# GEF-8 PROJECT IDENTIFICATION FORM (PIF)

**TABLE OF CONTENTS**

## General Project Information

| | |
|---|---|
| Project Title | |
| Climate Adaptation and Resilience Enhancement for South Sudan (CARES) | |
| Region | GEF Project ID |
| South Sudan | 11322 |
| Country(ies) | Type of Project |
| South Sudan | FSP |
| GEF Agency(ies): | GEF Agency ID |
| FAO | 746386 |
| Executing Partner | Executing Partner Type |
| Ministry of Environment and Forestry | Government |
| GEF Focal Area (s) | Submission Date |
| Climate Change | 9/15/2023 |
| Project Sector (CCM Only) | |
| Climate Change Adaptation Sector | |
| Taxonomy | |
| Climate Change, Focal Areas, Climate Change Adaptation, Climate resilience, Innovation, Least Developed Countries, Ecosystem-based Adaptation, Climate information, Influencing models, Transform policy and regulatory environments, Strengthen institutional capacity and decision-making, Demonstrate innovative approache, Stakeholders, Communications, Awareness Raising, Local Communities, Type of Engagement, Participation, Consultation, Capacity, Knowledge and Research, Capacity Development, Knowledge Generation, Training | |
| Type of Trust Fund | Project Duration (Months) |
| LDCF | 60 |
| GEF Project Grant: (a) | GEF Project Non-Grant: (b) |
| 8,932,420.00 | 0.00 |
| Agency Fee(s) Grant: (c) | Agency Fee(s) Non-Grant (d) |
| 848,580.00 | 0.00 |
| Total GEF Financing: (a+b+c+d) | Total Co-financing |
| 9,781,000.00 | 24,132,520.00 |
| PPG Amount: (e) | PPG Agency Fee(s): (f) |
| 200,000.00 | 19,000.00 |
| PPG total amount: (e+f) | Total GEF Resources: (a+b+c+d+e+f) |
| 219,000.00 | 10,000,000.00 |

Project Tags

CBIT: No NGI: No SGP: No Innovation: No

## Project Summary

Provide a brief summary description of the project, including: (i) what is the problem and issues to be addressed? (ii) what are the project objectives, and if the project is intended to be transformative, how will this be achieved? iii), how will this be achieved (approach to deliver on objectives), and (iv) what are the GEBs and/or adaptation benefits, 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 project should be in section B "project description".(max. 250 words, approximately 1/2 page)

South Sudan, a country heavily dependent on agriculture, is facing increasing challenges from climate hazards, worsening the vulnerability of its population. Recurring droughts, unpredictable rainfall patterns, and flash floods have severe consequences, jeopardizing the stability of the agricultural sectors and aggravating ecosystem fragility. Addressing these issues is essential for sustainable development and the well-being of local communities.

Unsustainable management of natural resources compounds the negative effects of climate change on South Sudan's agricultural sectors, compromising ecosystem stability and amplifying vulnerability to climate-related risks.

Crops and livestock suffer negative consequences on their productivity. Inadequate water management practices in the northern states worsen rangeland degradation, forcing pastoralists to migrate southward during the dry season. This triggers conflicts and resource competition with local agricultural communities in the Greenbelt region. Additionally, the Greenbelt region experiences severe degradation in its forestry sector due to factors such as wildfires, overgrazing, and excessive logging. As a result, the forestry sector, a vital component of national agriculture, is particularly affected, contributing less to the country's economy and leading to a decline in ecosystem and community resilience.

The complex dynamics between climate change, inadequate resource management, and low agricultural productivity perpetuate a downward cycle of environmental degradation, vulnerability, and conflict. This cycle creates additional barriers to development and humanitarian interventions, intensifying the hardships faced by local communities and compromising their security and livelihoods. To foster sustainable development in South Sudan, it is crucial to address these interconnected impacts comprehensively.

However, numerous obstacles impede effective climate change response in South Sudan. These include inadequate law enforcement, institutional flaws, governance challenges, lack of technical and local knowledge, limited resources, and conflict. Persistent issues of poverty and malnutrition further exacerbate hindrances to agricultural production, aggravating food insecurity.

Considering these challenges, the proposed project aims to leverage South Sudan's significant agricultural and forestry potential to enhance resilience and enable sustainable development. It entails implementing comprehensive measures, including capacity building, policy enhancements, multi-stakeholder dialogues, innovation promotion, and improved financial access in a conflict-sensitive manner. Key elements include the sustainable management of agricultural land, water, and forest resources. Empowering women across the agricultural value chain with a gender-sensitive approach is critical, recognizing their disproportionate experience of food insecurity and limited access to resources such as land and water but also agricultural inputs, and finance.

Through the implementation of these sustainable and integrated approaches, the project aims to address crucial drivers of resilience in South Sudan and balance the needs of farmers, pastoralists, and ecological preservation.

**The project's technical approach: harnessing nature for resilience**

The project sets out to achieve its goals through the implementation of nature-based solutions. By strategically preserving, managing, or restoring natural ecosystems in a sustainable manner, nature-based solutions form the cornerstone of the project's technical approach to climate change adaptation. These solutions applied to managed ecosystems as well offer a wide range of benefits in terms of the environment, society, and economy, enhancing resilience to climate change impacts and effectively addressing pressing societal challenges such as human health, food and water security, and disaster risk reduction. This approach allows the project to adapt to evolving circumstances, ensuring long-term sustainability and positive outcomes.

# Indicative Project Overview

## Project Objective

Promote climate change adaptation in the agricultural sectors (forestry, crop, and livestock production) through nature-based solutions, integrated land use planning, and climate services to deliver food security and sustainable livelihoods for 220,000 vulnerable people in areas prone to climate-related impacts.

## Project Components

### 1. Strengthening governance mechanisms for integrated land use planning

| Component Type | Trust Fund |
|---|---|
| Technical Assistance | LDCF |
| GEF Project Financing ($) | Co-financing ($) |
| 907,067.00 | 2,413,252.00 |

Outcome:

Outcome 1.1

Participatorily establish regulatory frameworks for integrated land use planning and nature-based adaptation solutions for agriculture systems.

*Core Indicator 3: Total number of policies, plans, and frameworks that will mainstream climate resilience*

Output:

1.1.1 Establish coordination mechanisms among stakeholders in the agriculture sectors.

1.1.2 Strengthen regulations, standards, and enforcement mechanisms incorporating climate impact assessments, biodiversity-positive, and nature-based considerations into decision-making processes.

1.1.3 Identify and remove barriers to finance and leadership positions for vulnerable groups in sustainable agricultural operations.

### 2. Fostering climate resilient and inclusive agriculture and ecosystem management through capacity building, information systems, and stakeholders empowerment

| Component Type | Trust Fund |
|---|---|
| Investment | LDCF |
| GEF Project Financing ($) | Co-financing ($) |
| 1,600,000.00 | 3,619,878.00 |

Outcome:

Outcome 2.1

Improve the capacity of government institutions, non-governmental organizations, and local communities to effectively plan and implement climate-resilient agriculture management interventions.

*Core Indicator 4: Number of people trained or with awareness raised*

Outcome 2.2

Enhance agricultural resilience and market access through weather-informed recommendations, gender-sensitive incentives, business models, and financial access.

*Core Indicator 4: Number of people trained or with awareness raised*

Output:

2.1.1 Strengthen and build the capacity of agricultural research institutes

2.1.2 Establish functional information systems that provide weather-informed agricultural advisories and enable data-driven decision-making in adaptive agricultural management and participatory natural resource governance.

2.1.3 Capacitate institutional actors and local communities while raising public awareness to support the adaptive integrated management of agro-sylvo-pastoral ecosystems.

2.2.1 Create gender-sensitive financial incentives to enhance access to resources and support for small-scale producers who adopt nature-based practices.

2.2.2 Establish market information systems to improve risk management and market access for farmers.

## 3. Promoting gender-responsive nature-based solutions for adaptive land use management and livelihood improvement

| Component Type | Trust Fund |
|---|---|
| Investment | LDCF |
| GEF Project Financing ($) | Co-financing ($) |
| 4,700,000.00 | 14,479,512.00 |

Outcome:

Outcome 3.1

Apply gender-responsive nature-based approaches for adaptive forest management, diversification, and livelihood improvement in local communities.

*Core Indicator 4: Number of people trained or with awareness raised*

*Core Indicator 2.a: Area of land managed for climate resilience (ha)*

Outcome 3.2

Engage communities in conserving transhumance corridors for effective conflict management.

*Core Indicator 4: Number of people trained or with awareness raised*

*Core Indicator 2.a: Area of land managed for climate resilience (ha)*

Outcome 3.3

Enhance livestock management through nature-based adaptation solutions and inclusive value chains that support livelihoods and reduce pressure on natural resources.

*Core Indicator 4: Number of people trained or with awareness raised*

*Core Indicator 2.a: Area of land managed for climate resilience (ha)*

Outcome 3.4

Adapt crop production to climate change through innovative technologies, nature-based agronomic practices, and inclusive crop value chains supportive of both men's and women's livelihoods while also reducing pressure on natural resources.

*Core Indicator 4: Number of people trained or with awareness raised*

*Core Indicator 2.a: Area of land managed for climate resilience (ha)*

Output:

In Central Equatoria, Eastern Equatoria, Western Equatoria:

3.1.1 Mobilize communities to actively participate in developing plans for sustainable management of agro-sylvo-pastoral ecosystems and restoration of degraded landscapes.

3.1.2 Establish value chains for non-timber forest products.

3.1.3 Develop alternatives to unsustainable practices (such as woodfuel harvesting) and non-renewable energy sources in rural areas.

3.2.1 Engage and empower all community members, with a special focus on including women and marginalized groups, to actively participate in designing climate change adaptation plans.

3.2.2 Implement monitoring and maintenance measures in collaboration with local authorities and herders to ensure the proper functioning and preservation of transhumance corridors.

In Warrap, Western Bahr el Ghazal, Lakes and Jonglei:

3.3.1 Mobilize communities to actively develop community-based livestock management plans in targeted regions.

3.3.2 Improve access to markets for producers with a focus to supporting women's participation in the economy.

In Central Equatoria, Eastern Equatoria, Western Equatoria:

3.4.1 Manage climate risk along crops value chains, encompassing production, harvesting, processing, packaging, transportation, and retail.

3.4.2 Enhance agricultural productivity and climate resilience through tailored community-based production plans that embrace a nature-based approach.

## M&E

| Component Type | Trust Fund |
|---|---|

| Technical Assistance | LDCF |
|---|---|
| GEF Project Financing ($) | Co-financing ($) |
| 1,300,000.00 | 2,413,252.00 |

Outcome:

Outcome 4.1

Increase knowledge and awareness of nature-based, sustainable agriculture practices and ecosystems conservation among key stakeholder groups

*Core Indicator 4: Number of people trained or with awareness raised*

Outcome 4.2

Monitor, evaluate, and document the results of the project for enhanced accountability and learning

*Core Indicator 4: Number of people trained or with awareness raised*

*Core Indicator 2.a: Area of land managed for climate resilience (ha)*

*Core Indicator 5: Number of private sector enterprises engaged in climate change adaptation and resilience action*

Output:

4.1.1 Develop and deliver to relevant stakeholder groups an outreach and awareness-raising strategy and program on best practices and provisions on nature-based, sustainable agriculture practices.

4.1.2 Identify and disseminate project results, experiences and lessons learned with a focus on gender equality and mainstreaming to key stakeholders, accompanied by with a roadmap for scaling of successful project solutions.

4.2.1 Formulate and implement a gender-sensitive monitoring methodology plan for the project.

4.2.2 Undertake an independent mid-term review and terminal evaluation, with the evaluation findings and recommendations shared with the project management team to inform decision-making and enhance future project implementation.

## Component Balances

| Project Components | GEF Project Financing ($) | Co-financing ($) |
|---|---|---|
| 1. Strengthening governance mechanisms for integrated land use planning | 907,067.00 | 2,413,252.00 |
| 2. Fostering climate resilient and inclusive agriculture and ecosystem management through capacity building, information systems, and stakeholders empowerment | 1,600,000.00 | 3,619,878.00 |

| | | |
|---|---|---|
| 3. Promoting gender-responsive nature-based solutions for adaptive land use management and livelihood improvement | 4,700,000.00 | 14,479,512.00 |
| M&E | 1,300,000.00 | 2,413,252.00 |
| **Subtotal** | **8,507,067.00** | **22,925,894.00** |
| Project Management Cost | 425,353.00 | 1,206,626.00 |
| **Total Project Cost ($)** | **8,932,420.00** | **24,132,520.00** |

Please provide justification

The total project cost includes project financing from the Global Environment Facility (GEF) as well as project management costs.

## PROJECT OUTLINE

### A. PROJECT RATIONALE

Briefly describe the current situation: the global environmental problems and/or climate vulnerabilities that the project will address, the key elements of the system, and underlying drivers of environmental change in the project context, such as population growth, economic development, climate change, sociocultural and political factors, including conflicts, or technological changes. Describe the objective of the project, and the justification for it. (Approximately 3-5 pages) see guidance here

The baseline scenario depicts an under-resourced agricultural sector struggling with low productivity, escalating conflicts over resources, mounting environmental degradation, and a population that is increasingly vulnerable to climate change impacts. Climate change stands out as the primary factor driving these challenges in South Sudan. By prioritizing adaptation strategies, South Sudan can bolster its resilience, attain sustainable development, and secure a sustainable future for its diverse ethnic groups and their livelihood systems.

The project justification is based on scientific literature that is available in the Roadmap Document's section. Please note that the document was inadvertently uploaded twice; we apologize for the oversight.

**The issue**

South Sudan, with an estimated population of 12 million, relies heavily on its natural resources for sustenance. Rain-fed smallholder agriculture, livestock farming, pastoralism, and forest product harvesting are prevalent strategies that sustain the country's GDP and support its diverse ethnic groups. Approximately 95% of the population depends on climate-sensitive livelihoods. Unfortunately, the agricultural sectors are significantly impacted by the adverse effects of climate change (Hertel et al., 2010).

Despite its minimal contribution to global $CO_2$ emissions, South Sudan faces widespread high climate risk, as highlighted by the FAO Climate Risk Toolbox (see Annex D). The nation has experienced a remarkable increase in temperature over the past few decades, with a rise of approximately 0.44ºC per decade since 1975. This places South Sudan among the fastest-warming nations worldwide. In addition, observable shifts in annual rainfall patterns have been identified, with certain regions experiencing declines while others witnessing an increase. Despite the complexity of livelihood systems in the country, it is possible to understand risks and vulnerabilities by focusing on three main types of livelihood-zone combinations: cropping (mostly located in the northern and western parts of the country), pastoral (mostly located in the eastern and southeastern parts of the country), and agro-pastoral (mostly located at the margin between the two). Alarmingly, climate change impacts have resulted in a decline of crop yields by approximately 3%, as revealed by Kahsay and Hansen (2016). This decline has far-reaching implications for food security and the livelihoods of rural communities that heavily depend on subsistence farming. The situation is further exacerbated by the vulnerability of marginalized groups, whose limited adaptive capacity contributes to the overall high climate vulnerability experienced in the country. An important aspect to note is the significant role women play in crop production, which exposes them disproportionately to chronic poverty. Among rural households, those reliant on rain-fed agriculture experience chronic poverty. The absence of alternative income sources heightens their vulnerability to economic hardships, leaving them ill-equipped to cope with and recover from adverse events and shocks. Similarly, pastoralist households encounter their own set of challenges due to longer lean periods caused by climate change and limited livelihood diversity, leading to low resilience against various threats. These challenges include livestock diseases, and cattle rustling, all of which can severely disrupt their economic stability and overall well-being.

Key highlights on climate change and food security (IPCC, 2019):

- Rising temperatures and altered precipitation patterns are projected to decrease cereal crop productivity, posing significant threats to food security.

- Climate change, combined with other factors, is expected to escalate pest, weed, and disease pressure on crops and livestock.

- Economically important perennial crops are estimated to face a significant reduction in suitable agro-climatic zones due to rising temperatures.

- Livestock systems in South Sudan already face multiple stressors such as land degradation, water access variability, and grazing area fragmentation. These stressors, along with climate change and variability, will compound the vulnerability of livestock-keeping communities.

- Under an A2 scenario (based on a high population growth scenario of 15 billion by 2100 that assumes a significant decline in fertility), currently suitable agro-climatic zones for perennial crops could become more marginal by mid-century. This could severely limit crop productivity.

- Rising climate change impacts on basic cereals could exert upward pressure on food prices, which would have serious implications for Africa's food security.

Looking ahead, the country is projected to experience further temperature increases with recurring droughts and floods. The northern states of Warrap, Western Bahr el Ghazal, Lakes, Jonglei and the Greenbelt ecological zone are particularly susceptible to these climate hazards. Under the RCP 8.5 scenario, Western Bahr el Ghazal, Warrap, and Lakes are increasingly prone to riverine floods caused by extreme rainfall events. Jonglei reports the highest number of disasters in the country, reflecting the severe climate-related challenges it faces. Meanwhile, the Greenbelt region confronts multiple challenges due to rising temperatures and changing rainfall patterns, leading to both droughts and floods (Table 1). The very high climate risk in these areas is expected to intensify and occur more frequently in the future, driven by extremely high temperatures, and precipitation, and increasing dry spells. As a result, vulnerable communities in these regions face a significant threat to their livelihoods and well-

being. Additionally, climate-related livestock losses further contribute to existing rivalries, heightening the risk of cattle raiding. This, in turn, triggers retaliations, communal conflicts, displacement, and the growth of armed groups. The implications are profound, posing a grave challenge to the resilience and stability of these vulnerable communities.

Considering these factors, the project area has been carefully selected to focus on these states, where the impacts of climate change intersect with food insecurity issues and associated conflicts. By directing targeted interventions and support within these specific regions, the project aims to develop sustainable solutions that mitigate the adverse effects of climate change faced by the communities residing there and remove a core driver of the existing situation.

**Table 1 – observed and projected changes of climatic indicators**

| Climatic indicator | Project sites | Observed change Baseline (1981-2016) | Projected change RCP 2.6 Near | RCP 2.6 Future | RCP 8.5 Near | RCP 8.5 Future |
|---|---|---|---|---|---|---|
| Annual mean Tmax (°C) | Eastern Equatoria | +0.025°C/yr | +1.0 to +1.5°C | | +1.5°C | +3.5°C |
| | Central Equatoria | +0.015°C/yr | +1.0 to +1.5°C | | +1.5°C | +3.5°C |
| | Western Equatoria | +0.010°C/yr | +1.0 to +1.5°C | | +1.5°C | +3.5°C |
| Annual mean Tmin (°C) | Eastern Equatoria | +0.025°C/yr | +1.0 to +1.5°C | | +1.5°C | +4.0°C |
| | Central Equatoria | +0.025°C/yr | +1.0 to +1.5°C | | +1.5°C | +4.0°C |
| | Western Equatoria | +0.020°C/yr | +1.0 to +1.5°C | | +1.5°C | +4.0°C |
| Total n° very warm days | Eastern Equatoria | +0.50days/yr | +25days | | +25days | +150days |
| | Central Equatoria | +0.50days/yr | +25days | | +25days | +125days |
| | Western Equatoria | +0.50days/yr | +25days | | +25days | +125days |

*For temperature indicators, yellow colours indicate a slight increase, while dark red colours a strong increase*

| | | | | | | |
|---|---|---|---|---|---|---|
| Total annual rainfall (mm) | Eastern Equatoria | 0 to +2mm/yr | -25mm | -25mm | -25mm | -50mm |
| | Central Equatoria | 0 to +2mm/yr | 0mm | 0mm | 0mm | +25mm |
| | Western Equatoria | -2 to 0mm/yr | 0mm | +25mm | 0mm | -50mm |
| Total n° dry days | Eastern Equatoria | -0.25 to -0.05days/yr | +10days | +5days | +10days | +20days |
| | Central Equatoria | +0.00 to +0.05days/yr | +5days | +5days | +10days | +20days |
| | Western Equatoria | +0.05days/yr | +5days | +5days | +10days | +15days |
| Total n° of heavy rainfall days | Eastern Equatoria | +0.1days/yr | 0days | 0days | 0days | +1.0days |
| | Central Equatoria | +0.1days/yr | 0days | 0days | 0days | +1.5days |
| | Western Equatoria | +0.1days/yr | 0days | 0days | 0days | +1.0days |

*For precipitation indicators, light blue indicates a decrease, while dark blue a strong increase*

**The barriers**

Efforts to address the impacts of climate change in South Sudan, particularly within the subsistence-based agricultural sectors and the degraded forestry sector in the Greenbelt region, face a multitude of obstacles. These challenges arise from various interconnected factors that hinder progress and exacerbate vulnerabilities.

Institutional and governance flaws impede progress.

Institutional and governance flaws stand as major obstacles to effective climate change mitigation and adaptation efforts. South Sudan, since gaining independence in 2011, has grappled with post-independence development challenges, including outbreaks of civil war. These conflicts

have undermined progress, leaving the country in a humanitarian crisis characterized by poverty, displacement, and vulnerability to climate change. Despite efforts towards recovery and peacebuilding, weak governance structures and limited capacity for coordination and implementation hinder the effective management of climate change initiatives. The absence of robust institutions and clear mandates leads to fragmented approaches and ineffective strategies, hindering meaningful change.

Lack of law enforcement allows unsustainable practices to persist.

The persistence of unsustainable practices is another critical challenge. Human activities driven by immediate economic needs, coupled with a lack of awareness about the long-term consequences of resource depletion, contribute to ecosystem degradation. Inadequate enforcement of regulations and laws related to land use, resource management, and environmental protection allows practices such as shifting cultivation, uncontrolled logging, and overgrazing to continue unabated. This not only degrades natural resources but also undermines climate change mitigation efforts.

Insufficient resources limits climate adaptation and development.

Without adequate funding and investment, initiatives aimed at improving resilience and promoting sustainable practices struggle to achieve substantial impact. Limited financial resources hamper the implementation of essential infrastructure projects, such as building roads and market facilities, which are crucial for rural communities, allowing for better market access, enhancing trade opportunities, and ultimately, promoting economic development. Limited resources also constrain access to modern farming technologies, crucial for farmers as they adapt to climate change. These technologies, including drought-resistant varieties, precision farming, and technologies for improved crop residue management, can significantly optimize agricultural production systems and enhance resilience. However, resource scarcity often makes it challenging for these innovations to reach the farmers most in need, thereby hampering their capacity to withstand climate variability and maintain their livelihoods amidst the ongoing climate crisis. These constraints cause stunted growth, hinder progress in mitigating the effects of climate change, and lead to a perpetuation of poverty cycles impeding progress towards sustainable development.

Conflict dynamics reduce pastoralists' resilience.

Pastoralists in South Sudan have historically utilized livestock mobility as a strategy to manage recurring droughts and effectively utilize rangelands. This practice involves moving livestock across vast territories, adapting to rainfall and forage availability (FAO, 2022). However, adaptation to climate change through livestock mobility encounters significant barriers at practical, policy, and institutional levels, ultimately leading to conflicts. It is important to recognize that conflicts arise not from the practice of pastoralist mobility itself, but from the decreasing size of rangelands due to climate change and commercial agriculture. When rangeland resources diminish, it escalates competition and triggers conflict between pastoralists and other land users, particularly sedentary farmers.

The institutional gap, resulting from the erosion of traditional governance systems and institutions, has aggravated these conflicts. Traditional institutions previously managed these disputes, but their diminished authority has led to a lack of coordination. The situation worsens when mobile pastoralists intrude into protected areas, causing disruptions to local natural resource management and trespassing into national parks. Such activities have led many non-pastoralists to incorrectly identify pastoralism, especially livestock mobility, as the primary cause of these resource-based conflicts. This misperception often drives policy and institutional responses towards settling pastoralists and curbing their mobility, an approach that overlooks the root cause of the issue.

Moreover, recent years have seen an increase in conflict intensity, with disputes becoming more frequent, complex, and violent. Macro-level dynamics such as the proliferation of firearms and the commercialization of cattle rustling have exacerbated these conflicts, further undermining pastoralist mobility (FAO, IGAD, 2022).

These escalating conflicts, in turn, amplify the impacts of climate change. The conflicts impose restrictions on pastoralist mobility, the very strategy designed for managing climate variability in the drylands. Such restrictions compel pastoralists to concentrate their livestock in specific locations, leading to overuse and degradation of these areas. Consequently, the impacts of climate change—manifested in increased droughts and floods—are heightened.

The interplay of these obstacles amplifies the vulnerability of communities and ecosystems in South Sudan, perpetuating a cycle of environmental degradation, economic limitations, and social tensions. Given the intertwined nature of these issues, effectively addressing the impacts of climate change requires comprehensive and integrated approaches that foster sustainable development in the country and ensure the long-term viability of its agricultural and forestry sectors.

**The proposed solution**

Recognizing the urgency to address South Sudan's interconnected challenges of heightened climate change vulnerability, escalating resource conflicts, and environmental degradation, the project is specifically designed with a comprehensive strategy aimed at fostering development and resilience for the nation as a whole. To effectively implement this strategy, the project's on-the-ground actions will be primarily focused on key areas, namely Warrap, Western Bahr el Ghazal, Lakes, Jonglei, and the Greenbelt. By concentrating efforts in these selected regions, the project can directly target fundamental challenges and work towards creating positive ripple effects that extend across the entire country.

Aligned with the country's priorities, the project seeks to complement existing investments targeting rural poverty, the revitalization of the under-resourced, under-productive, and unsustainable agricultural sectors, and forests conservation. All while drawing lessons from past experiences. To achieve these objectives, the project adopts a four-pronged approach outlined in detail in section B.

Firstly, it acknowledges the barriers posed by flawed institutional structures, limited access to modern agricultural technologies, and persistent conflicts. It focuses on enhancing governance mechanisms by addressing systemic issues such as limited access to finance for resilience building and essential services in the countries, and basic services. By integrating climate information into agricultural planning and decision-making processes all stakeholders can make informed choices to mitigate climate risks at various levels. The project also recognizes the untapped potential of South Sudan's agriculture sector and emphasizes the integration of gender considerations. Women, who disproportionately face food insecurity and limited resources, will be empowered to participate fully in all aspects of the value chain. The project emphasizes the need for gender-disaggregated data and gender-sensitive policies and programs.

Secondly, the project aims to encourage innovation and bridge knowledge gaps, focusing on community-based approaches. These include enhancing local capacities, using robust data-driven decision-making tools like weather advisories, and strengthening institutional support systems for farmers and pastoralists. By weaving these aspects together, the project takes an integrated and cohesive approach to achieve its objectives.

Thirdly, the project promotes the adoption of nature-based solutions for adaptive land-use management, the establishment of diversified production systems that show promise in building resilience to climate change, and strategies for livelihood and income diversification (Altieri et al., 2015; Dougill et al., 2010). By embracing these approaches, the project aims to cultivate a more sustainable and resilient agricultural sector that protects local community livelihoods and preserves the environment.

Finally, to achieve its goals, the project will establish a comprehensive framework for monitoring and assessing the progress made and it will engage a wide range of stakeholders, including local communities, private sectors, non-governmental organizations, and government institutions. Their active participation is essential in realizing the desired environmental and adaptation benefits and achieving the project's outcomes.

The methodological approach used to determine target levels for the indicators in the project is based on a combination of scientific analyses, stakeholder consultations, and data-driven assessments. The underlying logic is to establish realistic and achievable targets that align with the project's goals and objectives, taking into account the specific context and potential for improvement within the target areas. Core Indicator 2.a focuses on enhancing biodiversity conservation through sustainable land management practices in specific landscapes. The project conducted a comprehensive spatial analysis, employing various techniques such as satellite imagery, land cover mapping, and expert knowledge. This analysis revealed that the estimated size of the landscape requiring attention amounts to 1,144,798 hectares of forest land lost between the years 2010 and 2023. To address this, the project aims to improve 1000 hectares (0.09%) of the total landscape. Core Indicator 3 directly aligns with the project's aim of enabling sectoral adaptation priorities through policy interventions, which support adaptive measures within the targeted sectors. This approach ensures the project's effectiveness and sustainability, as it collaborates with relevant stakeholders to drive positive changes and foster resilience within these sectors. On the other hand, Core Indicators 1, 4, and 5 are centered on the current number of people engaged in agriculture within the target zones. The initial estimate serves as a starting point, to be further refined during the project formulation stage. This refinement involves a comprehensive analysis of value chain actors, such as farmers, processors, traders, and the potential for growth in the agricultural sector. Additionally, the assessment considers indirect beneficiaries, including consumers benefitting from improved agricultural practices and increased productivity.

**Longer-term changes and impacts**

Achieving the immediate project outcomes outlined above will contribute to broader changes and long-term impacts, as described in the Theory of Change diagram below.

The outcomes associated with Component 1 will combine to strengthen national governance, while outcomes under Component 2 will enhance national adaptation plans by improving access to information and building stakeholders' capacity to mitigate climate change impacts on communities, food security, and ecosystems. Additionally, project outcomes under Component 3 will contribute to improving productivity, supporting livelihoods, and political stability. Efforts to support knowledge management and lesson learning under Component 4 will enhance stakeholder and decision-maker awareness of climate change adaptation threats and solutions, as well as foster improved partnerships.

When combined with additional external inputs, such as other national and donor-funded initiatives involving various actors, these efforts are expected to lead to wider impacts. Specifically, the medium-term changes anticipated are as follows:

1. Policy and institutional changes: The project's outcomes and lessons learned can influence policy formulation and institutional frameworks beyond the project's scope. By demonstrating the effectiveness of integrated land use planning, nature-based solutions, and climate services, the project can contribute to policy reforms and institutional changes at the national level, fostering long-term sustainability.
2. Replication: The project's efforts in knowledge management and lesson learning can contribute to broader awareness and replication of successful climate change adaptation strategies. By sharing experiences, best practices, and lessons learned, the project can influence stakeholders and decision-makers beyond the project boundaries, leading to replication and scaling up of effective approaches in other regions or sectors.
3. Behavioural and attitudinal changes: The project's activities, such as awareness campaigns and capacity building, can promote behavioural and attitudinal changes among stakeholders and communities. These changes may extend beyond the project's duration and geographical boundaries, fostering a culture of climate resilience, sustainable agriculture practices, and informed decision-making in the long run.

These medium-term changes will contribute to the long-term impact sought:

1. Climate change adaptation: The project's efforts in strengthening governance mechanisms, enhancing regulations, and building capacity for climate-resilient agriculture management interventions will contribute to increased adaptive capacity and resilience of vulnerable communities to climate change impacts in the long term.
2. Food security: The improved productivity, efficient resource use, and enhanced market access facilitated by the project will contribute to long-term food security by increasing agricultural yields, reducing post-harvest losses, and ensuring stable access to markets for small-scale producers.
3. Sustainable livelihoods: By addressing barriers to finance, enhancing profitability, and promoting market access for vulnerable groups, the project will contribute to the long-term sustainability of livelihoods in the agriculture sector. This includes supporting smallholders, pastoralists, women, and youth engaged in sustainable agricultural operations.

To achieve these medium-term changes and long-term impacts, it is crucial to acknowledge that the achievement of immediate project outcomes and progress towards the project's objectives rely on several wider assumptions being met. These assumptions include factors such as political stability and will, effective collaboration between institutions, supportive policies and regulations, and the engagement and empowerment of local communities. These wider assumptions and the influence of impact drivers that can positively shape the project's causal pathways will determine the success and sustainability of the project's outcomes and impacts over the long term.

## B. PROJECT DESCRIPTION

### Project description

This section asks for a theory of change as part of a joined-up description of the project as a whole. The project 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 PIF guidance document. (Approximately 3-5 pages) see guidance here

Guided by a theory of change focused on four interconnected components, this project presents a blueprint for climate change adaptation in South Sudan. By building robust governance structures, fostering bottom-up innovation through community empowerment, encouraging climate-resilient, nature-based agriculture systems, and ensuring knowledge sharing the project aims to address the development and resilience efforts needed to effectively combat the challenges of climate change in South Sudan, especially as the nation is undergoing reconstruction after gaining independence.

In the first component, governance mechanisms are strengthened, and nature-based adaptation guidelines for agriculture are generated. This also involves devising effective mechanisms to implementing robust monitoring systems, and creating the conditions conducive to capacity-building activities. Through these efforts, the component at establishing a conducive environment and laying the groundwork for continued engagement of stakeholders, policies coherence, and enforcement to address climate impacts, biodiversity concerns, and resource management in the agricultural sectors.

The second component addresses the urgent need for empowering local communities and governmental stakeholders to access information, tools, and support to effectively implement climate-resilient practices. Active knowledge development and stakeholder participation are key drivers of innovation in this component.

The third component emphasizes the adoption of nature-based solutions for adaptive land-use management and diversified production systems. This includes improved forest management practices, the establishment of diversified transhumance corridors, and enhanced livestock and crop practices. Community engagement, stakeholder collaboration, and the integration of innovative technologies are essential in achieving success in this component.

By establishing a systematic approach to monitor the project's progress, capturing valuable lessons learned, and preparing for a successful project conclusion, the fourth component is crucial for improving future projects' design and implementation, enhancing organizational knowledge management, and promoting transparency and accountability within the project's ecosystem.

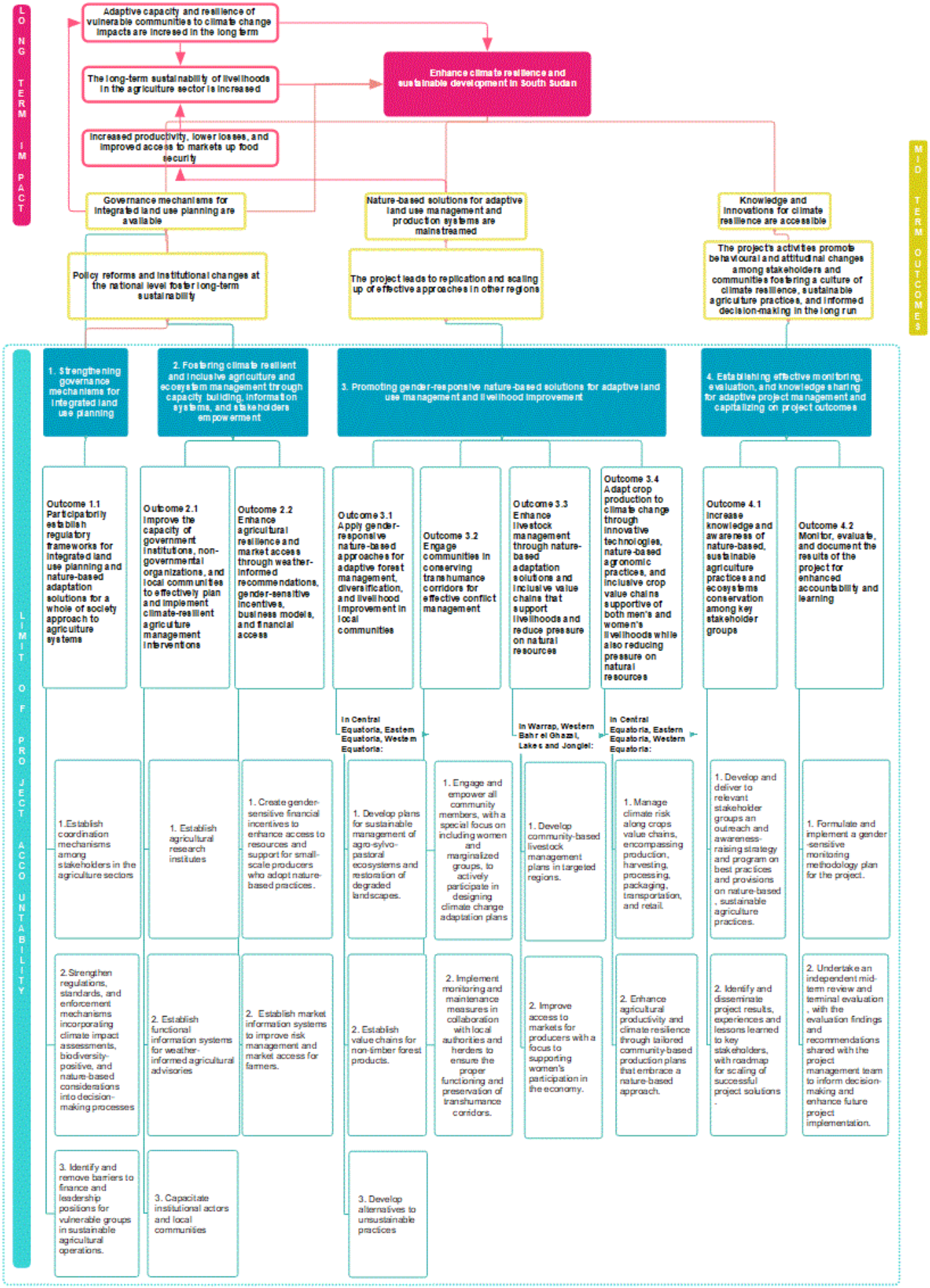
All components work together in a cohesive manner, creating an environment that fosters the scaling up of the project's impact. By fostering innovation, empowering local actors, and promoting nature-based solutions, the project aims to drive significant positive change across various fronts. These encompass strengthened governance, equitable access to finance and leadership positions, enhanced capacity for climate-resilient agriculture and market intelligence, as well as effective conflict management. The ultimate goal is to foster resilience within agricultural landscapes on a larger scale. The diagram below provides a visual representation of the theory of change, illustrating the interconnectedness and synergy of these three components.

**Figure 1 – Project's Theory of Change**

**Simplified set of key assumptions and drivers**

**Assumptions:**
A1. Policy and decision-makers demonstrate willingness to collaborate, establish coordination mechanisms, and promote inclusivity while actively removing barriers for marginalized groups.
A2. Sufficient political will exists to review and strengthen regulations and enforcement mechanisms.
A3. Institutions and local communities are willing to participate in capacity-building activities.
A4. Stakeholders are willing to participate in the development of plans for integrated land use management and restoration.
A5. Markets can be developed to provide long-term secure income sources for businesses connected with nature-based solutions.
A6. Supportive partnerships with financial institutions can be established to address barriers to accessing finance.
A7. Market demand and opportunities can be created for non-timber forest products.
A8. Collaboration and coordination can be achieved to identify and maintain transhumance corridors and implement conflict management mechanisms.

**Drivers:**
D1. Institutionalized coordination mechanisms among stakeholders in the agriculture sector foster ongoing collaboration and a supportive environment for adaptation.
D2. Research institutions and extension services play a crucial role in generating and disseminating climate-related knowledge, providing ongoing support to policymakers in guiding decision-making.
D3. Market information systems and gender-sensitive incentives remain in place to support small-scale producers in accessing finance, markets, and resources for sustainable agricultural practices.
D4. Inclusive financial mechanisms and supportive policies are endorsed, enabling access to finance and leadership positions for marginalized groups, such as smallholders, women, and youth.
D5. Market-oriented value chains for non-timber forest products and climate-resilient agricultural products continue to create economic opportunities, reducing pressure on natural resources.
D6. Sustainable land management practices continue to be widely adopted because they are economically more viable than resource-intensive practices.


LONG TERM IMPACT
Adaptive capacity and resilience of vulnerable communities to climate change impacts are increased in the long term
The long-term sustainability of livelihoods in the agriculture sector is increased
Increased productivity, lower losses, and improved access to markets up food security
Enhance climate resilience and sustainable development in South Sudan
Governance mechanisms for integrated land use planning are available
Nature-based solutions for adaptive land use management and production systems are mainstreamed
Knowledge and innovations for climate resilience are accessible
Policy reforms and institutional changes at the national level foster long-term sustainability
The project leads to replication and scaling up of effective approaches in other regions
The project's activities promote behavioural and attitudinal changes among stakeholders and communities fostering a culture of climate resilience, sustainable agriculture practices, and informed decision-making in the long run
MID TERM OUTCOMES
LIMIT OF PROJECT ACCOUNTABILITY
1. Strengthening governance mechanisms for integrated land use planning
2. Fostering climate resilient and inclusive agriculture and ecosystem management through capacity building, information systems, and stakeholders empowerment
3. Promoting gender-responsive nature-based solutions for adaptive land use management and livelihood improvement
4. Establishing effective monitoring, evaluation, and knowledge sharing for adaptive project management and capitalizing on project outcomes
Outcome 1.1 Participatorily establish regulatory frameworks for integrated land use planning and nature-based adaptation solutions for a whole of society approach to agriculture systems
Outcome 2.1 Improve the capacity of government institutions, non-governmental organizations, and local communities to effectively plan and implement climate-resilient agriculture management interventions
Outcome 2.2 Enhance agricultural resilience and market access through weather-informed recommendations, gender-sensitive incentives, business models, and financial access
Outcome 3.1 Apply gender-responsive nature-based approaches for adaptive forest management, diversification, and livelihood improvement in local communities
Outcome 3.2 Engage communities in conserving transhumance corridors for effective conflict management
Outcome 3.3 Enhance livestock management through nature-based adaptation solutions and inclusive value chains that support livelihoods and reduce pressure on natural resources
Outcome 3.4 Adapt crop production to climate change through innovative technologies, nature-based agronomic practices, and inclusive crop value chains supportive of both men's and women's livelihoods while also reducing pressure on natural resources
Outcome 4.1 Increase knowledge and awareness of nature-based, sustainable agriculture practices and ecosystems conservation among key stakeholder groups
Outcome 4.2 Monitor, evaluate, and document the results of the project for enhanced accountability and learning
In Central Equatoria, Eastern Equatoria, Western Equatoria:
In Warrap, Western Bahr el Ghazal, Lakes and Jonglei:
In Central Equatoria, Eastern Equatoria, Western Equatoria:
1.Establish coordination mechanisms among stakeholders in the agriculture sectors
2.Strengthen regulations, standards, and enforcement mechanisms incorporating climate impact assessments, biodiversity-positive, and nature-based considerations into decision-making processes
3. Identify and remove barriers to finance and leadership positions for vulnerable groups in sustainable agricultural operations.
1. Establish agricultural research institutes
2. Establish functional information systems for weather-informed agricultural advisories
3. Capacitate institutional actors and local communities
1. Create gender-sensitive financial incentives to enhance access to resources and support for small-scale producers who adopt nature-based practices.
2. Establish market information systems to improve risk management and market access for farmers.
1. Develop plans for sustainable management of agro-sylvo-pastoral ecosystems and restoration of degraded landscapes.
2. Establish value chains for non-timber forest products.
3. Develop alternatives to unsustainable practices
1. Engage and empower all community members, with a special focus on including women and marginalized groups, to actively participate in designing climate change adaptation plans
2. Implement monitoring and maintenance measures in collaboration with local authorities and herders to ensure the proper functioning and preservation of transhumance corridors.
1. Develop community-based livestock management plans in targeted regions.
2. Improve access to markets for producers with a focus to supporting women's participation in the economy.
1. Manage climate risk along crops value chains, encompassing production, harvesting, processing, packaging, transportation, and retail.
2. Enhance agricultural productivity and climate resilience through tailored community-based production plans that embrace a nature-based approach.
1. Develop and deliver to relevant stakeholder groups an outreach and awareness-raising strategy and program on best practices and provisions on nature-based , sustainable agriculture practices.
2. Identify and disseminate project results, experiences and lessons learned to key stakeholders, with roadmap for scaling of successful project solutions .
1. Formulate and implement a gender-sensitive monitoring methodology plan for the project.
2. Undertake an independent mid-term review and terminal evaluation , with the evaluation findings and recommendations shared with the project management team to inform decision-making and enhance future project implementation.

Project Component 1: Strengthening governance mechanisms for integrated land use planning.

Outcome 1.1: Participatorily establish regulatory frameworks for integrated land use planning and nature-based adaptation solutions for agriculture systems.

Outputs:

1.1.1 Establish a comprehensive mechanism to coordinate diverse stakeholders from the Ministry of Agriculture and Food Security, Ministry of Irrigation and Water Resources - Republic of South Sudan, ministry livestock and fisheries, Ministry of Environment and Forestry, including inter-ministerial bodies, research institutions, extension services, and civil society. This inclusive approach aims to promote evidence-based decision-making and integrate indigenous knowledge in pursuing sustainable development, tackling climate change challenges, and enhancing the resilience of agriculture and all other natural resources sectors including land, water, energy.

A) Governance mechanism is put in place in order to enhance decision-making within each sector and tackle complex challenges effectively:

First, a specialized unit dedicated to climate predictions, data collection and analysis has been set up. The South Sudan Meteorological Department will take the lead role in data analysis. Other sectoral government agencies will provide technical support, primarily in the areas of data collection and information dissemination. Its purpose is to gather and analyze comprehensive climate data, enabling better forecasting and understanding of climate-related trends. This knowledge proves essential in crafting effective strategies and policies to address climate change.

Additionally, multidisciplinary expert panels are formed and provide essential orientational advice to inform decision-making within each sector. These panels will consist of experts in climate change, natural resources management, agriculture, gender studies, public policy. These panels engage in cross-sectoral dialogues as mechanisms for exchanging knowledge and insights across different sectors to enhance understanding of sector-specific challenges and potential solutions. By promoting collaboration among experts from various fields, policymakers gain valuable insights that enable them to implement informed actions, thereby facilitating the scaling of applied research and innovation.

Moreover, a centralized information mechanism is put in place to collect comprehensive data about all ongoing projects within a given state. This centralized mechanism functions as a conduit, assimilating and organizing information related to all initiatives occurring in each location irrespective whether government-led, initiated by non-governmental organizations, or of a humanitarian or developmental nature. It maintains an extensive database that the expert panels can consult for insights, helping shape advisory outputs based on the most up-to-date information.

The integration of multidisciplinary expert panels with a centralized data management mechanism serves to optimize decision-making and strategic planning across various sectors.

B) At the community level, practitioners are structured into different groups and field schools, such as forest community field schools, farmer field schools, junior field schools, agro-pastoral, and pastoral field schools. These groups receive comprehensive training and develop technical competencies, enabling them to disseminate their knowledge within the community. The abovementioned expert panels will provide guidelines on how to engage women and ensure incorporation of gender-responsive training modules to promote inclusivity.

Additionally, a robust feedback mechanism is established to capture input and insights from all levels of governance, ranging from policymakers to indigenous communities. This inclusive approach ensures that the knowledge exchange and decision-making processes are responsive and adaptive to the needs of the community.

To expand the outreach of the project, curriculum components will be developed to address climate impacts on health, water resources, infrastructure, and energy, thereby empowering the youth and their families with a comprehensive understanding of climate change challenges and solutions.

C) A centralized knowledge-sharing strategy is implemented. To facilitate access to information and best practices on integrated land use planning and nature-based adaptation solutions a multifaceted approach will be used.

A dedicated website will host project databases, online fora, and case studies, ensuring easy accessibility for policymakers, decision-makers, and stakeholders.

To reach a broader audience and sensitize the youth, engaging radio programs will further disseminate case studies.

Additionally, special knowledge exchange events like conferences, seminars, workshops, and celebratory days will be organized. These events will foster collaboration among experts from all relevant sectors, practitioners, and stakeholders. These events will address challenges and explore innovative approaches in the field of integrated land use planning.

To specifically target the youth, a school sensitization program will be devised. This program will ensure that appropriate activities are designed for children, teenagers, and young adults. By integrating relevant educational content, the program will empower new generations with the knowledge and understanding required to accompany and contribute to the overall approach of nature-based adaptation solutions.

1.1.2 Strengthen regulations, standards, and enforcement mechanisms incorporating climate impact assessments, biodiversity-positive, and nature-based considerations into decision-making processes related to land use planning, natural resources management for more efficient and productive use of resources across agricultural sectors:

A) National policy frameworks are put in place to efficiently regulate the utilization and management of natural and plant genetic resources, with a clear objective of supporting the conservation of indigenous/endemic genetic resources and actively involving local communities, it lays the groundwork for building resilient agricultural practices and ecosystems in the face of climate change challenges. The development of coherent guidelines for the protection and conservation of genetic resources is supported to enhance the resilience of agricultural practices and ecosystems in response to climate change and the sustainable use of genetic resources. This regulatory framework will serve to fill legislative gaps present in existing policies. Central to this policy is the preservation of biodiversity and the safeguarding of genetic diversity through the establishment of inclusive seed/plant genetic resource banks and distribution systems. One key aspect is the active involvement of local communities in the entire process, ensuring that they actively participate in the conservation and utilization of these genetic resources. The policy specifically recognizes the significance of forestry seed banks in producing high-quality seeds of valuable indigenous/endemic varieties, particularly those facing extinction or holding substantial value for local communities. Central to this policy is the preservation of biodiversity and safeguards genetic diversity through the establishment of inclusive seed/plant genetic resource banks and distribution systems One key aspect is the active involvement of local communities in the entire process, ensuring that they actively participate in the conservation and utilization of these genetic resources. To facilitate this, a mechanism for business generation is envisioned, encouraging the formation of public-private partnerships. Community/state nurseries will be established and funded by the private sector, but their management will be entrusted to community members. This approach empowers local communities and ensures they play a leading role in safeguarding and utilizing genetic resources effectively. The distribution of seeds will be facilitated through public-private partnerships, with private enterprises playing a key role in streamlining the process and ensuring wider accessibility to these genetic resources. Quality assurance is a critical aspect of this policy. Ensuring the quality of genetic resources is a crucial aspect of this policy. The state will play a pivotal role in implementing rigorous quality control measures, ensuring that the material sold through the distribution system is disease-free and of the highest quality. This rigorous quality control process will maintain the integrity of the genetic resources and enhance their acceptance and utilization for resilient agricultural practices.

In addition to genetic resources, a dedicated policy focused on forest conservation addresses crucial issues related to concessions and emphasizes the need to establish set-aside zones, to be determined by the state government. These zones will be central to reforestation efforts in areas that have been degraded over time. The policy also lays out a comprehensive approach to promoting the sustainable use of forests, with a central focus on regulating energy sources. By adopting sustainable energy solutions and reducing reliance on fossil fuels, the policy aims to contribute to long-term environmental sustainability and enhance the resilience of rural communities in the face of climate change impacts. As part of this strategy, the policy promotes thorough assessments to identify viable solutions for energy production, utilizing residues of most commonly available species on farms (such as groundnut residues and maize cob and methane gas production from crop cassava). To further promote sustainable energy practices, the policy establishes a collaboration between the government and the private sector to encourage sustainable charcoal production. This is achieved by creating dedicated plantations for the 'banga' species (Anogeissus leiocarpa), which is extensively used for charcoal production, addressing the issue of inadequate availability of woodlots. The integration of these initiatives into the forest conservation policy aims to encourage the adoption of renewable energy technologies and sustainable practices in energy production, thereby contributing to the preservation of forests and natural resources, while empowering rural communities to increase their resilience against environmental challenges. Moreover, the policy places special emphasis on the regulatory environment concerning the production and trade of forest products and non-timber forest products (NTFPs). It establishes clear guidelines for harvesting, sales, and sustainability certification to promote climate-adapted and eco-friendly practices within the sector. The policy particularly focuses on incentivizing legal logging and enhancing the competitiveness of NTFPs in both local and international markets. By implementing such measures, the policy aims to foster responsible and sustainable resource utilization, while encouraging climate-adaptive approaches to ensure the long-term well-being of ecosystems and communities.

B) Integrated land use/management plans are collaboratively developed with the close involvement of local stakeholders. These plans aim to optimize resource allocation and utilization within the agricultural sectors while enhancing resilience in agro-sylvo-pastoral landscapes. Special attention is given to promoting gender-sensitive approaches and minimizing conflicts. As a component of the plan, a strategy is in place to facilitate community-based land demarcation, primarily to define grazing zones and ensure efficient land use. This approach enables communities to have a clear understanding of land boundaries and supports sustainable practices that benefit both the environment and the local population. Further bolstering resource governance, climate impact assessment data are used, and water accounting and auditing measures are implemented to manage water resources effectively and reduce conflicts in agro-sylvo-pastoral landscapes. Additionally, support sustainable adaptive nature-based practices is provided through a policy paper on soil management and conservation is developed, emphasizing the importance of preserving the land's natural resilience.

In parallel with the land use/management plans, an Integrated Risk Management Plan is also developed, encompassing measures for hazard impact mitigation, collaborative risk governance, disaster resilience through structural and non-structural investments, and strengthening preparedness. This comprehensive plan improves the resilience of communities through prevention strategies and effective emergency responses tailored to meet each community's specific needs and relying on collaborative efforts between institutions. The identified hazards include climate-related events and fire management. As a crucial part of this plan, communication mechanisms are put in place to ensure communities understand both the hazards they are exposed to and the development activities taking place. This transparency is aimed at alleviating potential conflicts and jealousy that could arise from the perceived uneven distribution of benefits.

C) The policy regulating extension services is reviewed and suggestions are provided to ensure relevant and practical support to farmers and local communities.

The primary objective of the revision proposed is to ensure the transfer and upkeep of state-of-the-art technical capabilities, as well as competencies that enable the effective dissemination of research findings. This will be achieved by supporting the establishment or revitalization of research centres and technical schools to train extension agents and providing regular refresher training sessions (as detailed in component 2).

The policy also outlines precise guidelines for a business model that ensures the viability of the extension system. This model links remuneration for services, inputs, and technologies provided with the profitability for farmers, thereby creating positive incentives for all involved in production.

Furthermore, the policy addresses the need for coherence of advice with the private sector and agribusinesses, promoting a well-rounded and mutually beneficial collaboration.

D) Monitoring systems are established as a critical aspect of promoting a resilient and sustainable intensification of agricultural systems within landscapes' carrying capacities. The technological, operational, and procedural mechanisms put in place provide the data and insights necessary to assess progress, identify challenges, and drive improvements to ensure the enforcement of policies.

1.1.3 Identify and remove barriers to accessing finance and leadership positions for vulnerable groups in sustainable agricultural operations, such as smallholders/pastoralists, women, youth, and disabled persons.

A) Weather-informed financing mechanisms are devised to enhance the preparedness of rural communities for climatic shocks de-risking investments made on farms / agricultural operations.

B) Public-private partnership models are developed to support the growth of rural agri-businesses promoting profitable sustainability in agriculture. These partnerships also facilitate practitioners' access to sustainable production inputs/equipment/services that are specifically aimed at enhancing climate change adaptation practices.

C) Innovative finance and microfinance mechanisms are in place to support the emergence of value chains for semi-processed and value-added agricultural and NTFP products for internal and international markets.

These mechanisms will be targeted to address specific challenges faced by farmers, while promoting sustainable agricultural practices.

Firstly, an improved loan system will be established to provide financial support for agricultural-related activities. Recognizing that crop failures can lead to desperate measures such as illegal logging or charcoal production, this loan system will be accompanied by capacity-building efforts and provision of necessary inputs. By empowering farmers with resources, they can effectively repay the loans and avoid resorting to environmentally harmful practices during times of hardship.

Secondly, to address farmers' risk aversion and reluctance to invest in climate-vulnerable activities, a comprehensive insurance program will be assessed. The assessment will focus on exploring the opportunity to introduce agro-business climate insurance coverage as a means of mitigating economic losses related to natural hazards. To achieve this, we will evaluate various insurance options, including: (i) Multiple peril crop insurance, which is designed to cover crops from a wide range of losses, such as damage from heavy rainfall, drought events, and other climate-related challenges. (ii) Group risk plans, where crop insurance will be based on the collective yield of a group of farmers within a particular area. This collaborative approach will help distribute the risks and benefits among the farmers, making it a more feasible option for everyone involved. (iii) Actual production history, which will be based on the historical production data of a farm over a specific time period. This approach will allow us to tailor insurance coverage to the unique needs and circumstances of each farm, ensuring a fair and accurate assessment of risk.

Insurance coverage may result to offer valid protection against potential losses caused by climate variability, alleviating fears associated with adopting sustainable agricultural practices. It will also encourage farmers to invest in organic control measures, promoting eco-friendly farming practices and reducing reliance on harmful chemicals.

Project Component 2: Fostering climate resilient and inclusive agriculture and ecosystems management through research, capacity building, information systems, and stakeholders empowerment.

Outcome 2.1: Improve the capacity of government institutions, non-governmental organizations, and local communities to effectively plan and implement climate-resilient agriculture management interventions.

Outputs:

2.1.1 National and state-level research institutes are revitalized with a primary focus on addressing key agricultural priorities that are locally relevant. These priorities include soil testing and management, fire prevention, sustainable charcoal production, shifting cultivation, pest management, and the management of alien invasive species. One of the central missions of these research institutes is to facilitate the transition from traditional to integrated pest and disease management (IPDM) techniques. Unlike traditional methods that heavily rely on synthetic active components, IPDM utilizes more environmentally friendly approaches, including biological control agents.
These institutes will serve as central hubs for generating critical knowledge, cultivating a skilled cadre of researchers. Moreover, they will empower extensionists through regular refresher training programs, ensuring that the latest advancements and techniques in agricultural practices reach the field effectively. By combining research, training, and practical implementation, these institutes seek to drive agricultural progress and meet the unique challenges faced at the local level. To provide the necessary support, the project will conduct a needs assessment,

2.1.2 A robust information system is implemented to promote data-driven adaptive management of all agricultural sectors. Implemented as part of the information system, timely weather-informed agricultural advisories are introduced to empower stakeholders to optimize their agricultural and resource management practices, ensuring both resilience and sustainability. As part of the information system, gender-specific agricultural advisories will be introduced to empower female stakeholders in their managerial practices and ensure that women have equal access to timely and relevant information for decision-making.

A) Climate. The present state of climate data and information is assessed along with the accessibility of weather-informed agricultural advisories by practitioners, identifying any gaps. Targeted strategies are then developed to enhance the accessibility and availability of these advisories throughout the entire climate services value chain. Subsequently, agro-hydro-meteorological forecasting and information systems are set up, providing regular weather alerts and climate data. These information resources empower decision-makers and communities to strategically allocate resources for efficient climate impact adaptation and disaster risk mitigation.

B) Forests. Forests are surveyed and inventoried to create a standardized database including taxonomic classifications, volumes, and degradation levels. Priority conservation and restoration sites are identified. A GIS-based mapping system is also developed for improved planning and monitoring.

Data on agricultural and Non-Timber Forest Products (NTFPs) production, including yield, acreage, crop rotations, and used production inputs, are also censed and analyzed.

C) Water. Participatory approaches in water accounting and water auditing are developed to strengthen the governance of water resources.

D) Land. An atlas of nature-based solutions is developed for target landscapes. Guidelines on climate adapted agricultural practices (for farmers and pastoralists) and the conservation/restoration, and management of forests (for local communities) are developed by national research institutes in cooperation with practitioners in compliance with sectoral policies. This information will help key stakeholders with an active role in the agriculture sectors make informed decisions on farms and at landscape levels and reduce climate risks on crops, pastoral systems, and natural resources.

2.1.3 Capacitate institutional actors and local communities while raising public awareness to support the adaptive integrated management of agro-sylvo-pastoral ecosystems:

A) Capacities of national and regional institutions are built on the use of climate data to improve the understanding of climate change impacts. They use these data to conduct climate change vulnerability and impact assessments at the local level and provide evidence for strategies, planning and projects. Training programs will include gender responsive modules to educate government actors on the importance of involving women in decision-making processes. As a consequence, the technical and institutional capabilities of government actors to make informed decisions are significantly improved including for the development of a drought management system as a significant conflict deterrent, particularly relevant since resource-based conflicts tend to escalate during dry periods. The Ministry of Agriculture and Food Security, Ministry of Environment and Forestry, and Ministry of Livestock and Fisheries are equipped with the necessary expertise and access to relevant information. This enables them to develop strategies to adjust agricultural sectors to cope with anticipated climate changes, including guaranteeing the availability of crops that are well-suited to local conditions. Moreover, these efforts promote sustainable and integrated management of agro-sylvo-pastoral ecosystems fostering resilience and long-term viability in agricultural practices.

B) A comprehensive curriculum is developed in cooperation with national research institutions to ensure extension providers possess state-of-the-art, multidisciplinary capacities to best support practitioners in transitioning towards adapted agriculture and forest management, aligned with the country's development priorities (see component 1).

The curriculum encompasses technical capacities harmonized with the agronomic guidelines by agro-ecological zone needed to assist crop and livestock producers. In addition, it equips extensionists with essential conflict management and coordination skills, allowing them to move beyond their usual focus on individual farmer households and operate at the landscape level. Recognizing the need for collective action and collaboration among diverse stakeholders in agriculture, the curriculum emphasizes the importance of landscape-level engagement. Extension providers learn strategies to foster consensus-building, improve local governance, and prioritize options for land use and resource management. These skills enable them to contribute effectively to decision-making processes and drive climate change adaptation efforts in a collaborative and sustainable manner.

C) Capacity building and training are provided to small-scale farmers, pastoralists, and communities will be designed to address the needs of both men, women, and youth to equip them with the necessary skills and state-of-the-art knowledge on new technologies and practices ensuring equal opportunities for skill development and knowledge acquisition. These initiatives aim to increased profitability, soil health, water management, and agro-sylvo-pastoral-ecosystems' resilience. Training can be done through FFS, CGIAR Participatory Integrated Climate Services for Agriculture (PICSA), WMO Roving Seminars, and Climate Field Schools. Capacity-building exercises are essential for risk management at the community level.

D) Community dialogues focused on resource sharing are conducted to foster peaceful coexistence and generate tangible benefits for all members of the community. These dialogues are designed to bring together individuals, families, and groups within the community to engage in open and constructive discussions about resource management, equitable distribution, and collective decision-making. Special sessions will be held to discuss gender roles in resource sharing and management, aiming to create an equitable environment for all community members. By fostering an environment of mutual understanding and cooperation, these dialogues contribute to long-term stability and resilience within the community. As conflicts are resolved and sustainable practices are adopted, the community becomes better equipped to adapt to external challenges, including those posed by climate change and resource scarcity.

E) The general public is sensitized and aware of how their purchasing choices impact the adaptive capacity of key ecosystems. The awareness campaign seeks to create a sense of collective responsibility and inspire positive behavioral changes. Through informed choices and conscious consumerism, individuals can become active contributors to the conservation and enhancement of ecosystems' adaptive capacities.

Outcome 2.2: Enhance agricultural resilience and market access through weather-informed recommendations, gender-sensitive incentives, business models, and financial access.

Outputs:

2.2.1 Create gender-sensitive financial incentives to enhance access to resources and support for small-scale producers who adopt nature-based practices, aligning with the regulatory frameworks outlined in component 1. These incentives aim to support the long-term sustainability of the agricultural sector.

2.2.2 Establish market information systems to improve risk management and market access for farmers, leading to increased profitability and reduced vulnerability to market fluctuations. Market information systems will include gender-disaggregated data to help understand the unique risks and opportunities for female farmers, thereby allowing for more targeted support.

A) Weather-informed recommendations provided along the value chain enabling farmers to make informed decisions about planting, harvesting, and marketing their crops, leading to better profits and reduced waste.

B) Agribusiness hubs will be established to ensure consistent quality of the inputs purchased. These hubs will serve as accessible platforms where farmers can obtain genetic material and inputs of guaranteed or certified quality.

C) Local agricultural cooperatives are formed and provided with capacity-building training in business management and marketing skills, empowering them to thrive in the market. To promote market-driven sustainability, a central aspect involves establishing cooperatives interested in investing in non-timber forest products (NTFP) within forests, such as beekeeping in teak plantations and shea butter production. These cooperatives will create synergies between sustainable activities that encourage forest protection and implement sustainable practices, ensuring long-term market-driven sustainability. In addition, quality assurance is prioritized by setting up quality assurance standards for different products. This includes setting up quality assurance measures that ensure large quantities of standardized and consistent quality, facilitating commercialization. In areas where cooperatives already exist, the approach will not be to form new ones, but to strengthen the existing cooperatives' functions.

Project Component 3: Promoting gender-responsive nature-based and indigenous solutions for adaptive land use management and livelihood improvement. To ensure the smooth implementation of this component, conflict management campaigns are integral to this component. These campaigns aim to accompany the process, providing valuable information to both beneficiary and non-beneficiary communities about the project's objectives and how they can benefit from it. The goal is to create awareness and ensure that everyone involved is well-informed about the process and its potential positive impacts on their lives.

Outcome 3.1: Apply gender-responsive nature-based approaches for adaptive forest management, diversification, and livelihood improvement in local communities.

Outputs:

In Central Equatoria, Eastern Equatoria, Western Equatoria:

3.1.1 Mobilize communities to actively participate in designing climate adapted, and locally relevant plans for sustainable management of agro-sylvo-pastoral ecosystems and restoration of degraded landscapes through a combination of strategies such as reforestation, assisted natural regeneration, and community nurseries. Equal participation of women and men is ensured in the planning process. Women's unique knowledge of local ecosystems can be invaluable.

3.1.2 Establish value chains of non-timber forest products (such as honey, balanites, resins, gum, shea butter, and lulu oil) to help diversify farming systems and provide additional sources of income for farmers:

A) Key players in the value chains are identified (producers, processors, traders).

B) Agroforestry, fruit trees and tree polyculture plantations for non-timber forest products are established.

C) Interventions are designed to help producers improve the quality of their products and increase their production capacity and promote efficient processing and value addition of forest products.

D) Marketing strategies help promote non-timber forest products in both local and international markets. This may involve working with local and international partners to raise awareness of these products, develop packaging and labelling materials, and identify potential buyers.

3.1.3 Promote alternatives to unsustainable practices (such as woodfuel harvesting) and non-renewable energy sources in rural areas:

A) In cooperation with researchers, feasible alternatives/improved practices/technologies are identified based on ecosystems' carrying capacity and users' preferences. Technologies and practices are gender-sensitive considering the different energy needs and usage patterns of women and men.

B) The technologies identified are promoted as part of rural households' energy packages and may include biogas production, improved charcoal and briquette production systems, energy-efficient charcoal stoves solar pumping, solar lighting kits, solar driers, and solar ovens.

C) Plantations of trees suitable for charcoal production are established.

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Outcome 3.2: Identify and maintain transhumance corridors to improve conflict management.

Outputs:

3.2.1 Engage and empower all community members, with a special focus on including women and marginalized groups, to actively participate in designing climate change adaptation plans integrating nature-based solutions for landscape management, including identifying transhumance corridors:

A) Stakeholders involved in transhumance, including local community members, farmers, pastoralists, and migratory herders, are engaged and share their needs, perspectives, insights, experiences, and challenges related to transhumance. This involves ensuring that the planning process acknowledges and incorporates the unique perspectives and knowledge of both women and men, recognizing their different roles, needs, and contributions to sustainable land management and climate resilience. Facilitating gender-balanced participation in workshops, meetings, and decision-making processes, is a priority to provide equitable opportunities for all to voice their ideas and concerns. This open and inclusive dialogue fosters a reciprocal understanding of the specific issues they encounter, such as access to water and grazing lands, as well as the impact of climate change on their livelihoods, often at the core of conflicts between herders and settled communities.

B) A comprehensive plan for identifying and developing transhumance corridors is developed as a collaborative effort led by stakeholders directly involved, in conjunction with government agencies, multidisciplinary expert panels (established in component 1), and NGOs.

This strategic plan aims to harmonize the interests of herders and local communities, safeguard vital natural resources, and promote responsible and sustainable transhumance practices. It seeks to foster greater cooperation among different user groups, ensuring a more harmonious coexistence between herders and settled communities, while safeguarding valuable natural resources that sustain these communities.

A key strategic component of this plan is the clear definition and management of transhumance corridors, serving various purposes such as facilitating land-use planning, managing conflicts, and preventing transboundary animal diseases. A livestock mobility network analysis will be conducted to document the routes and movement patterns followed by herds, with particular attention to data collection during periods of limited rainfall when pastures struggle to regenerate. This analysis will enable strategic planning and resource optimization, promoting ecological resilience, sustainable resource management, and conflict mitigation.

The plan integrates various critical actions to address the challenges related to transhumance and ensure its long-term viability. One such action is to promote a more stationary lifestyle for herders, minimizing the need for wide-ranging transhumance movements. To achieve this, the government will establish water points strategically along the corridors, lessening the herders' need to roam for water sources. Additionally, the plan includes the establishment of fodder banks, ensuring a steady supply of feed during lean periods, thereby reducing pressure on grazing lands.

C) Training initiatives for herders are provided and advisories are regularly delivered through various communication channels, including radio, ensuring timely and effective information dissemination. The training is designed to be inclusive, recognizing that women also play significant roles in livestock management. Advisory frequencies, such as daily, dekadal, sub-seasonal, or monthly, will be explored based on relevance and urgency. The goal is to provide actionable guidance that supports herders' decision-making processes, enabling them to adapt livestock management practices in response to changing weather conditions. Specifically, herders will receive training in silage production to improve livestock nutrition and reduce excessive movement. The weather-informed advisories will be tailored to address herders' specific needs, covering topics like potential heat-stress zones, disease occurrences, transhumance corridors with water and vegetation details, and potential extreme weather events.

3.2.2 Implement monitoring and maintenance measures in collaboration with local authorities and herders to ensure the proper functioning and preservation of transhumance corridors.

a) Local communities' awareness regarding the significance of transhumance corridors and their associated benefits is raised through community meetings, workshops, and various awareness-raising activities.

b) Transhumance corridors are properly maintained. In order to support the smooth movement of livestock and ensure the proper maintenance of transhumance corridors, a dedicated team is formed under the guidance of local leaders. This team collaborates with local authorities and herders to monitor and regulate the usage of these corridors responsibly. The primary objective of the team is to optimize the availability of resources along the corridors, facilitating safe and efficient livestock movements. They regularly carry out maintenance activities, such as weeding out pastures and cleaning water points, to ensure that the routes remain accessible and suitable for the herds.

   Moreover, the team plays a crucial role in resolving any disputes that may arise concerning the usage of these corridors. An established mechanism for dispute resolution is in place, allowing conflicts to be addressed and resolved promptly, ensuring respectful relations among different stakeholders.

Outcome 3.3: Enhance livestock management through nature-based adaptation solutions and inclusive value chains that support livelihoods and reduce pressure on natural resources.

Outputs:

In Warrap, Lakes and Jonglei:

3.3.1 Mobilize local stakeholders to actively participate in developing community-based livestock management plans in targeted regions to adapt production to climate change. These plans incorporate a range of actions to enhance livestock productivity mitigating climate-related risks, while also reducing greenhouse gas emissions:

A) Agro-Pastoral Field Schools (APFS) are created to transfer technologies and build producer capacity to implement innovative practices. In order to ensure adaptive mechanism are addressed, the following elements will be part of the APFSs: inclusion of key actions and experts in agrometeorological information, hydrometeorological services, agro-climate research in the development and training of APFS; and inclusion of climate and weather curriculum into the APFS and ensure that agro-climate information is used to inform resilience practices in a gender-sensitive way.

B) An integrated approach is implemented to improve the welfare of animals, the health of grazing lands, and the resilience of the entire ecosystem. This approach includes improved feeding practices, sustainable grazing, and vigilant management of feed resources and water points.

Improved feeding practices are at the core of this approach, aiming to efficiently meet the nutritional needs of livestock, ultimately enhancing their overall health and productivity

Sustainable grazing practices are another essential aspect. Techniques like rotational grazing and well-designed paddocks are employed to maintain the health of grazing lands, mitigating issues such as overgrazing and soil erosion. This ensures the long-term viability of grazing areas.

In tandem with sustainable grazing, regular monitoring and management of feed resources are undertaken. This involves closely tracking forage availability and ensuring consistent access for livestock. By managing feed resources sustainably, the nutritional well-being of the animals is preserved while preventing overutilization.

The development of water points also plays a crucial role in sustaining livestock. Adequate access to clean water is vital for the health and well-being of the animals. Thus, regular monitoring and maintenance of water points are carried out to ensure a continuous supply.

C) Degraded areas are restored to improve the productivity and resilience of production systems. This involves various measures, such as rehabilitating soils, planting trees and shrubs, reseeding pasturelands for better grazing lands, selecting suitable grasses and legumes to withstand changing climate conditions, and implementing mechanisms to regulate livestock size for improved efficiency of each head through intensification, all while enhancing soil health and biodiversity.

D) Animal disease control and prevention measures are put in place. This involves implementing appropriate measures to prevent and control weather-related pathologies, such as heat stress, tick-borne diseases, and other climate-related health risks.

E) Climate-proof housing is promoted designing and building animal shelters that can withstand extreme weather events, such as floods, and droughts.

F) Climate-resilient value addition and processing practices are used to reduce post-harvest losses and improve the value of livestock products. This includes the use of appropriate processing and storage techniques, as well as market-oriented value addition practices.

3.3.2 Improve access to markets for producers with a focus to supporting women's participation in market activities, recognizing potential barriers they may face, such as limited mobility or access to market information:

A) Deliver up-to-date information on market trends, prices, and demand to help producers make informed decisions about their products and enhance market access to efficiently connect with potential buyers, reducing intermediaries and associated costs.

Outcome 3.4: Adapt crop production to climate change through innovative technologies, nature-based agronomic practices, and inclusive crop value chains supportive of both men's and women's livelihoods while also reducing pressure on natural resources.

Outputs:

In Western Bahr el Ghazal, Central Equatoria, Eastern Equatoria, Western Equatoria:

3.4.1. Manage climate risk along crops value chains, encompassing production, harvesting, processing, packaging, transportation, and retail. For risk management it is important to consider the different ways climate change impacts women and men and tailor strategies to address these differences effectively.

A) Identifying critical elements of the value chain, including key relationships, market access, information exchange, and innovative technologies, to strengthen and fortify the value chain's resilience to climate change with ad hoc climate services.

B) Prioritizing effective climate resilient strategies within the value chain by identifying key climate risks and providing tailored recommendations to the most vulnerable actors.

3.4.2. Improve agricultural productivity, climate resilience, and marketable-grade quality through tailored community-based production plans that embrace a nature-based approach, integrating climate change adaptation at both production and post-harvest levels. Recognizing the significant role women play in agriculture, key attention is given to providing them with equal access to training, resources, and technology.

A) Planning farm management sustainably will include monitoring the number of trees and mapping the farm, development of a cropping calendar, and the establishment of a fire belt around farms.

B) Screening of planting materials for the creation of evolutionary populations to help develop more resilient crops that can withstand environmental stressors such as drought or disease.

C) Optimizing crop calendars (timing for planting and fertilizer and herbicide application) based on historical climate data, seasonal forecasts, and weather-informed agricultural advisories helps farmers plan their planting and harvesting schedules more effectively, make the most of their resources, and achieve better crop yields.

D) Developing and testing agro-ecosystems' specific Conservation Agriculture models that achieve climate adaptation and mitigation objectives thanks to the combined use of direct seeding, soil cover, crop rotations addressing the needs of small-scale farmers. Where possible to include legumes in the crop rotation (as cover crops or intercrops) would be useful to increase nitrogen fixation and soil organic matter for improved soil health, higher yields and diversified nutrition.

E) Producing bio-stimulants and biofertilizers locally to improve soil health, increase crop yields, and reduce the need for chemical fertilizers and pesticides reducing the cost and emissions related to production and transportation. This requires using local strains adapted to local climate and soil conditions because the microorganisms used in these products must be able to thrive in the conditions of the region in order to be effective.

F) Improving the efficiency of water management to enhance crop productivity. This can be achieved through developing and implementing such systems, as well as rehabilitating existing ones. This requires starting with assessing the feasibility, productive advantage, and costs of different irrigation technologies for each crop system.

G) Introducing appropriate post-harvest processing technologies to help preserve the quality and value of harvested crops, reducing waste and increasing profitability. Climate-proof infrastructure for food storage and processing will be developed to reduce food losses, increase economic opportunities, and enhance the value and climate resilience of all stakeholders involved.

Project Component 4: Establishing effective monitoring, evaluation, and knowledge sharing for adaptive project management and capitalizing on project outcomes.

Outcome 4.1: Increase knowledge and awareness of nature-based, sustainable agriculture practices and ecosystem conservation among key stakeholder groups.

Outputs:

4.1.1. Develop and deliver to relevant stakeholder groups an outreach and awareness-raising strategy and program on best practices and provisions on nature-based, sustainable agriculture practices.

4.1.2. Identify and disseminate project results, experiences and lessons learned with a focus on gender equality and mainstreaming to key stakeholders, accompanied by a roadmap for scaling successful project solutions. A project knowledge management and communication strategy will be developed to organize and guide project knowledge management and communication activities. It is expected that sector-specific guidance on relevant practices for climate change adaptation will be developed through the project.

Outcome 4.2: Monitor, evaluate, and document the results of the project for enhanced accountability and learning.

Outputs:

4.2.1. Formulate and implement a gender-sensitive monitoring methodology plan for the project. Under this output, an effective adaptive management and governance system will be established to ensure that the project achieves its intended outcomes and key lessons are captured.

4.2.2. Undertake an independent mid-term review and terminal evaluation, with the evaluation findings and recommendations shared with the project management team to inform decision-making and enhance future project implementation.

## Coordination and Cooperation with Ongoing Initiatives and Project.

Does the GEF Agency expect to play an execution role on this project?

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

The CARES project is designed to integrate key insights from previous initiatives and to align with existing structures and projects in South Sudan.

For example, the project incorporates the communities' preference for indigenous seeds over commercial hybrids. This insight gained from the review of FAO agricultural projects and highlighted in the monitoring report of FAO TCP/SSD/3802 has been operationalized into a strategy focused on supporting local seed production.

Additionally, CARES is committed to developing the skills of talented individuals within the community. This focus on human resource development is a direct response to insights gained from the review of the FAO portfolio, which highlighted the underutilization of local talent. This issue is often linked to weak governance and limited institutional capacity in rural areas. In response, CARES is committed to identifying and mobilizing local talents. By doing so, the project aims to improve operational efficiency while fostering a sense of community ownership and active participation. This strategy is designed to enhance the project's long-term sustainability and contribute to the social capital of the community, thereby facilitating an environment where the community is vested in the project's success.

The project also incorporates lessons from FAO's decennia-long programming in the country on the role of gender in forest restoration and livelihoods. It has been empirically observed that women play a central role in nursery work and other forest-related activities. Consequently, CARES will actively involve women in various project components, thereby augmenting production resilience through their enhanced capacities.

Looking toward the opportunity to leverage existing structures, the recent reactivation of local governance platforms like the County Development Committee and Payam Development Committee presents significant advantages. These committees will be instrumental in disseminating information and garnering local support, further integrating the project within the community's existing framework.

Furthermore, South Sudan hosts several existing initiatives and projects that present valuable opportunities for collaboration, co-location, and expertise sharing. By joining forces, these partnerships can leverage existing resources, knowledge, and networks to achieve synergies and avoid duplicating efforts.

The FAO Emergency Livelihood Response program addresses immediate livelihood needs. Co-locating with this program enables close coordination, information exchange, and joint implementation, ensuring a comprehensive approach to livelihood support. Another initiative by FAO, the Value Addition and Trade Development project, focuses on enhancing market linkages and adding value to agricultural products. Collaborating with this

project brings technical expertise in value chain development, market analysis, and trade facilitation, leading to increased income opportunities for farmers. What CARES brings as an additional asset to this collaboration is its close working relationship with local authorities. Specifically, CARES will supply essential climate data that local authorities can utilize to enhance transportation infrastructure effectively.

The FAO's PRO-SRVP project and the African Development Bank's BREFONS program focus on food and nutrition security and resilience. Collaboration fosters knowledge exchange, harmonization, and greater impact in pastoral and agropastoral communities. One key area of synergy is data collection and analysis. For example, some intervention areas under the BREFONS project are equipped with weather data collection points. The CARES project will complement this by taking on the role of data analysis and dissemination to the communities. This approach leverages existing infrastructure to enhance the hydromet value chain, a framework crucial for filling gaps in the delivery of climate and weather information services vital for adaptation strategies. BREFONS funding will also contribute to the elevation of climate information quality and reliability. It aims to facilitate the sharing of critical weather and water resource data, elements that are indispensable for informed decision-making in a climate-changing environment.

Partnering with the World Bank RALP project on adapting agricultural production to climate change and stabilizing livelihoods offers the opportunity to co-develop guidelines for nature-based adaptation solutions. Furthermore, the RALP project has invested in the development of tree nurseries at selected locations. These established facilities, along with the skills training they offer, will expedite the implementation of the CARES project. Specifically, the availability of staff skilled in agroforestry and tree-based activities will be an asset.

UNEP project on strengthening government and community capacity to adapt to climate change aligns closely with this project's objectives. Successful integration of climate adaptation measures is highly dependent on localized capacity building. Collaboration ensures the integration of climate change adaptation measures in CARES' component 1 and builds synergies in capacity building, knowledge sharing, and policy support. Adopt a tiered training approach to localize capacity, focusing on local government units that can then train community groups, ensuring sustainability and local ownership.

UNOPS' South Sudan Safety Net project and IFAD's South Sudan Livelihoods Resilience program focus on social protection and building resilience among vulnerable populations. Utilize community meetings for initial beneficiary identification will increase local engagement and ensure aid is effectively targeted. Furthermore, sharing lessons provides insights into targeting mechanisms, beneficiary identification, and safety net interventions, promoting inclusivity and equity, particularly for vulnerable populations.

World Bank's South Sudan Resilient Agricultural Livelihoods Project and Emergency Locust Response Project offer funding and technical support for agricultural productivity improvement and combating locust outbreaks. Aligning activities, sharing expertise, and coordinating efforts create synergies for sustainable agricultural development.

Among the existing initiatives are also several GEF-funded projects:

- UNDP's project, 'Strengthening the capacity of government and communities in South Sudan to adapt to climate change,' is being implemented in areas where CARES will not be operational. However, both projects share a common focus on activities related to climate data collection at the national level. By coordinating their efforts, these initiatives can complement each other and ensure a more comprehensive and cohesive approach to climate change adaptation in South Sudan.
- UNEP's project "Promoting Sustainable Approaches to Ecosystem Conservation in the Imatong Landscape of South Sudan", which was approved in December 2021 and is currently in the pipeline, focuses on biodiversity conservation and reducing land degradation. While the project's geographic area is limited to the Imatong landscapes, CARES project will replicate knowledge and activities gained from UNEP's project in other locations with similar conservation needs.
- "Capacity support for accession to and implementation of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in South Sudan", UNEP
- "Watershed approaches for climate resilience in agro-pastoral landscapes", UNDP/UNIDO
- "Systemic, Institutional and Individual Capacity for the Implementation of the Rio Conventions in the Republic of South Sudan", UNEP
- "Strengthening the Capacity of Government and Communities in South Sudan to Adapt to Climate Change, UNEP
- "Capacity Development in Reducing Illegal Wildlife Trade and Improving Protected Area Management Effectiveness in South Sudan", UNEP
- "National Biodiversity Planning to Support the Implementation of the CBD 2011-2020 Strategic Plan in South Sudan by Development of the first National Biodiversity Strategy and Action Plan (NBSAP)", UNDP
- "Preparations of National Adaptation Plan of Action (NAPA) in response to Climate Change", UNEP
- "National Capacity Self-Assessment (NCSA) for Global Environmental Management in South Sudan", UNDP

Additionally, Green Climate Fund (GCF) projects provide opportunities to integrate CARES within broader governmental strategies in environmental conservation, biodiversity planning, climate information systems, and capacity development. This will increase CARES reach and sustainability. GCF currently under development include:

- Strengthening Climate Information Systems for Climate Change Adaptation in the Greater Horn of Africa through regional cooperation, UNDP project (2020). The program aims to strengthen the climate resilience of 8 targeted countries (members of the Intergovernmental Authority on Development – IGAD) to climate change impacts, including extreme rainfall events, droughts and floods that can be of transboundary nature and impact several countries at the same time. Through the establishment of an improved early warning and climate information dissemination system at the regional level and its integration with the already existing national climate information system, the program will build climate resilience amongst vulnerable communities in the Great Horn of Africa.
- Republic of South Sudan GCFs Readiness and Preparatory Support, UNEP project (2018). The overall objective of the project is to enhance South Sudan's access to GCF funding mechanisms as a potential source of climate finance that can leverage domestic investment to build a climate-resilient and low-carbon economy.

At PPG a thorough appraisal of the status of ongoing projects will be undertaken. By leveraging these initiatives, the project can maximize its impact and effectiveness. Through co-location, expertise sharing, and resource optimization, the project can capitalize on existing expertise, resources, and

networks, leading to greater efficiency and effectiveness in achieving its objectives. Specifically, this project aims to enhance institutional and technical capacity of stakeholders involved in nature-based solutions for land use management. Valuable knowledge generated from this project will be shared with stakeholders for use in other locations, facilitating broader impact and sustainable development.

During the PPG stage, the project's governance and operational structures will be finalized to ensure a cohesive and sustainable approach to achieving its objectives. Specifically, the Ministry of Environment and Forestry will take on the role as the executing agency, accountable for the project's overall design, management, and execution.

To facilitate strategic oversight, a Project Steering Committee (PSC) will be established at the outset of the project. Led by the Ministry of Environment and Forestry, the PSC will also feature representatives from the Ministries of Agriculture and Food Security, and Livestock and Fisheries, and South Sudan Meteorological Department. The PSC will have the authority to approve any significant changes to the project plan and will work to integrate the project's initiatives into existing programs within their respective departments.

For day-to-day operational management, a Project Management Unit (PMU) will be constituted. This unit will include a project manager, a technical advisor, and additional international or local experts. The PMU will work closely with the PSC to ensure the quality, timeliness, and effectiveness of project activities.

FAO will serve as the implementing agency and will establish a Project Task Force composed of a Budget Holder, Lead Technical Officer, GEF Technical Officer, and Funding Liaison Officer. This task force will collaborate with the PMU, providing additional steering to guide the project toward successful implementation in compliance with GEF programming directions and FAO policy.

## Core Indicators

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

## META INFORMATION – LDCF

| | | |
|---|---|---|
| LDCF **true** | SCCF-B (Window B) on technology transfer<br>**false** | SCCF-A (Window-A) on climate Change adaptation<br>**false** |

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| Is this project LDCF SCCF challenge program?<br>**false** |
| This Project involves at least one small island developing State(SIDS).<br>**false** |
| This Project involves at least one fragile and conflict affected state.<br>**true** |
| This Project will provide direct adaptation benefits to the private sector.<br>**true** |
| This Project is explicitly related to the formulation and/or implementation of national adaptation plans (NAPs).<br>**true** |
| This project will collaborate with activities begin supported by other adaptation funds. If yes, please select below |

| | | |
|---|---|---|
| Green Climate Fund<br>**false** | Adaptation Fund<br>**false** | Pilot Program for Climate Resilience (PPCR)<br>**false** |

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| This Project has an urban focus.<br>**false** |
| This project will directly engage local communities in project design and implementation<br>**true** |
| This project will support South-South knowledge exchange<br>**false** |
| This Project covers the following sector(s)[the total should be 100%]: * |

| | |
|---|---|
| Agriculture | 25.00% |
| Nature-based management | 25.00% |

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|---|---|
| Climate information services | 50.00% |
| Coastal zone management | 0.00% |
| Water resources management | 0.00% |
| Disaster risk management | 0.00% |
| Other infrastructure | 0.00% |
| Tourism | 0.00% |
| Health | 0.00% |
| Other (Please specify comments) | 0.00% |
| Total | 100.00% |

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

| | | | |
|---|---|---|---|
| Sea level rise<br>**false** | Change in mean temperature<br>**true** | Increased climatic variability<br>**true** | Natural hazards<br>**false** |
| Land degradation<br>**true** | Coastal and/or Coral reef degradation<br>**false** | Groundwater quality/quantity<br>**false** | |

## CORE INDICATORS – LDCF

| | Total | Male | Female | % for Women |
|---|---|---|---|---|
| CORE INDICATOR 1<br>Total number of direct beneficiaries | 220,000 | 110,000.00 | 110,000.00 | 50.00% |
| CORE INDICATOR 2<br>(a) Area of land managed for climate resilience (ha)<br>(b) Coastal and marine area managed for climate resilience (ha) | 1,000.00<br>0.00 | | | |
| CORE INDICATOR 3<br>Number of policies/plans/ frameworks/institutions for to strengthen climate adaptation | 4.00 | | | |
| CORE INDICATOR 4<br>Number of people trained or with awareness raised | 120,000 | 60,000.00 | 60,000.00 | 50.00% |
| CORE INDICATOR 5<br>Number of private sector enterprises engaged in climate change adaptation and resilience action | 4.00 | | | |

### Risks to Project Preparation and Implementation

Summarize risks that might affect the project preparation and implementation phases and what are the mitigation strategies the project preparation process will undertake to address these (e.g. what alternatives may be considered during project preparation-such as in terms of consultations, role and choice of counterparts, delivery mechanisms, locations in country, flexible design elements, etc.). Identify any of the risks listed below that would call in question the viability of the project during its implementation. Please describe any possible mitigation measures needed. (The risks associated with project design and Theory of Change should be described in the “Project description” section above). The risk rating should reflect the overall risk to project outcomes considering the country setting and ambition of the project. The rating scale is: High, Substantial, Moderate, Low.

| Risk Categories | Rating | Comments |
|---|---|---|

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| Climate | High | Building on the risks highlighted by the climate screening, the project weaves climate considerations into strategies for sustainable economic development. By addressing the impacts of climate change, the project not only protects the environment and communities but also ensures the safeguarding of investments. A crucial element of the project involves the reinforcement of governance mechanisms for coordinated land use planning. This includes the creation of regulatory frameworks and stakeholder coordination systems for effective adaptation and risk management. Through this, the project ensures that climate impact assessments and nature-based approaches inform land use and natural resource management decisions, leading to sustainable practices that reduce climate vulnerability. Another key aspect of the project is capacity building. By strengthening the ability of local communities, government bodies, and NGOs to carry out climate-resilient agricultural management initiatives, the project provides the necessary tools and information for data-driven decision making. This includes weather-informed advice, functional information systems, and participatory natural resource governance, enabling informed agricultural adaptation. Through education and training, communities are equipped to implement adaptive land use and production systems, improving livelihoods and lessening strain on natural resources. Moreover, the project champions nature-based solutions for land use and production systems. It promotes sustainable agro-sylvo-pastoral |

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| | | ecosystem management, non-timber forest product value chains, and transhumance corridor preservation. By advocating nature-based approaches and technologies, alongside inclusive crop value chains, the project facilitates climate-adaptive crop production, thereby enhancing environmental preservation and local livelihoods. Overall, this comprehensive approach integrates climate considerations into South Sudan's sustainable economic development strategies, reducing investment risk and fostering resilience. Simultaneously, it counteracts the impacts of climate change by promoting sustainable practices, conserving biodiversity, reducing emissions, and ensuring the long-term prosperity of the regions. |
| Environment and Social | Low | The project has a comprehensive approach to tackle both environmental and social risks. It is aligned with the national priorities and works in synchrony with other projects to ensure a coherent and effective approach to resilience-building. The following points highlight the strategy to reduce potential risks to a minimum: Mitigating environmental risks: Central to the project is to advocate for nature-based solutions and advocate sustainable land management practices. Activities such as forests management and restoration of degraded lands are actively pursued to maintain biodiversity and diminish ecosystems degradation. Moreover, the project encourages sustainable farming practices that reduce reliance on chemical inputs and improve soil health, hence successfully reducing |

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| | | environmental risks. Addressing social risks: Acknowledging the importance of stakeholder involvement and participation, the project aims to include local communities, farmers, pastoralists, women, and youth in its efforts. A key focus is to overcome the financial and leadership obstacles faced by vulnerable groups and provide them with requisite training and support. It also proposes gender-sensitive incentives to better financial access and market opportunities for small-scale producers. With a focus on inclusive decision-making, the project is investing in capacity building within governmental institutions while encouraging collaboration with non-governmental and academic entities. All of this contributes towards promoting social equity, enhancing livelihoods, and reducing vulnerabilities. Alignment with National Adaptation Plan (NAPA): The project's technical design is consistent with the National Adaptation Plan's priorities, ensuring that the project's efforts support the country's strategic adaptation approach. The coordination with other projects being executed in the area is aimed at leveraging synergies and amplifying the effectiveness and efficiency of adaptation efforts. Stakeholder engagement and capacity building: Recognizing the need for stakeholder engagement at different levels, from local communities to government institutions, the project actively involves them in the design, implementation, and monitoring of project activities. This is done with a vision to ensure ownership, enhance |

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| | | knowledge sharing, and foster sustainable results. The project also works towards capacity building of individuals and institutions, thus further enhancing its impact and contributing to long-term sustainability. |
| Political and Governance | Low | Currently, the project faces low exposure to political and governance risks, primarily due to the presence of the UN Mission in South Sudan (UNMISS) and the ongoing implementation of the Revitalized Peace Agreement. The commitment to inclusive governance within the Revitalized Peace Agreement provides a conducive environment for the project's smooth implementation. This minimizes potential political and governance risks and ensures a stable and secure context for the project's activities. Looking ahead, the project's strategic alignment with economic priorities and climate resilience ensures that its efforts to combat climate challenges will be endorsed and reinforced by future governance structures. Economic growth will likely remain a priority in South Sudan, and addressing climate threats will continue to be integral to any sustainable economic development strategy. Moreover, the project's proactive approach in investing in marginalized groups' participation in decision-making processes and capacity-building initiatives is instrumental in establishing a robust foundation for long-term success. By actively engaging and empowering women, youth, civil society, and inclusively engaging local communities, the project fosters a sense of ownership among these stakeholders. This approach |

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| | | significantly reduces the project's vulnerability to political fluctuations, as it garners continuous support from various segments of society. Disarmament initiatives are set to decrease armed conflicts, thereby aiding agricultural development, as evidenced by the Government and Development Partners' efforts. FAO collaborates with various agencies on risk and conflict analysis, such as the integrated approach by FAO/UNICEF/WFP for Food and Nutrition Security Conflict Analysis and the Migration Working Group led by UNMISS. This collaboration presents an opportunity to examine local conflicts and their impact on project delivery. Based on these analyses, the project will aim to enhance capacities for conflict prevention and sensitive programming, and to facilitate dialogue. Such efforts are anticipated to strengthen community cohesion, lessen tensions, and curtail conflict incidents within the project locales, contributing to a more secure and productive environment for project activities. Since resource-based conflicts often intensify during dry spells, introducing a drought management system could serve as a significant conflict deterrent. |
| Macro-economic | Low | Overall, the project's alignment with South Sudan's development context, its focus on capacity building and livelihood improvement, and the participatory nature of stakeholder engagement contribute to a low macroeconomic risk profile. The project aligns with the priorities and objectives of South Sudan's development agenda, aiming to enhance resilience, sustainable land use, and agricultural productivity. By |

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| | | addressing key challenges related to climate change, natural resource management, and livelihood improvement, the project directly supports the country's efforts to promote long-term economic growth and social development. Furthermore, the project's focus on capacity building, knowledge exchange, and the establishment of regulatory frameworks and coordination mechanisms contributes to the strengthening of governance structures. This enhances the overall stability and resilience of the macroeconomic environment, reducing the risk associated with the project's implementation. The country's ongoing development efforts create a conducive environment for stakeholders to participate in skill-building and livelihood activities promoted by the project. As South Sudan focuses on rebuilding and strengthening its economy and infrastructure, there is a strong incentive for stakeholders, including government institutions, local communities, and non-governmental organizations, to engage in the project's activities. The participation of various stakeholders, including farmers, pastoralists, local communities, government institutions, and non-governmental organizations, fosters a collaborative and inclusive approach. This collective engagement further mitigates macroeconomic risks by promoting ownership, accountability, and sustainable partnerships, ensuring the project's activities align with broader development goals and priorities. |
| Strategies and Policies | Low | The project demonstrates a solid alignment with national policies and |

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| | | robust adherence to international frameworks. The design of the project ensures a harmonious fit with national policies. This strategic alignment minimizes potential risks associated with diverging strategies or policies. The project also capitalizes on the groundwork already laid by the national government and other stakeholders by leveraging existing policies, strategies, and projects. By doing so, it avoids the risk of duplication or fragmentation, ensuring that its efforts contribute to broader development plans rather than run parallel to them. The project actively involves various actors and sectors in its work, fostering a sense of collective responsibility and ownership, which further reinforces its resilience to policy risks. Through active collaboration with relevant stakeholders and governmental institutions, the project plays a significant role in creating an enabling environment for adaptation in the agricultural sectors. It works closely with policymakers to ensure that its activities align with national priorities, thereby reducing the risk of conflicting approaches. The project not only aligns with national policies but also embraces global best practices. Its emphasis on nature-based adaptation solutions and sustainable land management practices aligns with the global agenda for climate action and sustainable development. By adhering to international frameworks like the Paris Agreement and the Sustainable Development Goals, the project places itself within a larger context of supportive policies and strategies. This international |

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| | | alignment not only upholds global best practices but also enhances the project's resilience to potential policy changes or strategic shifts. |
| Technical design of project or program | Low | The project demonstrates a low technical design risk, thanks to its meticulous design, alignment with national goals and other projects, combined with a strong emphasis on stakeholder collaboration and the use of nature-based adaptation strategies. The technical design of the project has been designed to align with NAPA goals and build upon experiences and lessons learned from previous projects. This careful strategy results in the project benefiting from existing knowledge and best practices, thus minimizing the risk of technical shortcomings or inadequacies in the approach. The project places a strong emphasis on coordination and collaboration among stakeholders, which includes government institutions, non-governmental organizations, and local communities. Such a strategy ensures a comprehensive and multidisciplinary approach towards addressing climate change challenges in South Sudan, further reducing potential technical risks. By incorporating various actors' experiences and expertise, the project minimizes the risk of technical design flaws and bolsters its potential for success. This process highlights the importance of multiple stakeholder involvement, further enhancing the project's efficacy. Furthermore, the project smartly integrates nature-based adaptation solutions, community engagement, capacity building, and knowledge sharing. This integration establishes a robust foundation for effectively |

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| | | accomplishing the project's objectives. |
| Institutional capacity for implementation and sustainability | Low | By carefully considering the capacity-building needs, establishing partnerships, and maintaining a targeted approach, the project minimizes risks related to institutional capacity. The scope of the project has been agreed upon with relevant stakeholders, ensuring that it focuses on a selected number of issues in a limited number of states and locations. This targeted approach allows for achievable and realistic results without overwhelming existing government institutions. Capacity building is a central element of the project, both at the individual and institutional levels. During the PPG phase, capacity needs will be identified, and a comprehensive capacity building strategy and plan will be developed. This strategy will address the specific requirements of the project and ensure that relevant stakeholders have the necessary skills and knowledge to effectively implement and sustain project activities. Furthermore, the project establishes partnerships with non-governmental and academic institutions. These partnerships serve as a safeguard and help mitigate the impacts of any changes in national policies or political administrations. By engaging with a diverse range of stakeholders, the project builds resilience and ensures continuity even in the face of potential institutional shifts. These measures help create a supportive environment for implementation and sustainability, enabling the project to achieve its objectives effectively and |

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| | | ensuring that its impacts endure beyond its duration. |
| Fiduciary: Financial Management and Procurement | Substantial | The project faces potential risks associated with fiduciary aspects, particularly in terms of financial management and procurement. Such risks could stem from potential hurdles in implementing procurement policies and timely acquisition of services, potentially causing project delays. Several risk mitigation measures have been adopted to address these challenges: Early Preparation: During the PPG phase, a comprehensive procurement list will be developed. This list, outlining the required goods, services, and works, will enable the project team to kickstart procurement processes early, thereby ensuring well-planned and timely execution. Capacity building: Key partners involved in the project will receive training on procurement processes provided by the FAO country office. These training sessions aim to enhance understanding and awareness of procurement requirements, procedures, and timelines, thus enabling stakeholders to navigate the procurement process effectively. Ensuring transparency: A robust monitoring and oversight mechanism will be established to keep track of procurement activities. Regular reviews and assessments of procurement plans, processes, and timelines will be part of this mechanism. Close monitoring will enable the project team to identify potential bottlenecks or delays early and take proactive measures. Collaboration and communication with implementing partners: The project will maintain open communication and close |

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| | | collaboration with implementing partners. Keeping all stakeholders informed, aligned, and actively involved in procurement activities will ensure smoother coordination and faster decision-making. Expert guidance: The project may consider hiring experienced procurement specialists or consultants to provide support and guidance during complex procurement processes. These specialists can offer their expertise in procuring goods, services, and works in a time-effective and compliant manner, reducing the risk of delays. |
| Stakeholder Engagement | Low | To ensure effective stakeholder engagement, foster collaboration and cooperation among stakeholders, and ensure the active and sustained participation of key partners throughout the project's duration, the project incorporates several strategies: Development of a Stakeholder Engagement Strategy and Plan: During the project's preparatory phase, a comprehensive strategy and plan will be developed to guide stakeholder engagement activities. This plan will outline the objectives, approaches, and methods for engaging with various stakeholders, ensuring effective and coherent coordination. Addressing Concerns and Demonstrating Socio-Economic Benefits: The project will actively address the concerns and interests of stakeholders by incorporating their feedback and addressing their specific needs. By demonstrating the socio-economic benefits that will result from the project, such as improved livelihoods, enhanced agricultural productivity, and sustainable natural resource management, stakeholders |

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| | | will be more likely to engage and support project activities. Project Steering Committee and Technical Committees: A Project Steering Committee will be established during the project's preparatory phase. National Project Committees, Focal Points, and technical committees will also be appointed as necessary during the implementation phase. These committees will ensure coordination among key partners, promote ongoing participation, and facilitate decision-making processes. Knowledge Management and Communication Strategy: An effective strategy will be implemented to support stakeholder engagement and coordination. This strategy will include mechanisms for sharing project information, disseminating knowledge and best practices, and facilitating communication among stakeholders. It will ensure that stakeholders have access to relevant and timely information and opportunities to provide input and feedback. |
| Other | | - |
| Financial Risks for NGI projects | | NA |
| Overall Risk Rating | | Given its comprehensive approach, alignment with national and global priorities, stakeholder engagement, and the implemented risk mitigation measures, the project is evaluated as having a low overall risk. The project is well-positioned to achieve its objectives, contribute to sustainable development, and minimize potential obstacles or setbacks because it has been designed with careful consideration of various risk categories. In each of these risk categories, the project demonstrates a strong alignment with national |

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| | | priorities, policies, and international frameworks. It incorporates nature-based solutions, promotes sustainable practices, and engages stakeholders at different levels, ensuring their participation and ownership. The project leverages existing knowledge, expertise, and partnerships, minimizing technical design flaws and maximizing its potential for success. It also addresses potential conflicts, fosters inclusive decision-making, and promotes peace and resource governance. Furthermore, specific risk mitigation measures for fiduciary challenges, such as financial management and procurement, have been established. These measures include early preparation, capacity building, transparency, collaboration with partners, and expert guidance. |

## 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 if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this.

For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e., BD, CC or LD), please identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and explain how. (max. 500 words, approximately 1 page)

Aligned with GEF-8's programming strategies, this project contributes to the broader global efforts to combat climate change promoting climate resilience, developing adaptation initiatives, and driving sustainable development in a vulnerable country.

At the national level, the project directly addresses the priorities identified by South Sudan in its national policies, plans, and commitments. The urgent need to adapt to the imminent threat of climate change on agriculture and forestry is a key focus of the project. South Sudan's various national policies and plans, such as the Transitional Constitution, the 2021 National Adaptation Plan, and the South Sudan National Development Strategy, emphasize the importance of natural resource management, environmental sustainability, and the right to a clean and healthy environment. Moreover, the project objectives are in accordance with the United Nations Development Assistance Framework (UNDAF) for Sudan (2009-2012) which focuses on five key result areas: 1) sustained peace and stability, 2) sustainable economic development, 3) expanded basic service, 4) strengthened public accountability, good governance and the rule of law and 5) strengthened social fabric. By aligning with these priorities, the project becomes a crucial instrument for achieving sustainable economic growth, poverty reduction, and overall development in the country.

Additionally, the project aligns with South Sudan's commitments under various Multilateral Environmental Agreements (MEAs), policies, and plans. The country has ratified important international agreements such as the United Nations Framework Convention on Climate Change (UNFCCC), Convention on Biological Diversity (CBD), and the United Nations Convention to Combat Desertification (UNCCD). By doing so, South Sudan has demonstrated its commitment to addressing environmental challenges and promoting sustainability. The project's alignment with these agreements reflects the country's dedication to fulfilling its international obligations.

Furthermore, South Sudan's ratification of the Paris Agreement under the UNFCCC and its submission of a Nationally Determined Contribution (NDC) underscore its commitment to reducing greenhouse gas emissions and promoting climate resilience. The project's objectives and activities directly and indirectly contribute to these commitments, making it a valuable tool for South Sudan to fulfill its obligations under the Paris Agreement and take meaningful action against climate change.

The project's focus on sustainable land use practices, conservation of natural resources, and climate change resilience aligns with South Sudan's NDC goals and commitments and the following policies:

- South Sudan's National Environment Policy, which identifies sustainable natural resource management as a key priority.
- South Sudan Vision 2040, which aims to promote sustainable development and address environmental challenges.
- The project also aligns with the National Biodiversity Strategy and Action Plan, which aims to conserve and sustainably manage South Sudan's biodiversity and ecosystems. The plan recognizes the importance of the Greenbelt as a critical ecosystem and identifies the need for sustainable land use practices and conservation measures to protect it.

In addition, the government has developed various policies and strategies to address environmental challenges, such as the Forest Policy (2015), the Draft Environmental Protection Policy (2013), and the Draft Policy on Wildlife Conservation and Protected Areas (2012). These policies provide a framework for the protection and sustainable use of natural resources in the country and include the following:

- Transitional Constitution of the Republic of South Sudan
- Policy on Agriculture and Livestock (2011)
- Revitalized Agreement on the Resolution of the Conflict in the Republic of South Sudan
- Policy on Food Security (2012)
- Policy on the Environment and National Environment Bill (2012)
- Policy on Forestry (2013)
- National Disaster Risk Management Policy (2018)
- EAC Forestry Policy and Strategies (2019)
- IGAD Regional Forest Policy and Strategy (2020)
- Second Nationally Determined Contribution / UNFCCC (2021)
- National Action Program / UNCCD
- South Sudan National Women's Strategy

Therefore, the project aligns with South Sudan's commitments under multilateral environmental agreements and the project's components address specific objectives and outputs that support national policies and strategies adopting both a landscape and value chain-based approach. For example, under Component 1, the project aims to strengthen governance mechanisms for integrated land use planning, which aligns with the South Sudan National Environment Policy, South Sudan Vision 2040, and the National Biodiversity Strategy and Action Plan. The project also focuses on removing barriers to accessing knowledge and innovations, which aligns with the National Action Program under the UNCCD and South Sudan's National Women's Strategy. Component 2 aims to raise awareness, build capacity, and create an enabling environment for climate change adaptation. This aligns with the National Adaptation Plan, South Sudan's National Environment Policy, and the Policy on Agriculture and Livestock. The project emphasizes the importance of weather-informed recommendations, market information systems, and gender-sensitive approaches to support climate resilience in the agricultural sectors. Under Component 3, the project promotes nature-based solutions for adaptive land use management and production systems, aligning with the National Environment Policy, South Sudan Vision 2040, and the National Biodiversity Strategy and Action Plan. The project's focus on sustainable forest management, community-based livestock management plans, and climate-resilient crop production aligns with South Sudan's commitment to conserving biodiversity and promoting sustainable natural resource management. It is important to note that project activities targeted at women are included in all Components, but Component 3 has a specific emphasis on opportunities for women, as they frequently play a major role in crop production. A detailed assessment of the current situation of women in the sector and opportunities for more sustainable livelihoods will be undertaken during the PPG phase, as described below.

The project's design inherently avoids any potential contradictions with its intended goals by fostering a multi-stakeholder collaboration involving local communities, government institutions, non-governmental organizations, and private sectors. Such a broad spectrum of engagement aims to create a supportive environment to overcome institutional and governance flaws and promote the adoption of nature-based solutions. The project also emphasizes the importance of partnerships and knowledge sharing to address potential barriers and promote the desired outcomes.

Moreover, the essence of the project is rooted in gender inclusivity. Emphasis is placed on ensuring representation from women, youth, and vulnerable groups throughout the project's lifecycle. The aim is not only representation but also empowerment, ensuring that marginalized groups have a voice in decision-making processes. Gender equality will guide the selection of participants in project activities as well as in project staffing (particularly leadership positions), and specific opportunities and activity sets at both national and fishing community levels to help empower and directly benefit women giving them an equal voice and participation in decision-making (which link to FAO gender objectives 1 and 2) and also benefit other minority or marginalised groups such as unemployed youth.

In this context, it is important to note that FAO is committed to gender equality and women's empowerment and has a specific gender policy and strategy that is integrated across all of its programmes and projects. The project will follow both FAO and GEF gender policies to ensure that the project maximizes participation, inclusion, opportunities, and benefits to women in all project activities, whilst respecting the norms, values, and customs of targeted communities. The FAO Policy on Gender Equality 2020-2030 (FAO, 2020) is set on a foundation of four objectives that seek to promote gender equality for development and natural resource management, and on which the gender-related objectives of the project are focused. These are: women and men have equal voice and decision-making power in rural institutions and organizations to shape relevant legal frameworks, policies and programmes (Objective 1); Women and men have equal rights, access to and control over natural and productive resources, to contribute to and benefit from sustainable agriculture and rural development (Objective 2); Women and men have equal rights and access to services, markets and decent work and equal control over the resulting income and benefits (Objective 3); Women's work burden is reduced by enhancing their access to technologies, practices and infrastructure and by promoting an equitable distribution of responsibilities, including at household level (Objective 4).

During the PPG phase, the project will provide training on gender analysis and equality to project participants, gender awareness and responsiveness to those involved to ensure that gender mainstreaming is maximized in the project design. A project Gender Strategy and Plan will be developed during the project design (PPG) phase, with actions to be taken under each component, specific gender targets and gender-specific indicators built into the project's monitoring and evaluation framework and necessary budgetary provision as appropriate. A gender specialist will also be included in the project management team. Gender data will be collected and analysed in the proposed project during the PPG stage to better understand the gender dimensions of bycatch/discards problems and the impacts and sustainability of alternatives along the value chain and to ensure gender-specific views will be fed into the design and implementation of project components.

In developing gender-responsive project activities and implementation, the project will draw on FAO's long-standing technical capacity in its technical Divisions in assisting FAO Members in the development of gender-responsive programmes and projects and supporting women's empowerment in agriculture sectors. FAO will provide guidance on gender mainstreaming for the project's activities and events, gender-sensitive knowledge product development, and gender-targeted awareness-raising and capacity development activities including supporting improved capacity for collecting and reporting gender statistics and fostering women's economic empowerment throughout the crops and livestock value chains, thus contributing to all project components.

## D. POLICY REQUIREMENTS

### Gender Equality and Women's Empowerment:

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

Yes

### Stakeholder Engagement

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

Yes

### Were the following stakeholders consulted during project identification 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 proposed PIF follows a highly participatory approach, with active involvement from stakeholders in the country. The entire project formulation process, initiated with the project idea in February 2023 and crystallized into the PIF on July 25, has been driven by local stakeholders. Months of engagement efforts were dedicated to achieving clarity on the project's objectives, expected outcomes, and key activities. The focus was to ensure ownership, relevance, and feasibility of the project for all stakeholders involved, including those indirectly affected by its operations.

The project idea was initially put forth by the office of Undersecretary Jaden Emilio in February 2023. Subsequently, discussions with FAO took place from 04 April 2023, and a first concept note was developed on 8 April 2023. This concept note underwent review and approval by various government stakeholders on 15 April 2023 including key officials from different departments related to agriculture, climate change, forestry, and biodiversity: Lutana Musa (Director for Climate Change), Paul Lado Demetry (Acting Director for Wetlands & Biodiversity - CBD Focal Point), James Mindo (Director for

Afforestation), Patrick Taban (Deputy Director for Research and Training), Timothy Thowl (Director General for Forestry), and Alison Banarbas (State Minister for Agriculture).

In close collaboration with the originators of the proposal, the concept note was further elaborated, leading to the first version of the PIF by July 2023.

The PIF received validation from senior directors of the Ministry of Environment and Forestry on July 20 and 21, 2023, including Jaden Emilio (Undersecretary for Ministry), David Batali (Director General and Operational Focal Point for GEF), Lutana Musa (Director for Climate Change), Paul Lado Demetry (Ag/Director for Wetlands & Biodiversity -CBD Focal Point, James Mindo (Director for Afforestation), Patrick Taban (Deputy Director for Research and Training), Timothy Thowl (Director General for Forestry), Alison Banarbas (Minister Agriculture, Western Equatoria).

The project was then presented to a broader segment of stakeholders, and a comprehensive consultative workshop was conducted in Yambio, the state capital of Western Equatoria, on July 22. This workshop gathered valuable input from a wide range of stakeholders, including representatives from the State Ministry of Agriculture, Environment, and Forestry, as well as Animal Resources and Fisheries, NGOs, Community-Based Organizations (CBOs), local communities, and civil society. The workshop facilitated an inclusive dialogue where stakeholders could express their priorities, concerns, and perspectives, fostering a sense of collaboration and ensuring their input was integral to the project formulation process. The comprehensive list of stakeholders who took part in the consultation is available in the Annex.

- A subsequent workshop in Juba on July 25 brought together a diverse group of national stakeholders, providing a platform for participants to contribute insights and recommendations to enhance the project's development and implementation. The comprehensive list of stakeholders consulted is available in the Annex. While consultations were not conducted in all states interested by the project, the Juba workshop served as an inclusive platform that drew insights from a broad range of stakeholders, including youth, women, pastoral communities, and representatives from CSOs, NGOs, and government. The diversity of the attendees ensured that the workshop captured a comprehensive spectrum of needs and aspirations from across all states and stakeholder groups. Importantly, NGOs and CSOs with active programs in other states enriched the discussion, adding layers of nuance and depth to the participatory strategy. Throughout the PPG phase, the participatory approach initiated in the project's design phase will be expanded and refined. To ensure the project's success, a stakeholder analysis and an engagement plan will be developed and implemented at this stage. This deliberate allocation of time and resources aims to ensure continued involvement and input from stakeholders across all states involved in the project, further reinforcing the participatory approach. Key stakeholders in this project include local communities, state administrations, as well as decentralized and central government agencies. The project will also establish active partnerships with NGOs at the local and national level, as well as private sector partners in the project sites. This comprehensive approach will further reinforce the project's participatory strategy and foster sustained involvement and input from stakeholders across all states involved in the project.
- In this context, it is important to note that the knowledge management strategy will be finalized during the PPG. The following are the key elements which will be included as part of the strategy:
    - Identifying key stakeholders involved and impacted by the project, identifying the kinds of knowledge they will be generating/receiving according to each output and outcome. This will be validated at project inception.
    - A timeline with deliverables will be established: this will include key knowledge product milestones.
    - Information sources, methods to capture and disseminate knowledge will be identified. Knowledge management tools such as databases, multi-stakeholder platforms, will be identified.
    - Knowledge Management plan will be established highlighting feedback mechanisms, monitoring plan, assessing effectiveness of knowledge sharing activities, tracking of knowledge management tools.

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

## Private Sector

Will there be private sector engagement in the project?

Yes

And if so, has its role been described and justified in the section B project description?

## Environmental and Social Safeguard (ESS) Risks

We confirm that we have provided indicative information regarding Environmental and Social risks associated with the proposed project or 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 |
|---|---|---|---|
| Low | | | |

## E. OTHER REQUIREMENTS

### Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described in the Project 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 | Grant / Non-Grant | GEF Project Grant($) | Agency Fee($) | Total GEF Financing ($) |
|---|---|---|---|---|---|---|---|---|
| FAO | LDCF | South Sudan | Climate Change | LDCF Country allocation | Grant | 8,932,420.00 | 848,580.00 | 9,781,000.00 |
| **Total GEF Resources ($)** | | | | | | **8,932,420.00** | **848,580.00** | **9,781,000.00** |

### Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

true

PPG Amount ($)

200000

PPG Agency Fee ($)

19000

| GEF Agency | Trust Fund | Country/ Regional/ Global | Focal Area | Programming of Funds | Grant / Non-Grant | PPG($) | Agency Fee($) | Total PPG Funding($) |
|---|---|---|---|---|---|---|---|---|
| FAO | LDCF | South Sudan | Climate Change | LDCF Country allocation | Grant | 200,000.00 | 19,000.00 | 219,000.00 |

| | | | | |
|---|---|---|---|---|
| **Total PPG Amount ($)** | | **200,000.00** | **19,000.00** | **219,000.00** |

Please provide justification

## Sources of Funds for Country Star Allocation

| GEF Agency | Trust Fund | Country/ Regional/ Global | Focal Area | Sources of Funds | Total($) |
|---|---|---|---|---|---|
| **Total GEF Resources** | | | | | **0.00** |

## Indicative Focal Area Elements

| Programming Directions | Trust Fund | GEF Project Financing($) | Co-financing($) |
|---|---|---|---|
| CCA-1-1 | LDCF | 8,932,420.00 | 24132520 |
| **Total Project Cost** | | **8,932,420.00** | **24,132,520.00** |

## Indicative Co-financing

| Sources of Co-financing | Name of Co-financier | Type of Co-financing | Investment Mobilized | Amount($) |
|---|---|---|---|---|
| Donor Agency | African Development Bank | Grant | Investment mobilized | 18750000 |
| Donor Agency | World Bank | Grant | | 5382520 |
| **Total Co-financing** | | | | **24,132,520.00** |

Describe how any "Investment Mobilized" was identified

The mobilization of co-financing for the project involved a process of identifying and analyzing current and anticipated investments in South Sudan that align with the project's goals. These investments encompass both active programs/projects and those slated for action during the project's timeframe.

Contributions from the South Sudanese government were identified by examining the budget allocations for relevant ministries, including the Ministry of Environment and Forestry, Ministry of Agriculture and Food Security, and the Ministry of Livestock and Fisheries. The government's contribution is largely in-kind, comprising infrastructure, vehicles, and personnel.

Additionally, the following government-supported initiatives are set to augment the project significantly:

- Strengthening the Capacity of Government and Communities in South Sudan to Adapt to Climate Change, UNDP
- South Sudan Safety Net, UNOPS Project
- South Sudan Resilient Agricultural Livelihoods Project (RALP), World Bank project (2021)

Provides a grant of USD 62.5 million to support investments in training for farmers to help them efficiently manage their organizations, adopt new technology, and use nature-based adaptation practices to boost their yields. The project will also invest in tools, machinery, and seeds required to improve agricultural productivity.

- Build Resilience for Food and Nutrition Security in the Horn of Africa (BREFONS), African Development Bank project (2021).

The program is designed as a follow-on phase of the Drought Resilience and Sustainable Livelihoods Program (DRSLP) with the objective of improving the living standards of women, youth, and the population in general. BREFONS is one of the priority programs identified under the Horn of Africa Initiative. The Program has four components: (i) strengthening pastoral and agropastoral production systems' resilience to climate change; (ii) supporting the development of agribusiness; (iii) building the capacity of pastoral and agropastoral communities to adapt to climate change; and (iv) program coordination. The total program will benefit approximately 3 million pastoralists and farmers.

For the details of the synergies between CARES and these projects, please refer to the section on Coordination and Cooperation with Ongoing Initiatives and Project.

## ANNEX B: ENDORSEMENTS

### GEF Agency(ies) Certification

| GEF Agency Type | Name | Date | Project Contact Person | Phone | Email |
|---|---|---|---|---|---|
| Project Coordinator | FAO | 9/12/2023 | Sandra Corsi | +393929456066 | sandra.corsi@fao.org |

### Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

| Name | Position | Ministry | Date (MM/DD/YYYY) |
|---|---|---|---|
| David Batali Oliver | Director General - Directorate of Planning and Sustainable Development | Ministry of Environment and Forestry | 7/28/2023 |
| | | | |

## ANNEX C: PROJECT LOCATION

**Please provide geo-referenced information and map where the project interventions will take place**

South Sudan is the world's newest nation having gained its independence in 2011. It is located in Eastern-Central Africa and covers an area of about 640,000 $km^2$. The country has six agro-ecological zones (MAF 2007): the Greenbelt, Ironstone Plateau, Hills and Mountains, Flood Plains, the Nile/Sobat Rivers and the arid and semi-arid zone. The rainfall pattern varies according to the agro-ecological zone. In the Greenbelt, it ranges from 800mm to 2,000mm, while in the Arid Zone it may be as low as 300mm per year. Temperatures range from 25 to 40°C. The growing season is generally between 100 to 200 days depending on the agro-ecological zone. Most parts of the country have two cropping seasons, April-June and July-December (SSLHP/2006).

Administratively, South Sudan is divided into ten states (Figure 2). These states are Central Equatoria, Eastern Equatoria, Jonglei, Unity, Upper Nile, Western Equatoria, Lakes, Northern Bahr El Ghazal, Warrap and Western Bahr El Ghazal.

**Figure 2 - South Sudan's admin 1 level**


South Sudan is one of the most diverse countries in Africa with 64 ethnic groups and a population of estimated 12 million inhabitants. The livelihoods of 85% of the population rely on natural resources, which include rain-fed smallholder agriculture, livestock and animal husbandry, and the harvesting of forest products. Within this context, transhumant pastoral communities in South Sudan traditionally practice semi-transhumance, where only a part of the family moves with their herds in search of pasture and water, while some remain behind to engage in sedentary farming. However, the traditional way of life of these pastoral communities is being threatened by climate change. The changing climatic conditions, such as floods induced by climate change, have disrupted the pattern of movement for these communities, particularly in Jonglei State. In addition to climate change, other factors such as scarcity of resources and insecurity caused by cattle raiders have also contributed to the changing patterns of migration. These changes in migration patterns have led to conflicts with other communities over resources. The scarcity of resources has resulted in violent clashes between pastoralists and farmers, as well as among different pastoralist groups. The lack of a comprehensive land policy and legal frameworks further exacerbate these conflicts and intensify competition for resources.

To address these challenges and remove the root causes of vulnerability, a project has been initiated. The project aims to improve the adaptive capacity of selected areas in Warrap, Western Bahr el Ghazal, Lakes, Jonglei, and the Greenbelt (Western Equatoria, Central Equatoria, Eastern Equatoria). By doing so, the project seeks to mitigate conflicts and enhance the resilience of the targeted landscapes and ecosystems.

The project aims to remove the root causes of vulnerability and improve the adaptive capacity of selected areas in Warrap, Western Bahr el Ghazal, Lakes, Jonglei, and the Greenbelt (Western Equatoria, Central Equatoria, Eastern Equatoria) as described in the section 'Target Landscape/Ecosystem'.

To achieve this goal, several issues need to be addressed.

In Warrap (N 8.088279 E 28.637101), Western Bahr el Ghazal (N 8.545555 E 25.22245), Lakes (N 6.752672 E 30.094843), and Jonglei (N 8 E 32), climate change is the primary issue that needs to be addressed due to rising temperatures, floods, and water scarcity that pose significant risks. The project must also tackle the high risk of climate change impacts, particularly under RCP 8.5 by the end of the century in Warrap, Western Bahr el Ghazal. Lakes has a higher rate of mean temperatures and may be increasingly affected by riverine floods caused by extreme rainfalls in the upper White Nile River. Jonglei reports the highest number of disasters in South Sudan.

In the Greenbelt, droughts, floods, rising temperatures, and changing rainfall patterns are the primary issues. Agricultural productivity and water availability are also impacted by these changes. The project must also address illegal logging for timber and deforestation for wood fuel that exacerbate the impacts of climate change hazards on agro-pastoral production systems and rural livelihoods, eventually contributing to food insecurity, mobility and conflict.

Systemic issues affect both regions, including limited access to finance, basic services, and inadequate infrastructure such as roads and communication networks. The project must also account for the understaffed extension services, which have limited capacities and resources to promote sustainable practices. The limited baseline information on the rates of deforestation, forest degradation, and agricultural encroachment, and the impact of unsustainable practices is crucial information to guide decision-making processes in national, regional, and global environmental policies and plans and respond to climate change threats.

Therefore, the project aims to implement adaptation measures that address both the technical and human dimensions of the problem. These measures will go beyond single technical solutions and involve integrated and coordinated actions to ensure long-term sustainability. To achieve this, it will adopt a regional approach, with a focus on Warrap, Lakes, and Jonglei states, as well as the livestock migrations and transhumance corridors that lead to the Greenbelt. In addition, the project will also target 1000 hectares within the Greenbelt that include forest, grassland, and wetland ecosystems and provide habitats for diverse flora and fauna.

The Greenbelt, which spans across the south-central part of the country and extends to Uganda and Congo, covers three states in South Sudan: Central Equatoria, Eastern Equatoria, and Western Equatoria. Each state has distinct ecological landscapes and resources.

- Central Equatoria (N 5° 0.000000 E 31° 30.000000), located in the central part of South Sudan, is characterized by a mix of savannah grasslands, forests, and cropland on hills and flat land, which are all vulnerable to the impacts of climate change such as droughts and floods. It is inhabited mainly by farmers' communities.
- Eastern Equatoria (N 5.283932 E 33.591233), located in the south-eastern part of the country with its gallery and mimosa forests and the Imatong Mountains, faces the risk of changes in precipitation patterns, which could affect its water catchment areas and the availability of water for its agro-pastoralist and hunter-gatherer communities. Most of the inhabitants are agro-pastoralists, nomads, hunters, and wild foragers (forest gatherers). The state is also home to the Torit State Forest Reserve, which is an important habitat for a variety of wildlife species, including chimpanzees, baboons, and various bird species.
- Western Equatoria (N 5.538121 E 29.149512) is located in the southwestern part of South Sudan. It is known for the Yambio Forest Reserve, the Mundri Forest Reserve, and the Bangangai Forest Reserve. The state is also home to the Lado Enclave, which is a unique ecosystem characterized by wetlands, grasslands, and forests. The Enclave is an important habitat for a variety of wildlife, including elephants, buffalo, and various antelope species. Western Equatoria's diverse forest reserves, wetlands, grasslands, and forests are at risk from the effects of climate change, such as increased frequency and intensity of wildfires and changes in precipitation patterns, which could affect the region's wildlife and local communities.

The Greenbelt is a region that possesses great potential for carbon sequestration, estimated at 1.5 metric tonnes per ha per year. Additionally, it has high agricultural potential, boasting fertile soil and two reliable rainy seasons. However, despite these advantageous conditions, the area is currently facing forest degradation. This degradation is not solely due to external factors such as climate change but is also attributed to local factors such as wildfires, illegal logging, deforestation, and over-grazing. The degradation of natural resources within the Greenbelt has the potential to undermine the region's agricultural productivity and the livelihoods of its inhabitants who rely on traditional agriculture and subsistence livestock husbandry.

In order to address these challenges, the region requires careful management and planning of its natural resources, along with the implementation of improved agricultural practices among the local population. The aim of this project is to ensure that the livelihoods of the 220,000 people who rely on traditional agriculture and subsistence livestock husbandry in the region are sustainable and that their activities do not further degrade the natural resources of the Greenbelt. This can be achieved through the promotion of sustainable management of natural resources and the improvement of agricultural practices in selected areas that will be identified at PPG stage. The states of Warrap, Western Bahr el Ghazal, Lakes, and Jonglei have been identified as key states that require immediate attention due to their unique ecological landscapes and resources, as well as their vulnerability to climate-related impacts. The project aims to adopt a comprehensive approach that integrates environmental conservation, sustainable land use practices, and conflict resolution to address the interconnected causes of vulnerability and promote resilience in the face of climate change.

- Warrap, with its extensive grasslands and savanna ecosystems, is vulnerable to various climate change impacts. Droughts, erosion, land degradation, and occasional flooding pose significant threats to agricultural productivity, food security, and the livelihoods of the local population. These challenges necessitate sustainable land management practices, water resource management, and conflict resolution mechanisms to mitigate the effects of climate change.
- Western Bahr el Ghazal State, known for its grasslands and savanna ecosystems, is confronted with desertification, water stress, conflict, and disease outbreaks. These factors can exacerbate food insecurity, water scarcity, and community instability. Integrating sustainable land use practices, and water management strategies, is crucial for building resilience and addressing the impacts of climate change in this state.
- Lakes is characterized by a large number of lakes and wetlands. The state is predominantly covered by grasslands and savanna, with scattered trees and shrubs, and is known for its large herds of cattle, which depend on the grasslands. However, the grasslands, essential for supporting large herds of cattle, are vulnerable to overgrazing and desertification, compromising the productivity and livelihoods of pastoral communities. Additionally, the lakes and wetlands are at risk of pollution and overfishing, which threaten fish populations and the overall health of these ecosystems. Sustainable land management, water quality protection, and sustainable fishing practices are vital to address climate change impacts in Lakes State.
- Jonglei is situated in the Sudd wetlands, one of the largest wetlands in the world, characterized by a maze of water channels, papyrus swamps, and grasslands. Changes in water flow caused by climate change and upstream water use pose risks to the delicate ecosystems of the Sudd wetlands, leading to habitat loss and changes in wildlife populations. The state also experiences more frequent and severe floods, resulting in infrastructure damage, displacement of communities, crop loss, and food insecurity. The rise in intercommunal conflicts over resources, such as water and grazing land, further compounds the challenges. Climate-resilient infrastructure, habitat conservation, water management strategies, and conflict resolution mechanisms are essential for addressing the climate change impacts in Jonglei State.

## ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

**(PIF level) Attach agency safeguard screen form including rating of risk types and overall risk rating.**

Title

ESS Risk Assessment

Climate Risk Screening

## ANNEX E: RIO MARKERS

| Climate Change Mitigation | Climate Change Adaptation | Biodiversity | Land Degradation |
|---|---|---|---|
| No Contribution 0 | Principal Objective 2 | Significant Objective 1 | Significant Objective 1 |

## ANNEX F: TAXONOMY WORKSHEET

| Level 1 | Level 2 | Level 3 | Level 4 |
|---|---|---|---|
| Influencing models | | | |
| | Transform policy and regulatory environments | | |
| | Strengthen institutional capacity and decision-making | | |
| | Convene multi-stakeholder alliances | | |
| | Demonstrate innovative approaches | | |
| | Deploy innovative financial instruments | | |
| Stakeholders | | | |
| | Indigenous Peoples | | |
| | Private Sector | | |
| | | Capital providers | |
| | | Financial intermediaries and market facilitators | |
| | | Large corporations | |
| | | SMEs | |
| | | Individuals/Entrepreneurs | |
| | | Non-Grant Pilot | |
| | | Project Reflow | |
| | Beneficiaries | | |
| | Local Communities | | |
| | Civil Society | | |
| | | Community Based Organization | |
| | | Non-Governmental Organization | |
| | | Academia | |
| | | Trade Unions and Workers Unions | |
| | Type of Engagement | | |
| | | Information Dissemination | |
| | | Partnership | |
| | | Consultation | |
| | | Participation | |
| | Communications | | |
| | | Awareness Raising | |
| | | Education | |
| | | Public Campaigns | |
| | | Behavior Change | |
| Capacity, Knowledge and Research | | | |
| | Enabling Activities | | |
| | Capacity Development | | |
| | Knowledge Exchange | | |
| | Targeted Research | | |
| | Learning | | |
| | | Theory of Change | |
| | | Adaptive Management | |
| | | Indicators to Measure Change | |
| | Innovation | | |
| | Knowledge Generation | | |
| | | Knowledge Management | |
| | | Innovation | |
| | | Capacity Development | |
| | | Learning | |
| | Stakeholder Engagement Plan | | |
| Gender Equality | | | |
| | Gender Mainstreaming | | |
| | | Beneficiaries | |
| | | Women groups | |
| | | Sex-disaggregated indicators | |
| | | Gender-sensitive indicators | |
| | Gender results areas | | |
| | | Access and control over natural resources | |

| | | | |
|---|---|---|---|
| | | Participation and leadership | |
| | | Access to benefits and services | |
| | | Capacity development | |
| | | Awareness raising | |
| | | Knowledge generation | |
| Focal Areas/Theme | | | |
| | Integrated Programs | | |
| | | Commodity Supply Chains ([1][1]Good Growth Partnership) | |
| | | | Sustainable Commodities Production |
| | | | Deforestation-free Sourcing |
| | | | Financial Screening Tools |
| | | | High Conservation Value Forests |
| | | | High Carbon Stocks Forests |
| | | | Soybean Supply Chain |
| | | | Oil Palm Supply Chain |
| | | | Beef Supply Chain |
| | | | Smallholder Farmers |
| | | | Adaptive Management |
| | | Food Security in Sub-Sahara Africa | |
| | | | Resilience (climate and shocks) |
| | | | Sustainable Production Systems |
| | | | Agroecosystems |
| | | | Land and Soil Health |
| | | | Diversified Farming |
| | | | Integrated Land and Water Management |
| | | | Smallholder Farming |
| | | | Small and Medium Enterprises |
| | | | Crop Genetic Diversity |
| | | | Food Value Chains |
| | | | Gender Dimensions |
| | | | Multi-stakeholder Platforms |
| | | Food Systems, Land Use and Restoration | |
| | | | Sustainable Food Systems |
| | | | Landscape Restoration |
| | | | Sustainable Commodity Production |
| | | | Comprehensive Land Use Planning |
| | | | Integrated Landscapes |
| | | | Food Value Chains |
| | | | Deforestation-free Sourcing |
| | | | Smallholder Farmers |
| | | Sustainable Cities | |
| | | | Integrated urban planning |
| | | | Urban sustainability framework |
| | | | Transport and Mobility |
| | | | Buildings |
| | | | Municipal waste management |
| | | | Green space |
| | | | Urban Biodiversity |
| | | | Urban Food Systems |
| | | | Energy efficiency |
| | | | Municipal Financing |
| | | | Global Platform for Sustainable Cities |
| | | | Urban Resilience |
| | Biodiversity | | |
| | | Protected Areas and Landscapes | |
| | | | Terrestrial Protected Areas |
| | | | Coastal and Marine Protected Areas |
| | | | Productive Landscapes |
| | | | Productive Seascapes |
| | | | Community Based Natural Resource Management |
| | | Mainstreaming | |
| | | | Extractive Industries (oil, gas, mining) |
| | | | Forestry (Including HCVF and REDD+) |
| | | | Tourism |
| | | | Agriculture & agrobiodiversity |
| | | | Fisheries |

| | | | |
|---|---|---|---|
| | | | Infrastructure |
| | | | Certification (National Standards) |
| | | | Certification (International Standards) |
| | | Species | |
| | | | Illegal Wildlife Trade |
| | | | Threatened Species |
| | | | Wildlife for Sustainable Development |
| | | | Crop Wild Relatives |
| | | | Plant Genetic Resources |
| | | | Animal Genetic Resources |
| | | | Livestock Wild Relatives |
| | | | Invasive Alien Species (IAS) |
| | | Biomes | |
| | | | Mangroves |
| | | | Coral Reefs |
| | | | Sea Grasses |
| | | | Wetlands |
| | | | Rivers |
| | | | Lakes |
| | | | Tropical Rain Forests |
| | | | Tropical Dry Forests |
| | | | Temperate Forests |
| | | | Grasslands |
| | | | Paramo |
| | | | Desert |
| | | Financial and Accounting | |
| | | | Payment for Ecosystem Services |
| | | | Natural Capital Assessment and Accounting |
| | | | Conservation Trust Funds |
| | | | Conservation Finance |
| | | Supplementary Protocol to the CBD | |
| | | | Biosafety |
| | | | Access to Genetic Resources Benefit Sharing |
| | Forests | | |
| | | Forest and Landscape Restoration | |
| | | | REDD/REDD+ |
| | | Forest | |
| | | | Amazon |
| | | | Congo |
| | | | Drylands |
| | Land Degradation | | |
| | | Sustainable Land Management | |
| | | | Restoration and Rehabilitation of Degraded Lands |
| | | | Ecosystem Approach |
| | | | Integrated and Cross-sectoral approach |
| | | | Community-Based NRM |
| | | | Sustainable Livelihoods |
| | | | Income Generating Activities |
| | | | Sustainable Agriculture |
| | | | Sustainable Pasture Management |
| | | | Sustainable Forest/Woodland Management |
| | | | Improved Soil and Water Management Techniques |
| | | | Sustainable Fire Management |
| | | | Drought Mitigation/Early Warning |
| | | Land Degradation Neutrality | |
| | | | Land Productivity |
| | | | Land Cover and Land cover change |
| | | | Carbon stocks above or below ground |
| | | Food Security | |
| | International Waters | | |
| | | Ship | |
| | | Coastal | |
| | | Freshwater | |
| | | | Aquifer |
| | | | River Basin |
| | | | Lake Basin |
| | | Learning | |

| | | | |
|---|---|---|---|
| | | Fisheries | |
| | | Persistent toxic substances | |
| | | SIDS : Small Island Dev States | |
| | | Targeted Research | |
| | | Pollution | |
| | | | Persistent toxic substances |
| | | | Plastics |
| | | | Nutrient pollution from all sectors except wastewater |
| | | | Nutrient pollution from Wastewater |
| | | Transboundary Diagnostic Analysis and Strategic Action Plan preparation | |
| | | Strategic Action Plan Implementation | |
| | | Areas Beyond National Jurisdiction | |
| | | Large Marine Ecosystems | |
| | | Private Sector | |
| | | Aquaculture | |
| | | Marine Protected Area | |
| | | Biomes | |
| | | | Mangrove |
| | | | Coral Reefs |
| | | | Seagrasses |
| | | | Polar Ecosystems |
| | | | Constructed Wetlands |
| | Chemicals and Waste | | |
| | | Mercury | |
| | | Artisanal and Scale Gold Mining | |
| | | Coal Fired Power Plants | |
| | | Coal Fired Industrial Boilers | |
| | | Cement | |
| | | Non-Ferrous Metals Production | |
| | | Ozone | |
| | | Persistent Organic Pollutants | |
| | | Unintentional Persistent Organic Pollutants | |
| | | Sound Management of chemicals and Waste | |
| | | Waste Management | |
| | | | Hazardous Waste Management |
| | | | Industrial Waste |
| | | | e-Waste |
| | | Emissions | |
| | | Disposal | |
| | | New Persistent Organic Pollutants | |
| | | Polychlorinated Biphenyls | |
| | | Plastics | |
| | | Eco-Efficiency | |
| | | Pesticides | |
| | | DDT - Vector Management | |
| | | DDT - Other | |
| | | Industrial Emissions | |
| | | Open Burning | |
| | | Best Available Technology / Best Environmental Practices | |
| | | Green Chemistry | |
| | Climate Change | | |
| | | Climate Change Adaptation | |
| | | | Climate Finance |
| | | | Least Developed Countries |
| | | | Small Island Developing States |
| | | | Disaster Risk Management |
| | | | Sea-level rise |
| | | | Climate Resilience |
| | | | Climate information |
| | | | Ecosystem-based Adaptation |
| | | | Adaptation Tech Transfer |
| | | | National Adaptation Programme of Action |
| | | | National Adaptation Plan |
| | | | Mainstreaming Adaptation |
| | | | Private Sector |
| | | | Innovation |
| | | | Complementarity |
| | | | Community-based Adaptation |
| | | | Livelihoods |
| | | Climate Change Mitigation | |
| | | | Agriculture, Forestry, and other Land Use |
| | | | Energy Efficiency |

| | | | |
|---|---|---|---|
| | | | Sustainable Urban Systems and Transport |
| | | | Technology Transfer |
| | | | Renewable Energy |
| | | | Financing |
| | | | Enabling Activities |
| | | Technology Transfer | |
| | | | Poznan Strategic Programme on Technology Transfer |
| | | | Climate Technology Centre & Network (CTCN) |
| | | | Endogenous technology |
| | | | Technology Needs Assessment |
| | | | Adaptation Tech Transfer |
| | | United Nations Framework on Climate Change | |
| | | | Nationally Determined Contribution |