	55,500.00	4,995.00	60,495.00
UNEP	GET	Chad	Land Degradation	LD STAR Allocation: LD-3	100,000.00	9,000.00	109,000.00
UNEP	LDCF	Chad	Climate Change	LDCF Country allocation	50,000.00	4,500.00	54,500.00
UNEP	GET	Gambia	Biodiversity	BD STAR Allocation: BD-1	122,324.00	11,009.00	133,333.00

UNEP	GET	Gambia	Land Degradation	LD STAR Allocation: LD-3	30,581.00	2,753.00	33,334.00
UNEP	GET	Gambia	Land Degradation	LD STAR Allocation: LD-1	30,581.00	2,752.00	33,333.00
UNEP	GET	Nigeria	Land Degradation	LD STAR Allocation: LD-1	25,000.00	2,250.00	27,250.00
UNEP	GET	Nigeria	Land Degradation	LD STAR Allocation: LD-2	25,000.00	2,250.00	27,250.00
UNEP	GET	Nigeria	Biodiversity	BD STAR Allocation: BD-1	50,000.00	4,500.00	54,500.00
UNEP	GET	Senegal	Biodiversity	BD STAR Allocation: BD-1	50,000.00	4,500.00	54,500.00
UNEP	GET	Senegal	Land Degradation	LD STAR Allocation: LD-3	100,000.00	9,000.00	109,000.00
UNEP	GET	Niger	Biodiversity	BD STAR Allocation: BD-1	58,122.00	4,479.00	62,601.00
UNEP	GET	Niger	Land Degradation	LD STAR Allocation: LD-3	80,240.00	7,222.00	87,462.00
UNEP	GET	Niger	Climate Change	CC STAR Allocation: CCM-1-4	44,000.00	3,960.00	47,960.00
UNEP	GET	Niger	Land Degradation	LD STAR Allocation: LD-1	37,760.00	3,398.00	41,158.00
UNEP	GET	Regional	Land Degradation	NA	200,000.00	18,000.00	218,000.00
BOAD	LDCF	Mali	Climate Change	LDCF Country allocation	300,000.00	27,000.00	327,000.00
Total PPG Amount ($)					**1,928,608.00**	**172,073.00**	**2,100,681.00**

Sources of Funds for Country Star Allocation

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Sources of Funds	Total($)
UNEP	GET	Ethiopia	Biodiversity	BD STAR Allocation	262,500.00
UNEP	GET	Ethiopia	Land Degradation	LD STAR Allocation	2,888,892.00

UNEP	GET	Ethiopia	Climate Change	CC STAR Allocation	1,848,608.00
UNEP	GET	Chad	Land Degradation	LD STAR Allocation	3,137,148.00
UNEP	GET	Gambia	Biodiversity	BD STAR Allocation	3,750,000.00
UNEP	GET	Gambia	Land Degradation	LD STAR Allocation	4,235,000.00
UNEP	GET	Nigeria	Land Degradation	LD STAR Allocation	1,499,000.00
UNEP	GET	Nigeria	Biodiversity	BD STAR Allocation	1,911,000.00
UNEP	GET	Senegal	Biodiversity	BD STAR Allocation	1,000,000.00
UNEP	GET	Senegal	Land Degradation	LD STAR Allocation	4,000,000.00
UNEP	GET	Niger	Biodiversity	BD STAR Allocation	3,750,000.00
UNEP	GET	Niger	Land Degradation	LD STAR Allocation	5,837,601.00
UNEP	GET	Niger	Climate Change	CC STAR Allocation	1,789,182.00
Total GEF Resources					**35,908,931.00**

Indicative Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing($)	Co-financing($)
CCA-1-3	LDCF	4,000,000.00	14,100,000.00
CCA-1-1	LDCF	1,050,000.00	18,000,000.00
CCA-1-4	LDCF	3,950,000.00	20,000,000.00
CCA-1-1	LDCF	14,548,624.00	63,245,053.00
CCA-1-3	LDCF	2,000,000.00	9,000,000.00
CCA-1-4	LDCF	1,500,000.00	6,500,000.00
LD-1	GET	2,573,550.00	25,000,000.00
BD-1-1	GET	221,858.00	2,000,000.00
CCM-1-4	GET	1,641,748.00	10,000,000.00
LD-3	GET	2,778,117.00	24,600,000.00

CCA-1-1	LDCF	1,659,038.00	20,000,000.00
BD-1-3	GET	1,242,202.00	20,000,000.00
LD-3	GET	2,752,294.00	9,000,000.00
LD-1	GET	2,000,000.00	11,000,000.00
BD-1-4	GET	1,147,706.00	6,195,000.00
LD-1	GET	666,257.00	350,000,000.00
LD-2	GET	666,257.00	350,000,000.00
BD-1-1	GET	1,695,926.00	700,000,000.00
BD-1-1	GET	867,431.00	9,821,944.00
LD-3	GET	3,569,725.00	18,343,817.00
BD-1-1	GET	3,364,838.00	212,100,000.00
LD-3	GET	4,000,000.00	172,741,565.00
CCM-1-4	GET	1,615,122.00	238,000,000.00
LD-1	GET	1,238,024.00	100,000,000.00
LD-1	GET	7,139,450.00	523,000,000.00
CCA-1-4	LDCF	200,000.00	10,000,000.00
CCA-1-3	LDCF	250,000.00	10,084,222.00
CCA-1-1	LDCF	9,000,000.00	31,202,722.00
CCA-1-2	LDCF	550,000.00	14,084,292.00
Total Project Cost		**77,888,167.00**	**2,998,018,615.00**

Indicative Co-financing

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
GEF Agency	BOAD: Project for the construction of dams and the development of lowlands and irrigated perimeters in the Ganzourgou province.	Grant	Investment mobilized	14,000,000.00

Donor Agency	Green Climate Fund: Increase GHG sequestration through sustainable land management and large-scale restoration of forests in arid zones and agro-silvo-pastoral systems	Grant	Investment mobilized	10,800,000.00
Recipient Country Government	Government of Burkina	Grant	Investment mobilized	1,200,000.00
Donor Agency	UNDP/ FAO : PROJET « GRANDE MURAILLE VERTE POUR LA RESTAURATION DES ECOSYSTEMES ET LA PAIX (FLEURON GMV)	Grant	Investment mobilized	1,500,000.00
Donor Agency	AfDB - Integrated Program for development and acclimate daptation in Nager Bassin	Grant	Investment mobilized	14,600,000.00
Donor Agency	P2-P2RS - Project 2 of the Program of building Resilience to food security and nutrition in Sahel	Grant	Investment mobilized	10,000,000.00
Recipient Country Government	MEDD - Government of Mauritania	In-kind	Recurrent expenditures	1,000,000.00
Recipient Country Government	MEDD - Government of Mauritania	Grant	Investment mobilized	230,000.00
Recipient Country Government	ANGMV - Government of Mauritania	Grant	Investment mobilized	400,000.00
Donor Agency	AFD – Great Green Wall Support	Grant	Investment mobilized	7,631,720.00
Donor Agency	GCF – Strengthening the resilience of ecosystems and populations in four regional hubs in Northern Mauritania	Grant	Investment mobilized	10,483,333.00
Donor Agency	WB – PRAPS 2	Grant	Investment mobilized	25,500,000.00
Donor Agency	AfDB – PCVASG-PATAM	Grant	Investment mobilized	5,500,000.00
Donor Agency	IFAD – PRODEFI	Grant	Investment mobilized	28,000,000.00
Recipient Country Government	Government of Ethiopia	Grant	Investment mobilized	7,000,000.00
Donor Agency	World Bank	Grant	Investment mobilized	20,000,000.00

Donor Agency	Green Climate Fund	Grant	Investment mobilized	10,000,000.00
Donor Agency	World Bank	Loans	Investment mobilized	44,600,000.00
Recipient Country Government	National Environment Agency	Grant	Investment mobilized	8,000,000.00
Recipient Country Government	National Environment Agency	In-kind	Recurrent expenditures	11,000,000.00
Recipient Country Government	Department of Forestry	In-kind	Recurrent expenditures	2,500,000.00
Recipient Country Government	Department of Parks & Wildlife Management	In-kind	Recurrent expenditures	2,000,000.00
Recipient Country Government	Ministry of the Environment, Climate Change and Natural Resources	In-kind	Recurrent expenditures	1,500,000.00
Recipient Country Government	Ministry of Agriculture	In-kind	Recurrent expenditures	2,300,000.00
Recipient Country Government	Ministry of Agriculture (IFAD funded ROOTS Project	Grant	Investment mobilized	5,000,000.00
Recipient Country Government	Ministry of Gender, Children & Social Welfare	In-kind	Recurrent expenditures	2,500,000.00
Recipient Country Government	Ministry of Tourism and Culture	In-kind	Recurrent expenditures	5,000,000.00
Recipient Country Government	National Disaster Management Agency	In-kind	Recurrent expenditures	1,500,000.00
Recipient Country Government	Department of Fisheries	In-kind	Recurrent expenditures	1,500,000.00

Recipient Country Government	Department of Water Resources	In-kind	Recurrent expenditures	1,100,000.00
Recipient Country Government	National Agricultural Research Institute (NARI)	In-kind	Recurrent expenditures	2,000,000.00
Civil Society Organization	The Association of Non-Governmental Associations (TANGO)	In-kind	Recurrent expenditures	200,000.00
Civil Society Organization	Gambia Environment Alliance	In-kind	Recurrent expenditures	45,000.00
Private Sector	Gambia Chamber of Commerce and Industry (GCCI)	In-kind	Recurrent expenditures	50,000.00
Donor Agency	The World Bank	Public Investment	Investment mobilized	1,400,000,000.00
Donor Agency	Canadian Aid Agency	Grant	Investment mobilized	18,216,876.00
Civil Society Organization	OCP Foundation	Grant	Investment mobilized	2,618,505.00
Civil Society Organization	UM6P	Grant	Investment mobilized	2,094,390.00
Donor Agency	FAO	Grant	Investment mobilized	5,235,990.00
GEF Agency	Sustainable Land Management Project (PGDT) for the period 2022 – 2024 with UNDP funding	Grant	Investment mobilized	3,000,000.00
Others	Sustainable Management of Biodiversity and Protected Areas Project (PGDB/AP) for the period 2022 – 2024	Grant	Investment mobilized	5,500,000.00
Others	Integrated Management Project of North Niger Oasis Ecosystems (PGIEO-NN) for the period 2022 – 2025	Grant	Investment mobilized	25,500,000.00
Others	Agro-sylvo pastoral resilience project, West Niger-Security/resilience component W Niger Park and periphery (PIP) for the period 2021-2023	Grant	Investment mobilized	6,200,000.00
Others	Integrated Project for the Modernization of Livestock and Agriculture in Niger (PIMELAN) - 2021 – 2026	Grant	Investment mobilized	135,000,000.00
Others	Sahel Irrigation Initiative Support Project (PARIIS) for the period 2018 – 2024	Grant	Investment mobilized	173,000,000.00

Others	Family Farming Development Program in the regions of Maradi, Tahoua and Zinder 2015 – 2023	Grant	Investment mobilized	220,000,000.00
Others	Integrated Landscape Management Project (IFMP) for the period (2022 – 2026)	Grant	Investment mobilized	150,000,000.00
Others	Support for food security, nutrition and support for plant protein sectors in the countries of the Great Green Wall (GGW).	Grant	Investment mobilized	4,641,565.00
Recipient Country Government	G5 Countries	Public Investment	Investment mobilized	184,400,000.00
Donor Agency	GCF	Public Investment	Investment mobilized	323,000,000.00
Donor Agency	Government of Sweden	Public Investment	Investment mobilized	15,600,000.00
GEF Agency	BOAD: Sélingué Irrigation Development Programme	Grant	Investment mobilized	11,734,596.00
Donor Agency	World Bank (IDA) : Land Restoration Project/ Projet de Restauration des Terres Dégradées (PRTD)	Grant	Investment mobilized	19,020,000.00
Donor Agency	FIDA : Projet de soutien à l'adaptation aux Changements climatiques de la Grande Muraille Verte.	Grant	Investment mobilized	10,000,000.00
Donor Agency	FAO/GCF - SURAGGWA Building Resilience in Sahel	Grant	Investment mobilized	24,616,640.00
Total Co-financing				**2,998,018,615.00**

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

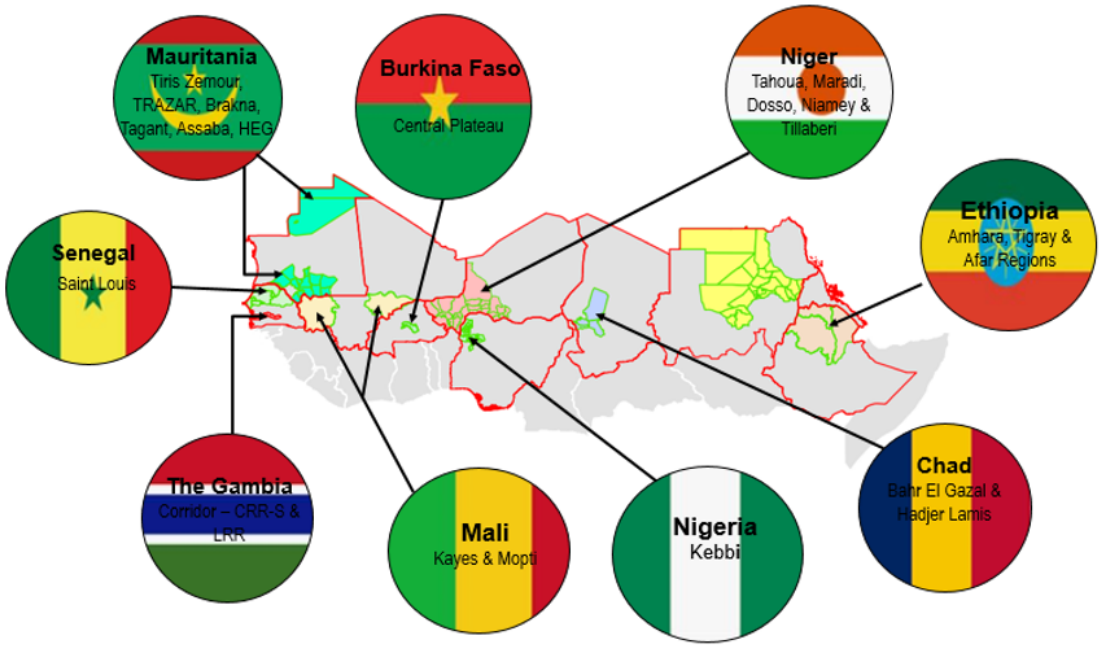
GEF Agency Type	Name	Date	Project Contact Person	phone	Email
GEF Agency Coordinator	Victoria Luque	10/18/2023	UNEP GEF Coordinator - Victoria Luque		victoria.luque@un.org
Project Coordinator	Adamou Bouhari	10/18/2023	Adamou BOUHARI	+254207623860	adamou.bouhari@un.org

Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

Name	Position	Ministry	Date (MM/DD/YYYY)
Mr. Oumar Gadji Soumaila	Climate Change Director	Ministry of Environment, Fisheries and Sustainable Development	5/6/2024
Mr. Yakoubou Mahaman Sani	OFP	Ministere de l'Economie et des Finances	10/17/2023
Mr. Stanley Jonah	Director, Planning, Research and Statistics	Federal Ministry of Environment	5/6/2024
Mr. Baba Drame	Directeur de l'Environnement et des Establissements classes	Ministere de l'Environnement et du Developpement Durable	5/7/2024
Mr. Amidou Goita	OFP	Ministry of Economy and Finance	10/13/2023
Mr Pammousa Ouedraogo	OFP	Ministry of Environment Water and Sanitation	7/31/2023
Dr. Dawda Badgie	Executive Director	National Environment Agency	5/6/2024
Layla Ali Kamara	Minister and OFP	Ministry of Environment	10/17/2023
Mensur Dessie Nuri	Director, MEAs Negotiation Coordination	Ministry of Planning and Development	5/6/2024

ANNEX C: PROGRAM LOCATION

Please provide geo-referenced information and map where the project interventions will take place



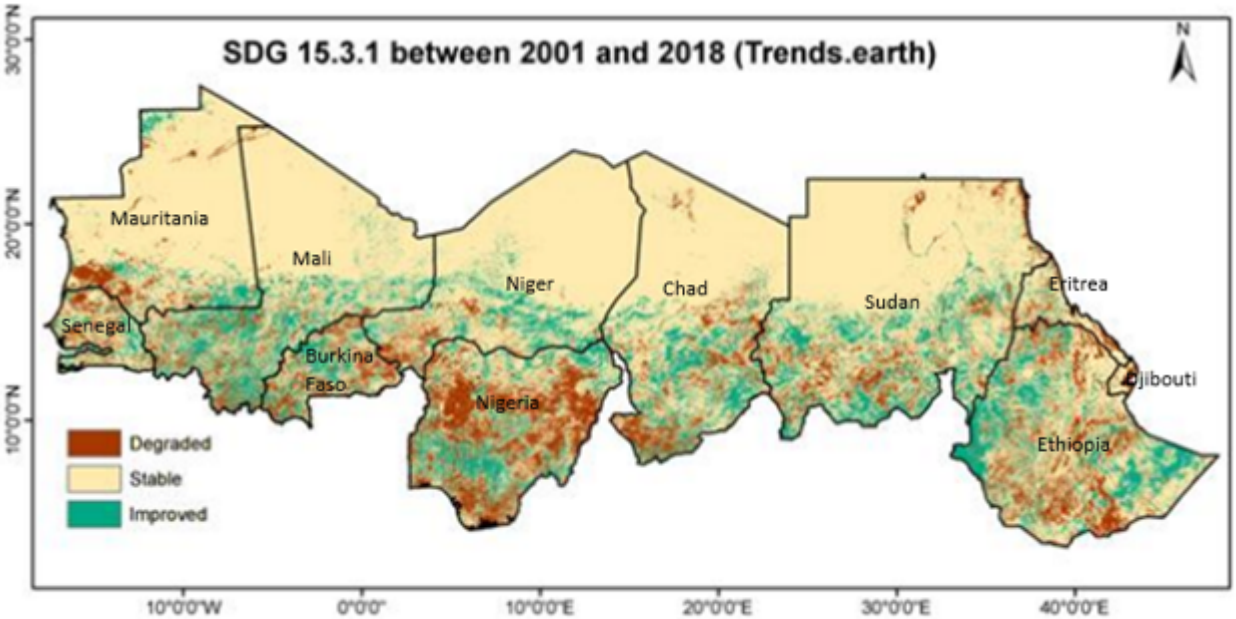


Figure 3 Map showing land degradation and improvement within the GGW region

ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

(Program level) Attach agency safeguard screen form including rating of risk types and overall risk rating.

Title

Regional Project Safeguard Risk Identification Form (May 2024)

Regional Project Safeguard Risk Identification Form

ANNEX E: RIO MARKERS

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Decertification
Principal Objective 2	Principal Objective 2	Principal Objective 2	Principal Objective 2

ANNEX F: TAXONOMY WORKSHEET

Level 1	Level 2	Level 3	Level 4
Influencing Models	Strengthen institutional capacity/decision making; convene multi-stakeholder alliances; and demonstrate innovative approaches		
Stakeholders	Beneficiaries, private sector, local communities, civil society, knowledge and learning, stakeholder engagement		
Capacity, Knowledge and Research	Capacity development, knowledge generation and exchange, learning		
Gender Equality	Gender mainstreaming, gender results areas		
Focal Area/Theme	Drought mitigation/early warning, Drought mitigation and adaptation, Land Degradation Neutrality, Capacity, knowledge and research; biodiversity; forests; land degradation and Climate change		

ANNEX H : CHILD PROJECT INFORMATION

Title

GGW PFD 08 May 2024 with highlights1

11455 GGW PFD 08 May 2024 Clean 1

11455 - GGW_PFD_07May2024 Clean

11455 - GGW_PFD_07May2024

Child Projects Compendium May 2024

PFD and Child Projects Compendium

Child Projects Compendium 30 April Reubmission

GGW_UNEP_GEF_PFD_30 April 2024_Resubmission

Child Projects Compendium April 2024

Child Projects under the Program

Country	Project Title	GEF Agency	GEF Amount ($) PROJECT FINANCING	Agency Fees($)	Total($)
	FSPs				
Burkina Faso	Climate Adaptation and Resilient Agriculture in Plateau Central, Burkina Faso	BOAD	9,000,000.00	810,000.00	9,810,000.00
Mauritania	Strengthening the climate resilience of vulnerable communities and ecosystems in eight agrosilvopastoral regions of Mauritania's Great Green Wall and in Baie de l'Étoile (Nouadhibou region) through Ecosystem-based Adaptation (EbA)	UNEP	18,048,624.00	1,624,376.00	19,673,000.00
Ethiopia	Scaling up integrated landscape re-Greening and livelihood diversification best practices along the Great Green Wall belt of Ethiopia (SILAGLID)	UNEP	4,437,156.00	399,344.00	4,836,500.00
Chad	Promoting Integrated Natural Resources Management in Support of GGW in Chad (PINAMAC)	UNEP	4,437,155.00	399,344.00	4,836,499.00
Gambia	Restauration of an ecological corridor for forest biodiversity conservation and ecosystem services to support implementation of the Great Green Wall in The Gambia (RECOSERV Gambia)	UNEP	7,142,202.00	642,798.00	7,785,000.00
Nigeria	Integrated Dryland Ecosystem Rehabilitation, Regeneration and Conservation (IDERRCN) to Support the Great Green Wall Initiative in Kebbi State in Nigeria.	UNEP	3,028,440.00	272,560.00	3,301,000.00

Senegal	Project for Landscape Restauration and Integrated management of ecosystem in St Louis Region of Senegal – ProLaRIME	UNEP	4,437,156.00	399,344.00	4,836,500.00
Niger	Strengthening the resilience of populations and agrosilvopastoral ecosystems through the conservation of biodiversity and the development of value chains in the intervention communes of the Great Green Wall in Niger (SREPABIV)	UNEP	10,217,984.00	919,618.00	11,137,602.00
Regional	Transformation Approach to Large Scale Investment in Support of the Implementation of the Great Green Wall (TALSIG)	UNEP	7,139,450.00	642,550.00	7,782,000.00
Mali	Integrated Climate Adaptation and Resilience Project (PAREC)	BOAD	10,000,000.00	900,000.00	10,900,000.00
	Subtotal ($)		77,888,167.00	7,009,934.00	84,898,101.00
	MSPs				
	Subtotal ($)		0.00	0.00	0.00
	Grant Total ($)		77,888,167.00	7,009,934.00	84,898,101.00