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## FOREST ECOSYSTEM ENHANCEMENT TO REDUCE GHG EMISSION AND IMPROVE COMMUNITY RESILIENCE IN SOUTH SUDAN

March 2023

SDGs:



Country:

South Sudan

Project Code:

TCP/SSD/3802

FAO Contribution:

USD 500 000

Duration:

1 December 2020-30 November 2022

Contact Info:

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### Implementing Partner

Ministry of Environment and Forestry.

### Beneficiaries

Farmers, rural communities, rural livelihoods, agropastoral communities, forestry and agriculture extension workers.

### Country Programming Framework (CPF) Outputs

CPF Priority 1: Sustainable increase in production and productivity.

South Sudan Development Plan 2011-2013.

United Nations Framework Convention on Climate Change (UNFCCC) Intended Nationally Determined Contribution (INDC) and Reducing Emissions from Deforestation and forest Degradation (REDD+).



### BACKGROUND

The effective management of natural resources, and forest ecosystems and resources specifically, is considered crucial for the Government of South Sudan. It can help to safeguard rural livelihoods and foster sustainable development. If current rates of annual forest loss are sustained, this could lead to complete forest loss within 50 years.

Many factors, such as weak governance structures, poor institutional capacity and livelihoods needs from the growing population and displaced communities, are of deep concern. The Government is committed to forest governance, and in line with international climate change treaties, a new forest policy and legislative framework is being implemented to incorporate initiatives for sustainable forest management into the country's economic growth strategy.



As such, this project aimed to improve community resilience and ensure healthier ecosystems by providing assistance for the formulation of a Green Climate Fund (GCF) project on forest ecosystem enhancement to reduce greenhouse gas emissions and improve community resilience, with the aim to plant 100 million trees. The current project established a tree nursery and facilitated studies needed to provide baseline information on the state of forest resources, the impact of climate change on forests and the role of the private sector in the forest sector, all in support of the formulation of the full GCF project.

### IMPACT

Overall, the project contributed to efforts to reduce land degradation and promote land restoration and on-farm tree planting activities at the household level, by applying a multidimensional approach. These activities are in line with South Sudan's efforts to support forest policy implementation through Reducing Emissions from Deforestation and Forest Degradation (REDD+), and contribute to reducing deforestation rates, increasing forest gazetted areas and improving the resilience of agropastoral communities' livelihoods through afforestation and agroforestry.

### ACHIEVEMENT OF RESULTS

The project conducted a baseline survey and identified potential sites for tree nurseries. Based on the survey results, a central tree nursery was established in Aru Junction, as well as a storage facility and office space, that were constructed to facilitate the work of the project team. Four demonstration sites were established at Aru Boma.

The project implemented a participatory approach, whereby stakeholders were contacted for land donation to establish the tree nursery and obtain information from communities on the type of seedlings to be raised in the nursery. The tree nursery continues to provide planting materials to the communities in the surrounding areas. The project further identified issues and opportunities for agroforestry activities and tree nurseries in multiple sites, and a training of trainers (ToT) on agroforestry and tree nursery establishment and management was provided for ten trainers from the county agriculture departments in Juba, Magwi and Torit.

The GCF draft concept note was prepared and reviewed several times. However, the cost of the development of the GCF concept note were higher than expected and required additional funds to support its finalization, which at the time of reporting, had still not been completed. The adaptation component of the GCF project will also need to be further strengthened in order to fit the criteria of GCF, and the submission of the concept note is foreseen in March 2023.

## IMPLEMENTATION OF WORK PLAN AND BUDGET

Overall, the project delivered some of the key outputs within the planned budget, but issues and delays were encountered. Many activities could not be achieved due to COVID-19 restrictions and other challenges that arose during implementation. The project steering committee organized regular meetings to evaluate the project progress and make recommendations, and they assisted in drafting the concept note.

The target to produce 100 million tree seedlings could not be achieved because of issues related to the destruction of seedbeds and seedlings by cattle keepers. While a baseline survey was conducted and the site for the tree nursery was identified, a number of studies and assessments could not be carried out as planned because of COVID-19, which prevented the hiring of new consultants. Furthermore, project staff were unable to travel to different sites because of COVID-19 travel restrictions. As a result, some of these activities were postponed. However, the project managed to hire a long-term consultant and a consultancy firm, which carried out the desk reviews and surveys necessary for the preparation of the GCF concept note.

## FOLLOW-UP FOR GOVERNMENT ATTENTION

Activities in the forestry sector require longer-term investments, requiring a minimum of five years to obtain visible results. Therefore, there is a need to develop similar projects in the future and seek additional resources to such efforts. The project also aimed to be fully mainstreamed into government structures and policies, contributing to ongoing programmes and creating leverage with new initiatives. As such, it is recommended that the provisions in the forest policy and legislative framework be further strengthened and implemented.



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The Government should consider the deployment of forestry extension officers at the payam level in order to strengthen forestry extension services if the forestry policy is to meet its objectives. More specifically, continued support is required for the central tree nursery establishment at Aru Junction, including the provision of tree nursery inputs and fencing of the sites to prevent livestock from entering the nursery. Capacity building, mentoring and follow up at state and county levels are also recommended for stakeholders engaged in the management of forest resources. Further studies are recommended on the issues to be addressed for forest management within the context of climate change. Finally, additional funding will be needed in order to finalize the development of the GCF concept note.

## SUSTAINABILITY

### 1. Capacity development

The project established a solid foundation for future projects of a similar nature. A strong partnership with the Ministry of Environment and Forestry was established and is active at the local level. The project ensured that ministerial, technical and non-technical staff at the national level were trained on tree nursery operations and management, and the Ministry of Agriculture will continue to provide technical and managerial oversight for the central nursery. Implementing partners who had direct contact with beneficiaries continue to use the centre for learning activities and to acquire planting materials. Two World Bank-funded projects, Emergency Locust Response Program Phase 3 (UTF/SSD/019/SSD) and South Sudan Resilient Agricultural Livelihoods Project (UTF/SSD/020/SSD), will support the tree nursery established at Aru Junction and develop it further as a centre of excellence.



## 2. Gender equality

Gender equality was considered throughout the project, and the role of women in forest restoration and forest-based livelihoods was recognized during project formulation. As women account for the largest source of labour at the central nursery, especially for potting and watering activities, they were actively involved in the trainings conducted. Four of the ten trainers that participated in the ToT were women, and a detailed gender analysis of the GCF project was conducted and incorporated into the concept note.

## 3. Environmental sustainability

At the community level, the project provided planting materials for afforestation and agroforestry activities and therefore contributed to efforts for the mitigation of climate change. The trained extension officers in turn trained other beneficiaries on agroforestry and tree planting practices, hence contributing towards environmental sustainability. The project also procured only biodegradable potting materials for the nursery, avoiding the use of other non-biodegradable materials and in this way, contributing to the overall protection of the environment.

## 4. Human Rights-based Approach (HRBA) – in particular Right to Food and Decent Work

Project activities were implemented with full consideration of the HRBA. Project beneficiaries involved in activities were provided with safety kits, including gloves, gumboots and overalls.

## 5. Technological sustainability

The ToT conducted provided practical knowledge on the use of the agroforestry and tree nursery equipment. The basic tools and methods used by project beneficiaries included hoes and pangas (machete hand tools), which were already commonly used by local communities and are readily available on the market.



## 6. Economic sustainability

At the national level, FAO is working with government counterparts to ensure the availability funds to support long-term climate change mitigation and adaptation activities in South Sudan. The tree nursery established is expected to generate revenue from the seedlings to support operations at the nursery and provides additional livelihood opportunities for those engaged in fruit tree planting.



## DOCUMENTS AND OUTREACH PRODUCTS

❏ 23 November 2020. *Baseline report*. 23 pp.



## ACHIEVEMENT OF RESULTS - LOGICAL FRAMEWORK

Expected Impact	Enhance carbon stocks to mitigate climate change and improve community resilience and ensure healthier ecosystems in selected agro-ecological zones of South Sudan		
Outcome	Improved technical and institutional capacity for the delivery of GCF funding		
	Indicator	Full GCF investment strategy prepared.	
	Baseline	0	
	End Target	Project investment document developed.	
	Comments and follow-up action to be taken	A draft GCF concept note was prepared and underwent several reviews. However, it still needs to be strengthened in terms of the climate rationale and the adaptation component of the project before it can be considered as meeting the GCF criteria for submission. The concept note is expected to be submitted in March 2023 after the identified gaps have been cleared. In order to finalize the development of the concept note, additional funding may be needed.	
Output 1	A model tree nursery producing important and improved varieties of fruit trees and agroforestry tree species established		
	Indicators	Target	Achieved
	A model tree nursery producing important and improved varieties of fruit trees and agroforestry tree species established.	Tree nurseries producing seedlings in support of the 100 million tree planting project.	Partially
Baseline	0		
Comments	One model tree nursery was established but did not produce 100 million tree seedlings because the seedbeds and seedlings were destroyed by cattle keepers before they could be transplanted and distributed to farmers. Nevertheless, a functional tree nursery was established at Aru Junction, which continues to provide planting materials to communities in the surrounding and beyond. The tree nursery will be supported through the two World Bank-funded projects mentioned above to ensure that it is further developed and can continue providing planting materials.		
Activity 1.1	Collection of forestry baseline information from Central Equatoria State		
	Achieved	Yes	
	Comments	One baseline survey was conducted and tree species, such as teak, pines, mvule, mango, papaya, guava, lemon, avocado and jackfruit, were found to be the most common trees and shrubs planted by agroforestry farmers. Potential sites for the tree nursery were also identified and documented. Constraints and opportunities on tree nursery and agroforestry activities were identified and profiled during the baseline survey.	
Activity 1.2	Establishment of one tree nursery and ten agroforestry demonstration Central Equatoria State targeting Juba county		
	Achieved	Partially	
	Comments	The project planned to reach at least 5 000 farming households with assorted planting materials, fruit trees and multipurpose agroforestry tree species. However, due to security issues in Aru Junction along the Juba–Nimule highway, the target could not be achieved. The project was able to establish only four demonstration sites at Aru Boma because of security issues that resulted in the displacement of farmers. Continuous support is required for the central tree nursery establishment at Aru Junction, including tree nursery inputs and fencing of the sites using chain link fencing to prevent livestock from entering the nursery.	
Activity 1.3	Training of TOTs using FFS approaches		
	Achieved	Yes	
	Comments	One ToT was conducted for 10 trainers (4 females and 6 males drawn from the county agriculture departments in Juba, Magwi and Torit 16-22 May 2021. The participants received training on agroforestry and tree nursery establishment and management. In order to keep the trained personnel active, future projects should continue to provide refresher courses to these ToTs.	

Activity 1.4	Extension and training of 5 000 farmers in agroforestry		
	Achieved	Partially	
	Comments	Ten (four female, six male) extension workers benefited from ToTs and gained skills on the use of the Farmer Field School approach during the seven-day training. Although the project planned to raise 500 000 seedlings of different tree species, only 30 000 were produced and some were destroyed by livestock, while others died due to the displacement of the local population in the area caused by armed cattle keepers. The different seedlings produced at the nursery were avocado, jackfruit, jackfruit ( <i>Artocarpus heterophyllus</i> ), guava ( <i>Psidium guajava</i> ), lemon ( <i>Citrus limon</i> ), mangoes, moringa ( <i>Moringa oleifera</i> ), oranges ( <i>Citrus sinensis</i> ), papaya and Terminalia brownie ( <i>Terminalia</i> ). Continuous capacity building, mentoring and follow up for the responsible government authorities is recommended at the at the state and county levels.	
Output 2	Key climate change issues impacting on forest resources in the intervention areas documented and compiled		
	Indicators	Target	Achieved
	One draft assessment report on climate change impacts on forest resources in South Sudan prepared.	Draft document presented to support the formulation of funding proposal.	Partially
Baseline	0		
Comments	Although the initial project plan was to hire a part-time consultant to compile data on the impacts of climate change on forest resources, a full-time consultant was hired to carry out this tasks, as well as to develop the GCF concept note. A consultancy firm was also hired to do the desk review and provide additional information and supplements based on what was compiled by the national consultant. The project timeline and funding were limited and therefore did not allow for a detailed study on the entire forest value chain		
Activity 2.1	Desk research, analysis and preparation of background document on climate change and forestry in South Sudan		
	Achieved	Partially	
	Comments	Desk research, analysis and preparation of the background document on climate change and forestry in South Sudan was documented by the national consultant. Due to a lack of data on the forestry sector in South Sudan, other gaps, such as a lack of information on how the project will reduce greenhouse emissions or on how the proposed activities will contribute to addressing the impacts of climate change, continue to impede the provision of information on climate change and forestry.	
Activity 2.2	Identification of issues to be addressed in the forest management in the context of climate change		
	Achieved	Partially	
	Comments	The identification of issues, such as weak policy, constraining forest management in the context of climate change was completed. However, a lack of information on forest inventory projections and how climate change has affected the forestry sector continue to be a challenge in the development of the GCF proposal. The limited timeframe of the project, COVID-19 restrictions and limited budget did not allow for a detailed identification of key issues to be carried out through a consultative process. The project team instead relied on a review of existing literature, which in most cases were outdated and did not provide adequate, useful information. A detailed study is required, which would combine the desk review and consultative process.	
Activity 2.3	Documentation and finalization of a final report on the key climate change issues impacting forest resources in South Sudan		
	Achieved	Partially	
	Comments	A validation meeting was held with stakeholders to review the draft GCF concept note and validate the narratives from the desk reviews. The stakeholders recommended the addition of more information on the climate change rationale of the proposal.	



Output 3	A national State of Forest Report prepared		
	Indicators	Target	Achieved
	One draft report detailing the national state of forest.	Draft document presented to support formulation of funding proposal.	Partially
Baseline	0		
Comments	The limited timeframe and funding, as well as COVID-19 restruictions, prevented the preparation of the detailed documentation needed for the State of Forest Report for South Sudan. A readiness proposal is recommended in case other sources of funding cannot be secured to continue these activities.		
Activity 3.1	Elaborate impartial, accurate and scientifically credible background information.		
	Achieved	Partially	
	Comments	A desk review of the national State of Forests was conducted with limited participation of stakeholders outside Juba due to restrictions on movement during the COVID-19 pandemic. A forest inventory has historically never been carried out for South Sudan. There is a need for this detailed forest inventory in order to provide credible information on the forest sector in the country.	
Activity 3.2	Development of a national State of Forest Report		
	Achieved	Partially	
	Comments	The TCP envisaged the preparation of the national State of Forest Report to be presented to the technical committee and group of experts at state and national levels for review and approval within the fourth quarter of the first year. However, due to COVID-19 and issues onboarding a full-time consultant, the approach changed from having a detailed study to carrying out a desk review. Only key drivers and barriers to sustainable forest management were documented and shared with the steering committee, comprising five senior staff from the Directorate of Forestry and Environment in the Ministry of Environment and Forestry.	
Output 4	Role of the private sector involved in the forest sector mapped		
	Indicators	Target	Achieved
	A draft report mapping the roles of the private sector in sustainable forest management prepared.	One report detailing the role of the private sector in sustainable forest management.	Partially
Baseline	0		
Comments	A draft report mapping the roles of the private sector in sustainable forest management was prepared, which facilitated the preparation of the drat GCF concept note. However, the concept note is still under review and at the time of reporting, was expected to be finalized by the end of March 2023. However, it is recommended that a more detailed study be developed to capture information from a broader spectrum of communities.		
Activity 4.1	Identification of actors in the private sector		
	Achieved	Partially	
	Comments	The identification of actors in the private sector in the forest domain was limited to a desk review carried out by the national consultant to facilitate the process of drafting the GCF concept note.	
Activity 4.2	Listing ongoing private sector		
	Achieved	Partially	
	Comments	As mentioned for Activity 4.1, this was also limited to a desk review carried out by the national consultant.	
Activity 4.3	Identification of strategies to enhance private sector engagement in tree planting		
	Achieved	No	
	Comments	Direct consultation with stakeholders was not possible, preventing the national consultant from collecting views from different stakeholders (e.g. non-governmental organizations, government institutions, etc.) on how the participation of the private sector in forest management could be enhanced. The forest policy, which has provisions for the participation of the private sector in forest management, needs to be enhanced, and awareness on the role of the different actors along the different value chain of forests should be raised.	

Output 5	Environmental and Social Impact Assessment prepared		
	Indicators	Target	Achieved
	A draft Environmental and Social Impact Assessment (ESIA) Report prepared.	One ESIA report drafted.	Partially
Baseline	0		
Comments	An environmental and social screening checklist specific to the project was completed. A detailed ESIA tool was developed for the implementation of two abovementioned World Bank projects that will be adopted and used for screening of the final GCF project document. Stakeholder engagement on various aspects of the tool need to be conducted once the GCF concept note is approved and the project is in the full proposal development phase.		
Activity 5.1	Train extension staff in farmer field and business school's methodology in application of CA and IPM through PEA		
	Achieved	No	
	Comments	An environmental and social screening checklist specific to the project was created. The identification and collection of biophysical characteristics of project locations was completed through a literature review. These locations were Maban, Magwi, Renk, Wau, Yambio, Yei and Yirol West. Similar information was collected during the formulation of two World Bank-funded projects and will be used for the analysis of environmental and social issues associated with the potential GCF project.	
Activity 5.2	Analysis of legal and institutional framework		
	Achieved	No	
	Comments	The legal and institutional framework analysis will be done during the GCF full proposal development stage.	
Activity 5.3	Analysis of possible environmental and social impacts		
	Achieved	No	
	Comments	An environmental and social screening checklist specific to the project was developed, and an analysis of possible environmental and social impacts was completed using the tool developed for the two World Bank projects being implemented by FAO. The adoption of a common a tool that incorporates FAO's and other donors' environmental and social screening checklists needs to be promoted in the absence of national guidance.	
Activity 5.4	Capacity assessment for the implementation of proposed environmental impact mitigation measures		
	Achieved	No	
	Comments	Capacity to implement the proposed mitigation measures and suggest recommendations needs to be further developed. A separate funding mechanism needs to be developed as the government tries to plan and mobilize their own resources.	
Activity 5.5	Identification of Tree planting Mechanism towards climate change mitigation		
	Achieved	Partially	
	Comments	Profiling of the ways in which trees could contribute to reducing greenhouse gas emissions and improving the resilience of communities was carried out during the baseline survey, and tree species were identified and recommended by communities. The restoration of forest landscapes and support for smallholder farmers and communities to adopt agroforestry practices is anticipated to contribute greatly towards the reduction of greenhouse gas emissions. However, this will require awareness creation on tree planting, and funding opportunities need to be explored in order to facilitate the production of planting materials.	
Activity 5.6	Development of an Environmental and Social Management Plan		
	Achieved	No	
	Comments	An Environmental and Social Management Plan will be developed for the project once the GCF full project proposal is completed.	
Activity 5.7	Development and finalization of an Environmental and Social Impact Assessment final report		
	Achieved	No	
	Comments	The Environmental and Social Impact Assessment will be developed and finalized once the GCF full proiect development is completed.	



Output 6	Economic/financial analysis prepared		
	Indicators	Target	Achieved
	Draft economic/financial analysis report prepared.	Economic/financial analysis report available for funding proposal development.	No
Baseline	0		
Comments	The concept note development was the initial stage of this process, and the economic/financial analysis will be undertaken during the preparation of the full GCF project after the approval of the concept note.		
Activity 6.1	Organization and delivery of a stakeholder’s validation workshop on financial aspects of the proposed GCF project		
	Achieved	No	
	Comments	The validation workshop was not conducted because the concept note was still undergoing review to meet FAO’s internal criteria for the submission of GCF proposals.	
Activity 6.2	Design and development of funding instruments of the proposed GCF project		
	Achieved	No	
	Comments	The concept note is still awaiting final clearance and at the time of reporting, consultations were ongoing to ensure the finalization of the proposal.	
Activity 6.3	Cost benefit analysis and development of investment models for the proposed GCF project		
	Achieved	No	
	Comments	The concept note was still awaiting approval for technical soundness at the time of reporting.	
Activity 6.4	Development of funding model for the proposed GCF project		
	Achieved	No	
	Comments	The concept note is still awaiting approval for technical clearance.	
Activity 6.5	Development of a final economic and financial analysis report		
	Achieved	No	
	Comments	The concept note is still awaiting approval for technical clearance.	
Output 7	Gender analysis prepared		
	Indicators	Target	Achieved
	Draft gender analysis report prepared.	One gender status report drafted.	Partially
Baseline	0		
Comments	A detailed gender analysis, not only limited to the GCF portfolio, needs to be undertaken, because the role of women in forest restoration and forest-based livelihoods is crucial. A detailed gender analysis of the proposed GCF project was conducted but needs to be validated by the GCF quality assurance unit.		
Activity 7.1	Analysis and status link between gender and project objective		
	Achieved	Partially	
	Comments	A detailed gender analysis of the proposed GCF project was conducted but needs to be validated because the analysis was carried out during the COVID-19 pandemic and public health measures did not allow for public gatherings or consultations.	
Activity 7.2	Identification of potential project impacts against existing gender status		
	Achieved	Partially	
	Comments	The identification was carried out during the surge of COVID-19, thus a limited number of stakeholders were consulted. However, detailed information on the impact of the project will be provided during the full GCF project formulation process.	
Activity 7.3	Development of a plan of action for gender mainstreaming		
	Achieved	Partially	
	Comments	Stakeholder engagement will be carried out throughout the GCF project lifecycle, and will include access to a grievance redress mechanism implemented through the FAO Accountability for Affected Populations (AAP) Framework to ensure gender issues are accounted for.	
Activity 7.4	Estimation of cost estimate for gender mainstreaming		
	Achieved	No	
	Comments	The GCF project is still under development and costing will be done during the full project proposal development. The technical review and clearance process for the project document to meet internal clearance guidelines impeded this activity.	
Activity 7.5	Preparation of gender analysis final report		
	Achieved	Partially	
	Comments	This process is ongoing and will be finalised during the full GCF proposal development phase.	

Output 8	Funding proposal prepared and submitted		
	Indicators	Target	Achieved
	Funding proposal prepared.	One Funding proposal available.	Partially
Baseline	0		
Comments	A draft proposal was developed and will be finalised once key issues raised by FAO's technical units are addressed. These issues were not raised during the concept note development because of an international consultant could not be recruited.		
Activity 8.1	Inclusion of relevant findings and studies in the proposed GCF project document		
	Achieved	Partially	
	Comments	The process is ongoing.	
Activity 8.2	Examination of the GCF project proposal		
	Achieved	Partially	
	Comments	The process is ongoing.	
Activity 8.3	Editing and finalization of the proposed GCF project's funding component		
	Achieved	Partially	
	Comments	The process is ongoing.	
Activity 8.4	Organization of a validation workshop for the Internal Task force team on the funding proposal		
	Achieved	Partially	
	Comments	The process is ongoing with a number of consultations with stakeholders.	
Activity 8.5	Submission of the funding proposal		
	Achieved	No	
	Comments	Incorporation of comments from technical reviewers is ongoing. Additional technical support is needed to finalise the process.	



**Partnerships and Outreach**

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