Funding Proposal

FP137: Ghana Shea Landscape Emission Reductions Project

Ghana | United Nations Development Programme (UNDP) | Decision B.26/02

21 August 2020

GREEN CLIMATE FUND

Funding Proposal

Project/Programme title:	*Ghana Shea Landscape Emission Reductions Project.*
Country(ies):	*Ghana*
Accredited Entity:	*United Nations Development Programme*
Date of first submission:	*2018/06/23*
Date of current submission	*2020/05/04*
Version number	*[V.6]*

GREEN CLIMATE FUND

Contents

Note to Accredited Entities on the use of the funding proposal template

- Accredited Entities should provide summary information in the proposal with cross-reference to annexes such as feasibility studies, gender action plan, term sheet, etc.
- Accredited Entities should ensure that annexes provided are consistent with the details provided in the funding proposal. Updates to the funding proposal and/or annexes must be reflected in all relevant documents.
- The total number of pages for the funding proposal (excluding annexes) **should not exceed 60**. Proposals exceeding the prescribed length will not be assessed within the usual service standard time.
- The recommended font is Arial, size 11.
- Under the GCF Information Disclosure Policy, project and programme funding proposals will be disclosed on the GCF website, simultaneous with the submission to the Board, subject to the redaction of any information that may not be disclosed pursuant to the IDP. Accredited Entities are asked to fill out information on disclosure in section G.4.

Please submit the completed proposal to:

fundingproposal@gcfund.org

Please use the following name convention for the file name:

"FP-[Accredited Entity Short Name]-[Country/Region]-[YYYY/MM/DD]"

A. PROJECT/PROGRAMME SUMMARY

A.1. Project or programme	Project	**A.2. Public or private sector**	Public
A.3. Request for Proposals (RFP)	*If the funding proposal is being submitted in response to a specific GCF Request for Proposals, indicate which RFP it is targeted for. Please note that there is a separate template for the Simplified Approval Process and REDD+.* Not applicable		
A.4. Result area(s)	*Check the applicable GCF result area(s) that the overall proposed project/programme targets. For each checked result area(s), indicate the estimated percentage of GCF budget devoted to it. The total of the percentages when summed should be 100%.* Mitigation: Reduced emissions from: ☐ Energy access and power generation: Enter number% ☐ Low-emission transport: Enter number% ☐ Buildings, cities, industries and appliances: Enter number% ☒ Forestry and land use: 65% Adaptation: Increased resilience of: ☐ Most vulnerable people, communities and regions: Enter number% ☐ Health and well-being, and food and water security: Enter number% ☐ Infrastructure and built environment: Enter number% ☒ Ecosystem and ecosystem services: 35%		
A.5. Expected mitigation impact	6.139 million tCO2e in emission reductions and removals over the first seven years of the project's lifetime and 25.24 million tCO2e over 20 years.	**A.6. Expected adaptation impact**	100,200 direct beneficiaries and indirectly benefits 540,200 indirect beneficiaries *15% of population in the Northern Savannah Zone*
A.7. Total financing (GCF + co-finance)	54,546,775 USD	**A.9. Project size**	Medium (Upto USD 250 million)
A.8. Total GCF funding requested	30,100,000 USD		
A.10. Financial instrument(s) requested for the GCF funding	*Mark all that apply and provide total amounts. The sum of all total amounts should be consistent with A.8.* ☒ Grant 30,100,00 ☐ Equity Enter number ☐ Loan Enter number ☐ Results-based payment Enter number ☐ Guarantee Enter number		
A.11. Implementation period	*7 years*	**A.12. Total lifespan**	*20 years*
A.13. Date of AE internal approval	*21 June 2018*	**A.14. ESS category**	*Refer to the AE's safeguard policy and GCF ESS Standards to assess your FP category.* B
A.15. Has this FP been submitted as a CN before?	Yes ☒ No ☐	**A.16. Has Readiness or PPF support been used to prepare this FP?**	Yes ☐ No ☒
A.17. Is this FP included in the entity work programme?	Yes ☒ No ☐	**A.18. Is this FP included in the country programme?**	Yes ☒ No ☐ A Country Programme (CP) is not yet available. Ghana is in the process of preparing their GCF CP, targeting conclusion in Q2/2020.

A.19. Complementarity and coherence	*Does the project/programme complement other climate finance funding (e.g. GEF, AF, CIF, etc.)? If yes, please elaborate in section B.1.* Yes ☒ No ☐
A.20. Executing Entity information	Forestry Commission of Ghana (Climate Change Directorate). The FC is responsible for the regulation of utilization of forest and wildlife resources, including fire management and control, the conservation and management of those resources and the coordination of policies related to them[1]. The FC's sector ministry is the Ministry of Lands and Natural Resources (MLNR). The FC is constituted of three main divisions; Forest Services Division (FSD), Wildlife Division (WD) and the Timber Industry Development Division (TIDD). Other specialist units under the FC are the Training Centre and Resource Management Support Centre (with an office in Tamale in the NSZ). The FC has decentralized offices at the regional and district level. The project will be hosted by the Climate Change Directorate[2] within the FC, which was established in 2007 with a mandate to manage forestry-sector initiatives related to climate change adaptation and mitigation, including REDD+.
A.21. Executive summary (max. 750 words, approximately 1.5 pages)	

[1] http://www.fcghana.org/

[2] The Unit was first created in 2007 and was duly upgraded to a 'Directorate' on April 4, 2018.

Climate Change Problem

1. The Northern Savannah Zone (NSZ) is a fragile ecosystem sensitive to the effects of climate change. It is also a region undergoing rapid deforestation and forest degradation including the loss of valuable shea trees. According to Ghana's forest reference level report, the NSZ has lost 77% of its forest cover between 2001 and 2015[3], causing the removal not only of environmental services but also economic products (e.g. shea kernels and charcoal) that have acted as both a cornerstone of the economy and as a critical safety net for the poor.

2. The drivers of this change include conversion to agriculture (at just under 40,000 ha per annum), in particular a transition from traditional bush fallow agricultural systems to more expansive machine ploughed and continuous cropping agricultural practices; logging; wood fuel harvesting and charcoal production; and mid to late dry season fires. These have resulted in extensive forest degradation, much of it severe. 100,000 ha per annum[4] have fallen below 15% crown cover and have been reclassified as grassland areas. The loss of forest cover results in a more abundant growth of grasses, which, in turn, result in more intense fires in the dry season, frequently causing further degradation and deforestation and preventing regeneration of forest areas already impacted by other drivers. It is estimated that, 1,058,492 hectares have been deforested resulting in emissions of 3,568,400 tCO2e per year from the NSZ[5].

3. Growing deforestation and removal of trees renders in turn agricultural landscapes increasingly prone to desertification and land degradation which are exacerbated by the effects of climate change. Desertification, climate variability and food security are closely linked through drought, land cover changes, and climate and biological feedbacks. Women and men farmers interviewed in the Upper West Region perceived that rainfall had been decreasing, temperatures increasing, and bush fires, droughts and floods more prevalent[6.]

Proposed interventions

4. Urgent measures need to be taken now to restore the landscape and shea trees which will in parallel improve social and environmental resilience and provide real economic benefits for inhabitants. This project seeks to enhance forest carbon stocks across the landscape by 1) restoring 200,000 hectares of off-reserve savannah forests/woodlands and place them under self-financing community management in Community Resource Management Areas (CREMA); 2) restoring 100,000 hectares of degraded shea parklands; 3) creating 25,500 hectares of modified taungya system/forest plantation in severely degraded forest reserves, and; 4) implementing an integrated monitoring system and completing the national REDD+ architecture for safeguards, forest monitoring and reporting systems. See Table 1 below for a summary of interventions and impacts.

Table 1 – Summary of Proposed Interventions and Impacts

Output	Drivers and Vulnerabilities Addressed	Direct Impacts
Output 1 off reserve, degraded, savannah forests restored under community management in CREMA and, Output 3 Modified Taungya System plantations and fire management in forest reserves	• Unsustainable harvesting of wood fuels and timber; • Fires which contribute to lower adaptive capacity; • Conversion to agriculture and grassland; • Limited alternatives available to prevent unsustainable use of forest resources by communities.	• 200,000 ha of deforested grasslands restored to forests and managed for sustainable wood fuel in CREMAs; • 220,000 ha of deforested grasslands and degraded forest protected from fire; • Fire management strengthening adaptive capacity of trees and forests; • 18,500 ha of modified taungya system (MTS) plantations created on deforested lands; • CREMA funds in place • Diversified forest management related income for MTS communities; • Restoration of ecosystem services improve adaptive capacity of communities and the resilience of trees and forests.

Output 2: Degraded shea parklands restored through public private partnerships	• Decreased length and frequency of fallows; • Unsustainable harvesting of wood fuels and timber; • Low economic incentives for shea tree protection; • Reduced economic benefits due to the inefficiencies in the shea butter value chain.	• 1.75 million shea trees planted with fruiting starting from year 7 and greatly increasing from year 15; • 400,000 (non-shea) planted and integrated into the landscape; • Improved fallows increase soil fertility, soil rejuvenation capacity and moisture retention; • Rate of loss of agroforestry systems which provide multiple benefits is decreased; • 30%-50% increase income for 20,000 women collectors as they are organized into cooperatives and manage warehouses from Year 2 of the project; • Increased shea production, supported by better business infrastructure leads to increased incomes and increased resilience to negative climate shocks.
Output 4: Integrated monitoring system implemented and REDD+ systems strengthened	• Incomplete compliance with the Warsaw Framework requirement; • No Environmental and Social Analysis done for the NSZ thus no Environmental and Social Management Framework.	• Eligibility for cooperative agreements and results based payments from emission reductions in the land use and forest sector; • Improved forest management systems in place (project outputs, safeguards information system developed and fully functional and forest monitoring system operational).

Climate impacts/benefits

5. These actions will deliver 6.139 million tCO2e in emission reductions and removals over the first seven years of the project's lifetime and 25.24 million tCO2e over 20 years.

6. Restoration of trees, decreased deforestation and fire management to reduce the serious effects of late-dry season fires, covering almost 500,000 hectares, will indirectly contribute to the retention of soil moisture, the reduction of evapotranspiration and maintenance of soil fertility. These interrelated social and environmental interventions are key to enhance the adaptability of vulnerable ecological and social systems by enhancing the capacity of susceptible groups to sustainably utilize land resources, enable value addition in the utilisation of forest resources and contribute to building an economy that is capable of withstanding shocks without putting Ghana's development agenda in jeopardy (as noted in the National Adaptation Strategy for Climate Change[7]).

7. The project will directly strengthen the livelihoods and climate resilience of 100,200 people (78,850 women and 21,350 men). Regarding Output 1, the scope of the CREMAs, originally created as a community-based wildlife management platform, will be expanded by the project to include support to community-based resources/forest management activities in the long term. In Output 2, the emphasis is on shea restoration in the parklands and strengthening the value chain for women by improving the efficiency of shea collection, processing and storage; accessing buyers more directly and effectively is a key component. In Output 3, Taungya farmers will benefit from access to land for agriculture and a share of benefits from timber sales.

8. The project has a gender responsive approach and clearly targets women, who are the key levers for Output 2 with respect to leveraging their income from shea. Shea represents between 12%-32% of household income and by-products such as soap and wood fuel provide important additional sources of income. The expected income streams created throughout the project (through facilitating aggregation and wood-related cost savings) for 20,000 women collectors is significant.

[3] This figure does not take into consideration the reforestation/regeneration that has taken place in the last 15 years
[4] Ghana FRL. See note 24
[5] Base data used to calculate the FRL and these figures are in Annex II.
[6] Kusakari, Yasuko & Asubonteng, Kwabena & Jasaw, Godfred & Dayour, Frederick & Dzivenu, Togbiga & Lolig, Victor & Donkoh, Samuel & Obeng, F.K. & Gandaa, Bizoola & Kranjac-Berisavljevic, Gordana. (2014). Farmer-Perceived Effects of Climate Change on Livelihoods in Wa West District, Upper West Region of Ghana. Journal of Disaster Research. 9. 516-528.
[7] Ghana National Climate Change Adaptation Strategy, 2011

In addition, women empowerment for the project beneficiaries will be promoted through a number of processes including engagement in policy discussions with respect to access to tree tenure and the roles of men and women in the various activities and with respect to benefit sharing.

9. The proposal catalyses transformative change across this landscape, attracting significant private sector investment, through the focus on the shea value chain and shea restoration. It is the first time that the shea parklands are considered in a climate change cross cutting initiative, at scale. Shea trees have a lifetime of hundreds of years and bear abundant crops during much of their lifetime. 400,000 other high value trees within CREMA and agroforestry systems will also be planted and nurtured providing a wide range of ecosystem services, timber and non-timber products. Protection of core forest areas within the CREMA and refreshed management of forest reserves coalesce to create conditions for emission reductions from the NSZ.

10. In order to realise this climate change mitigation potential, credible monitoring and reporting capacities are required as well as the implementation of safeguards to ensure no harm to people or the environment. GCF financing contributes to Ghana's national approach to REDD+ implementing one of the programmes in its REDD+ Strategy and enabling the attainment of Ghana's global mitigation role through its nationally determined contribution.

11. The grant will can de-risk and leverage additional and continuing public and private sector finance **at two levels:**

12. **At the national level**: GCF financing is enabling key elements of the Warsaw Framework requirements to be fulfilled with respect to safeguard, monitoring and reporting requirements. The overall framework to receive financing for emission reductions from the agriculture, forest and land use sector is thus bolstered.

    A number of related and complementary processes are being planned or are on-going which will allow Ghana to participate and benefit from these schemes: Ghana is assessing the eligibility to receive results based payments from the NSZ and other programmes by tapping into opportunities presented by the operationalization of cooperative and voluntary approaches and the mechanism established through Article 6 of the Paris Agreement; a REDD+ investment plan is currently being developed; a REDD+ registry is being set up and the country is exploring the opportunity to create a long term financing facility which incorporates public and private finance (including the proceeds from the emission reductions purchase agreement signed with the World Bank's Carbon Fund) to develop a sustainability platform which leverages and enables re-investment in the forests and landscapes sector.

13. **At the community level in the NSZ:** Regarding Output 1, revenues from community management of forests in the CREMA, will begin with sustainable harvesting, use and sale of fuelwood and charcoal from year 2, and expanding to a range of other timber and non-timber forest products. The project will support the establishment of a CREMA fund, with accountable, gender responsive and transparent governance systems, to enable the long-term financial sustainability of the CREMA.

14. Regarding Output 2, restoration of shea ensures a future supply of shea kernels for a growing industry and valuable quantities of kernels. A significant source of co-benefits also derives from the non-shea trees planted in the agroforestry parklands, where a range of social goods and environmental services can be realized. Women's cooperatives will be trained in shea kernel aggregation and direct marketing with support from NGOs and the private sector through performance based payment contracts to undertake the spectrum of activities across the shea value chain. The long-term relationship between buyers and communities, will encourage the continued investment into livelihoods and the environment, as well as the supply of quality shea.

15. Regarding Output 3, to restore degraded forest reserves, Taungya farmers can benefit from crop production till the trees they have planted reach the stage where the canopy starts to grow and from

harvesting steres of fuelwood. Further benefits are realised when timber is ready to be sold. In this way, Taungya farmers are integrated into the forestry reserve management for many future years.

16. GCF funds and project co-financing will not be used to create, manage or capitalize CREMA funds, rather, the technical services/assistance would be provided to enable the community funds/shea cooperatives to reach a level of financial management and governance that would allow them to manage the funds and engage in the implementation of prioritized community projects and/or access financial instruments. For the shea cooperatives, these could be in the form of long-term agreements with shea companies who buy in exchange for products, translating communities' productive capacity in terms of shea trees/other trees or basic infrastructure into a value asset. In addition, a future concessional finance project could also be discussed over the life-time of the project.

17. Through this intervention and a sister initiative in the Cocoa Forest Mosaic Landscape, where implementation has begun, Ghana is poised to make a transformational change in its efforts to reduce carbon emissions and build resilience in vulnerable agriculture landscapes and their inhabitants. It is also expected that, considering the increasing demand for shea in the region, the experiential knowledge on economic, social (especially for women) and environmental benefits obtained through this project will be scaled up across wider landscapes.

B.1. Climate context (max. 1000 words, approximately 2 pages)

18. The forest ecosystems of Ghana's Northern Savannah Zone (NSZ), an area of 9.7 million hectares with a population of over 5 million people[8], is characterized by nearly 400 million shea and other trees growing naturally on traditional farming systems. The trees are integrated with crops on smallholder farms, creating an agroforestry landscape resilient to climate change. These lands are facing a great threat with total forest cover having declined by over 77% between 2001-2015, with the conversion of 1,058,492 million hectares (ha) of woodlands to grasslands, croplands and degraded forests[9]. This has resulted in Greenhouse Gas (GhG) emissions of an estimated 3.568 $mtCO_2e$ per annum[10]. The main drivers of this deforestation and forest degradation are mid to late dry season fires, conversion to agriculture, cutting for timber and wood fuels. The transition to continuous cropping systems removes an important source of firewood which was harvested from fallows, resulting in additional pressure on forest areas outside of the agricultural system.

19. The loss and degradation of woodlands and forests including valuable trees like shea and other species pose significant environmental, social and economic risks in the NSZ. Shea landscapes are important sources of carbon storage and sequestration above-ground and in soils and roots[11]. Shea is an ancient crop, consumed as an edible oil. Other uses include its use as an anti-microbial agent for promotion of rapid healing of wounds, as a pan-releasing agent in bread baking and as a lubricant for donkey carts. It is adaptable to a broad range of environmental conditions, is more fire resistant than other trees, and is the most significant tree species of these agroforestry parklands. It has been retained as a semi-domesticated tree species, providing essential products and ecological services to this drier region. Shea and forest areas are beneficial for mitigation, but also improve adaptive capacities by making ecosystems more resilient and providing buffering ecosystem services through tree retention (e.g. water and soil retention, prevention of desertification)[12]. Anyone living in the region has benefited from the shea tree and its products.

20. Shea provides a major source of economic livelihood to women in the region. They collect shea fruits and process them into kernels for sale, increasing the household income and promoting women's involvement in the international marketplace and their empowerment. Unlike most agricultural cash crops, women traditionally have retained control of shea-related revenues, usually spending it on education, health insurance, and other social services. According to a study in Northern Ghana, 90% of women view shea as the major source of their livelihoods . The increased incomes makes households more resilient to negative shocks. The added benefit of this income is that the collection time coincides with what is commonly known as the "lean" season of the year before agricultural crops are harvested, providing critical economic support for the population[13].

21. The NSZ had the highest poverty rate among the ecological zones and the only one that experienced poverty increases in 2016/17 as compared to all the other ecozones. These regions also recorded higher and widening inequalities with households headed by farmers amongst the poorest. The country's lowest average annual per capita expenditure by household is in the Upper

[8] Figure taken from SADA (now called the Northern Development Authority), 2015. The Ghana Population and Housing Census for 2010 shows a population of 4.2 million in the NSZ, with a growth rate of 2.1%.

[9] This figure is based on the Forest Reference Level (FRL) and on further unpublished work undertaken after submission of Ghana's FRL to the UNFCCC. It relates specifically to the Northern, Upper East and Upper West Regions in Ghana, which comprise the **Northern Savannah Zone**. It is important to note that this figure does not take into consideration the reforestation/regeneration that has taken place in the 15 years and therefore does not register removals. The annual average (weighted) forest loss (deforestation only) from the 3 Regions is 75,907 ha with a corresponding average annual (weighted) emissions of 3,568,400 tCO2. The current version of the FRL is found here

[10] As noted, this figure only takes into account deforestation and not degradation.

[11] A. Takimoto et al. / Agriculture, Ecosystems and Environment 125 (2008) 159–166 – in Figure 1 demonstrates quantities of shea parklands and the ability to sequester relatively large amounts of carbon. Similar findings found by a recent FAO study commission by GSA.

[12] Hammond J., van Wijk M., Pagella T., Carpena P., Skirrow T., Dauncey V. (2019) Shea Butter: A Pro-Poor, Pro-Female Route to Increased Income. In: Rosenstock T., Nowak A., Girvetz E. (eds) The Climate-Smart Agriculture Papers. Springer, Cham

[13] LMC 2018, Socio-economic impacts of shea exports, study commissioned by USAID and GSA. Page 13

West Region [14]. These regions are also the most exposed to the effects of environmental degradation amplifying the effects of climate change. Incidences of drought, soil erosion and floods are the highest in the country[15].

22. An earlier study showed that West Africa has experienced a significant increase in temperature between 0.5 ◦C and 0.9 ◦C from 1990 to 2010[16]. A later study revealed that excessive droughts in Northern Ghana have contributed to unseasonable high temperatures, soil infertility, and poor soil water retention capacity[17].The average annual temperature is expected to increase by 1.4 to 5.8 ◦C by 2080, with the highest increase in Northern Ghana[18].

23. Against this background, the NSZ must be a target for social, environmental and economic programmes and interventions but most development programmes have been targeted to other parts of the country. Woodland and land management in the NSZ has only recently begun to receive attention and investment when Ghana adopted a nested approach for REDD+ strategy implementation in a phased manner. The initial focus was on the High Forest Zone (HFZ) but the country is scaling up to cover the other distinct major ecological zones of the country, notably, the NSZ. Discussions with the communities in the NSZ, who are faced with having to adapt to climate change have underlined the importance of community management areas. They are very keen to begin to manage CREMA in a manner that will allow their adaptive capacity to increase.

24. The Government of Ghana (GoG), with funding from the Adaptation Fund is implemented a project entitled "Increased resilience to climate change in northern Ghana through the management of water resources and diversification of livelihoods" [19]. The project addresses climate change-induced variability and unpredictability of water resources, along with the associated negative impacts of these trends on the livelihoods of rural communities. Access to safe drinking water through 50 newly constructed boreholes has been secured, with another 50 under construction. A borehole can provide safe drinking for 300 people. 10 small dams have been rehabilitated. The project is financing 46 NGOs to execute livelihood diversification activities in 50 communities; including dry season gardening, bee keeping, agri-processing (shea, baobab fruits, groundnut, soya) supported by the implementation of an irrigation system. The project tackles barriers to effective climate change adaptation by developing diverse capacities, by documenting and disseminating best practices and by creating knowledge hubs at the community and regional levels, with a focus on climate change adaptation. This project is an important complement to the GSLERP with its focus on building capacity, structure and governance in the district environment committees and the sub-basin committees to manage water resources. Strong acknowledgment of the achievements of the project is expected through the Forest Services Division that also participated in the project implementation to ensure that the efforts to manage water in the NSZ can be extended to restoration efforts and ensure land and water management is integrated through access to dams and boreholes. GSLERP will adopt a coherent approach that is consistent with the achievements of the adaptation project. For example, the restoration of forest along waterbodies within the buffer zones created will augment the GSLERP effort and enable a synergistic approach as the restoration impact in improving water availability for various uses will be realized sooner.

25. Despite the all-round importance of the tree for people and to the landscape, shea trees and other trees have radically diminished in the NSZ, to pave the way for mechanized agriculture, road

[14] The Greater Accra region has the highest annual per capita expenditure of GH¢ 4,875 which translates into an average expenditure of about GH¢13 per day per person. The Ashanti region follows with an annual per capita expenditure of GH¢ 3,318 and then Western region with an annual per capita expenditure of GH¢3,119. (Ghana Living Standard Survey, 2014).

[15] Government of Ghana (2015), Ghana's Third National Communication Report to UNFCCC and World Bank Hidden Dimension Datasets

[16] Sissoko, K.; Van Keulen, H.; Verhagen, J.; Tekken, V.; Battaglini, A. (2011) Agriculture, livelihoods and climate change in the West African Sahel. Reg. Environ. Chang. 11, 119–125

[17] Biesbroek, G.R.; Klostermann, J.E.; Termeer, C.J.; Kabat, P. (2013) On the nature of barriers to climate change adaptation. Reg. Environ. Chang. 1–11.

[18] USAID Climate change risk in Ghana: country fact sheet

[19] Implemented by the Ministry of Environment, Science and Technology and Innovation, UNDP and the Water Resource Commission. The project will be closed by the time GSLERP commences, however it is clear that GSLERP will build on the complementary results of this project.

construction and industrial activities. Intense late dry season fires injure, or even kill, shea. Secondary reasons for cutting the trees include for wood fuels. Shea trees in the wild need more than 15 years to grow before they mature and start producing fruits but research has shown that this can be reduced to about 7-10 years . Thus, urgent measures need to be taken now to do extensive farm trials to restore the landscape which will in parallel, improve social and environmental resilience. This project seeks to address this issue within the wider challenge of enhancing forest carbon stocks across the landscape, through woodland restoration, shea parkland restoration and community agroforestry. It is the first time that shea parklands and their wider landscapes are considered in a climate change cross cutting initiative, at scale. The interventions to set up viable and financially sustainable community forest management, forest reserve management and shea production can then be replicated and scaled in similar landscapes in Ghana and throughout the region.

B.2. Theory of change (max. 1000 words, approximately 2 pages plus diagram)

Project objective, outcomes and impacts

26. The forest and woody resources of the NSZ are found in a) off-reserve savannah forests on community lands (Output 1); b) in forest reserves managed by the State (Output 3); and c) in the household managed shea agroforestry parklands which are also found on community lands (Output 2). All three land categories have suffered severe deforestation and degradation.

27. **If** the technical, governance, institutional and finance barriers to increase the value of trees and the shea value chain, non-timber forest products and ecosystem services in the landscapes in the NSZ are removed, **then** deforestation and forest degradation will be reduced and adaptive capacity increased **because** communities will be able to maintain socially beneficial and financially viable management of lands and natural resources over the long term. The carbon emission reductions that occur as a result of these actions can be captured by strengthened REDD+ systems and implementation of Integrated monitoring system (Output 4).

28. The project advances a **paradigm shift** away from short-term, stop-gap measures to more integrated, multi-stakeholder coordination of investments to address the barriers that currently prevent the restoration and sustainable management for forests and land and achievement of reductions in emissions and strengthened adaptive capacity. These barriers are;

Barrier 1: Ineffective management of forest in reserves and on community land:

29. NSZ have quasi open access controlled by traditional authorities, generally for a very modest fee or none. Most forest products are harvested in the absence of any forest management system. In an attempt to respond to community demands, better manage community forest lands and provide incentives towards sustainable use and poverty alleviation, Ghana's Forestry Commission which is mandated with the management of forest resources in Ghana, in 2004, began to develop the CREMA approach which involved legal devolution of management authority to groups of communities. A CREMA (Community Resource Management Area) is a geographically defined area that includes one or more communities that have agreed to manage their resources in a sustainable manner. It is a collaborative and inclusive natural resource governance and management framework adopted to phase out exclusive conservation practices to recognize and foster local community participation and responsibility in the conservation of natural resources in Ghana. NGOs (ARocha), civil society organizations, and development partners (USAID) have come in to support the development of CREMAs in the NSZ and some have been set up to focus on reaping the benefits of wildlife management through for example ecotourism.

30. Although the CREMA model would appear to be an excellent base for the development of sustainable savannah forest management systems, none of the CREMA have fully a developed

sustainable forest management system for the production of wood products – timber and wood fuels – and non-timber forest products for local or urban markets. Inadequate public funds are available for their development and there has been slow growth of the CREMA especially in the NSZ. CREMAs have struggled to identify strong viable streams of finance that are sufficient to both support the operational costs of the CREMA and incentivize communities and Chiefs to fully commit to the CREMA system as they were rooted activities stemming only from wildlife management. Capacity has been low to implement activities around resource management and benefit sharing. There is a Wildlife Bill currently in Parliament which intends to provide the full legal mandate to CREMA's under national legislation for full devolution of management of community resources. Until now they have not been integrated into the decentralized local government system and district development planning processes for greater recognition and support.

31. Support is therefore required to scale up and either set up or strengthen CREMA to actually operationalize this, as income from wildlife management is inadequate to sustain the CREMA in the long term and available as an option, to all potential CREMA. To enable a fully developed management system, training and sharing knowledge with communities on land use planning, resource management, financial management, governance arrangements and benefit sharing to set up and implement community forest management and investment plans is required. Benefit sharing schemes that address these challenges should be agreed on and implemented to sustain community interest in taking up the responsibility of natural resource management. This includes tree tenure benefits in particular to allow farmers who nurture naturally occurring trees on their farms to derive benefits

Barrier 2: Inadequate and limited management of national forest reserves in NSZ:

32. Outside of CREMA, few of the forest reserves in the NSZ have management plans, and these are largely not implemented. With low timber densities, poor infrastructure and high risks of fire, the majority of reserves have attracted limited investment. Communities source illegally harvest timber, charcoal and other non-timber forest products. Hunting using mid to late dry season fires is very popular but it is destructive in the long term. Transhumant herders use the reserves as pasture for their livestock. The impacts of all these activities have been significant with a recent assessment pointing to an average canopy cover across four reserves of just 20%.[20] The modified taungya system has been set up by the Forestry Commission to address this problem which involve the communities in the landscape, however barriers to setting up the system are the finance to organize communities, train and equip for fire management and allow benefits to actually accrue so that forests can be restored whilst addressing the drivers of deforestation.

Barrier 3: Source of sustainable wood supply for charcoal production:

33. The GoG has developed a Nationally Appropriate Mitigation Action (NAMA) for the creation of a sustainable charcoal value chain based on wood fuel plantations and more efficient kilns, but no funding has been identified. Close to 70% of Ghanaian households rely on wood fuel (with 32% and 41% of households respectively using charcoal and wood fuels as their primary energy source[21]). Demand is expected to grow with population growth (at 2.5% per annum) in the absence of accessible and affordable clean technologies. Firewood is collected locally from bush fallow farming systems and from 'un-managed' forest areas with low or no costs or required technology making it easy for new entrants to harvest forest resources and enter into the production chain as demand rises. Small payments made to the local chief for rights to harvest fuelwood for charcoal from community lands are not accompanied by active management to ensure the sustainability of biomass supply within forest areas such as by selective harvesting to strengthen regrowth.

[20] RMSC and IUCN (2016) Validating criteria for savanna condition score assessment in Ghana
[21] GSS (2014) Ghana Living Standards Survey 6 Main Report

34. Low costs for supply also provide few incentives for substitution of other products for wood fuels. As fallow land decreases, the reach of wood fuel collection expands to new areas of forest. Current charcoal production techniques utilize earth kilns which are estimated to have only a 20% efficiency rate of conversion from wood to charcoal on a weight basis. Increasing the efficiency of kilns from 20% to 30% would reduce the amount of wood that needs to be cut by half. Another impediment is the cost required to transport wood which prevents stationary and more efficient kilns to be set up.[22] In order to enable sustainable woodfuel production, barriers with regards to technical know-how and systems in place to harvest sustainably from community forest areas and forest reserves through the modified taungya system need to be put in place.

Barrier 4: Threatened flow of benefits from the shea parklands:

35. The shea value chain is totally dependent on the conservation of the shea parklands and the replacement and restoration of parklands that have been lost or degraded. Traditionally, shea fruits are harvested from naturally growing trees. Shea trees have a lifetime of hundreds of years and may bear abundant crops during much of their lifetime but they have a long "gestation" periods between planting and fruiting. In addition, more decades may pass between the time of the first fruiting (at 10-15 years) and the heavy fruiting of the mature trees. The barriers to planting these trees are; availability of improved seedlings that significantly reduce the gestation period; lack of transfer of the techniques for shea restoration; and the incentive to consecrate labour and resources to ensure the tree reaches maturity. Early trials of plantings have been successful and show fruiting from seven years; the next step is to enable up a scaled up planting of seedlings which fruit earlier (through grafting and other propagation techniques, provide technical support and fill the information gap on the potential economic returns from planting.

Barrier 5: Lack of confidence in security of supply prevents investment:

36. Ghana's shea is known on global markets for its good quality, but it represents 17% of the sub-region's trade. Despite increased efficiencies in collection over the past 20 years, in tandem with rising demand, the shea tree stock base has experienced a steady decrease over this period. Interventions to share awareness and abate the causes of declining tree stocks, has not been conducive to substantial investments by the private sector. To create the conditions for expansion of domestic processing capacity and private sector entry, security of supply needs to be ensured by restoring shea trees on the landscape on a large scale.

37. Ghana shea consumed in export markets is mostly industrially processed (90%), through the following stages:
    i. Collection, processing, and storage of shea kernels
    ii. Kernel aggregation, quality control, transport, and storage
    iii. Crushing, which extracts the fat from the kernels
    iv. Fractionation, which separates the oleic and stearic acids from the whole butter
    v. Refining and blending with other oil and fats to create a shea-based ingredient
    vi. Formulation with other ingredients to obtain final food or cosmetic products
    vii. Marketing and retail activities to food and cosmetic consumers around the world

    Although 100% of stages i and ii happen in-country, only 50% of stage iii (crushing), and approximately 5% from stage iv-vii take place in Ghana. as noted above. If quality supply of shea is assured, this would inspire necessary confidence for expanded private sector investment in industrial processing in Ghana, which would in turn incentivize long-term commitment by the public sector and famers to maintaining healthy parklands with maximized carbon sequestration.

Barrier 6: Inefficient value-chain for shea

[22] Further information on charcoal production is provided in Annex XIIIg.

38. More than 600,000 women collect shea fruit each year and process them into shea kernels in Ghana. The majority of them lack market power and have to sell the kernels to middle-men collectors who aggregate and sell to industrial scale processors. Constraints faced by women who collect and process shea into kernels include:

    i. Limited information on market prices. Their positioning constrains understanding of the various components of the shea value chain and opportunities for increased value-added. Often, women are forced to accept whatever price the collectors offer due to their need for immediate cash and the lack of access to credit;23
    ii. Most women operate at the individual or small-scale level and are not organized into groups that can aggregate and store processed shea kernels for more efficient marketing;
    iii. Lack of training for building the capacity of women's groups for business management, warehouse management and direct marketing; and
    iv. Lack of knowledge of and access to improved technologies for more fuel- and water-efficient processing technologies and for enhanced quality control.

39. Linked to the shea value chain, the importance of ensuring a gender responsive approach such that the shea value chain is not usurped from women's control as the value chain becomes more profitable is required. A barrier to restoring shea trees on the landscape will be the potential issue that arise as men, who control the land and tree tenure of the shea parklands and women, who collect, process and market shea, may prove to be an impediment to the large scale restoration of shea, and sale of shea kernels by women's cooperatives.

40. A clear focus on women and setting up women's cooperatives is required. The project will address this barrier through activities to address these issues (stakeholder consultation, benefit sharing, and through the gender assessment and action plan) to enable address potential conflicts, enhance participation, decision making and the elevation of standing of women in the community, to make decisions related to improved shea tree and yield management, participation in the modified taungya system and community forest management.

Barrier 7. Vulnerabilities associated with limited opportunities for off-farm and non-farm economic activities:

41. A dependency on food crop farming with very little opportunity for non-farm activities increases the effects of climate change. The share of household income derived from non-farm activities remains significantly lower than the rest of the country and is the lowest in the most food-insecure region (Upper East). For seven to eight months in the year, the majority of the agricultural population in northern Ghana have no alternative or complementary means of securing their livelihoods, as infrastructure to support off-season agricultural activities are underdeveloped or non-existent. Opportunities for supplementing food and income from the rain-fed subsistent farming activities during the long dry season are limited. Building the shea value chain and benefits from community management of forests so that these can be sustainable forms of income in the long term are required. Though CREMA and some women cooperatives are in place, these need to be strengthened so that they are sustainable in the long term. This will require processes to set up collective decision making, ensure accountability and regulate activities through a set of enforceable rules and benefit sharing which allow revenues from shea and forest products to be managed and investments ploughed back to perpetuate the approach.

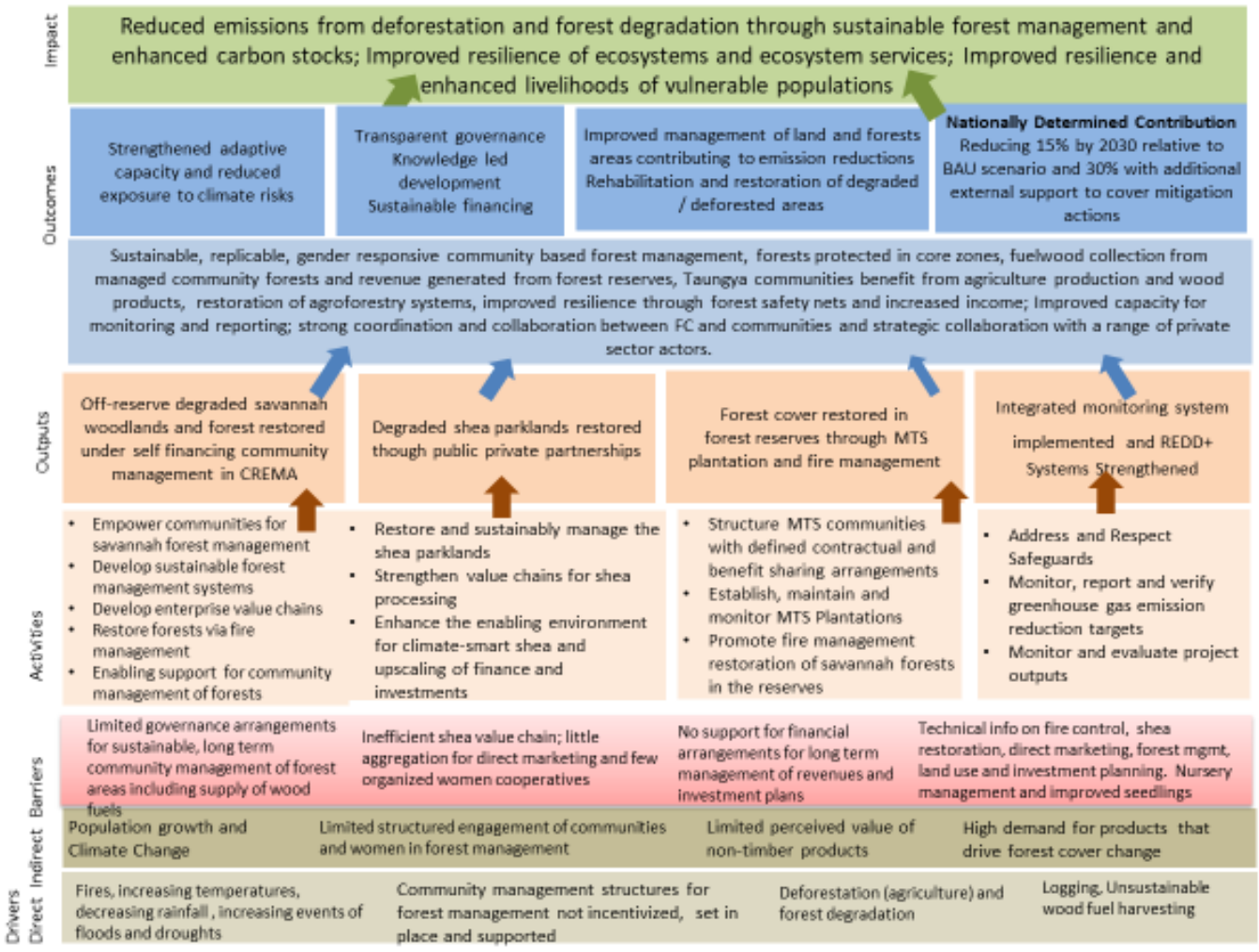
Barrier 8: Incomplete data from NSZ for reporting on respecting of safeguards, land use change monitoring and reporting.

[23] Banye, Eric (2014). "Improving Rural Livelihoods Through Shea Butter Business, a Case of Women in Markets in Northern Ghana". Available at: http://www.snv.org/public/cms/sites/default/files/explore/download/150520_annual_report_2014_-_appendices_-_ag_ghana1.pdf. SNV

42. Ghana is an early mover on REDD+ and adopts a national approach. Financing has been available to develop programmes in other parts of the country, however accurate data on monitoring land use change from the NSZ is incomplete. Similarly, the national forest reference level needs to be improved with data from NSZ, and the national safeguards approach lacks inputs from the NSZ, Methods and protocols have been developed with readiness funds from the Forest Carbon Facility as well as within the context of the Ghana Cocoa Forest REDD+ Programme (GCFRP) however these will need to be extended to the regional institutions in the NSZ in terms of capacity building and resources to generate data and inputs from the NSZ and enable integration into the National Climate Data Hub within the Environmental Protection Agency (EPA) to facilitate effective reporting to the UNFCCC.

43. The following **theory of change** diagram demonstrates how these **barriers are removed** through the project interventions. If community and forest reserves are managed sustainably and shea is restored in the landscape, a host of economic, environmental and social benefits will accrue over the long term to the population in the Northern Savannah Zone.

Figure 1: Theory of Change



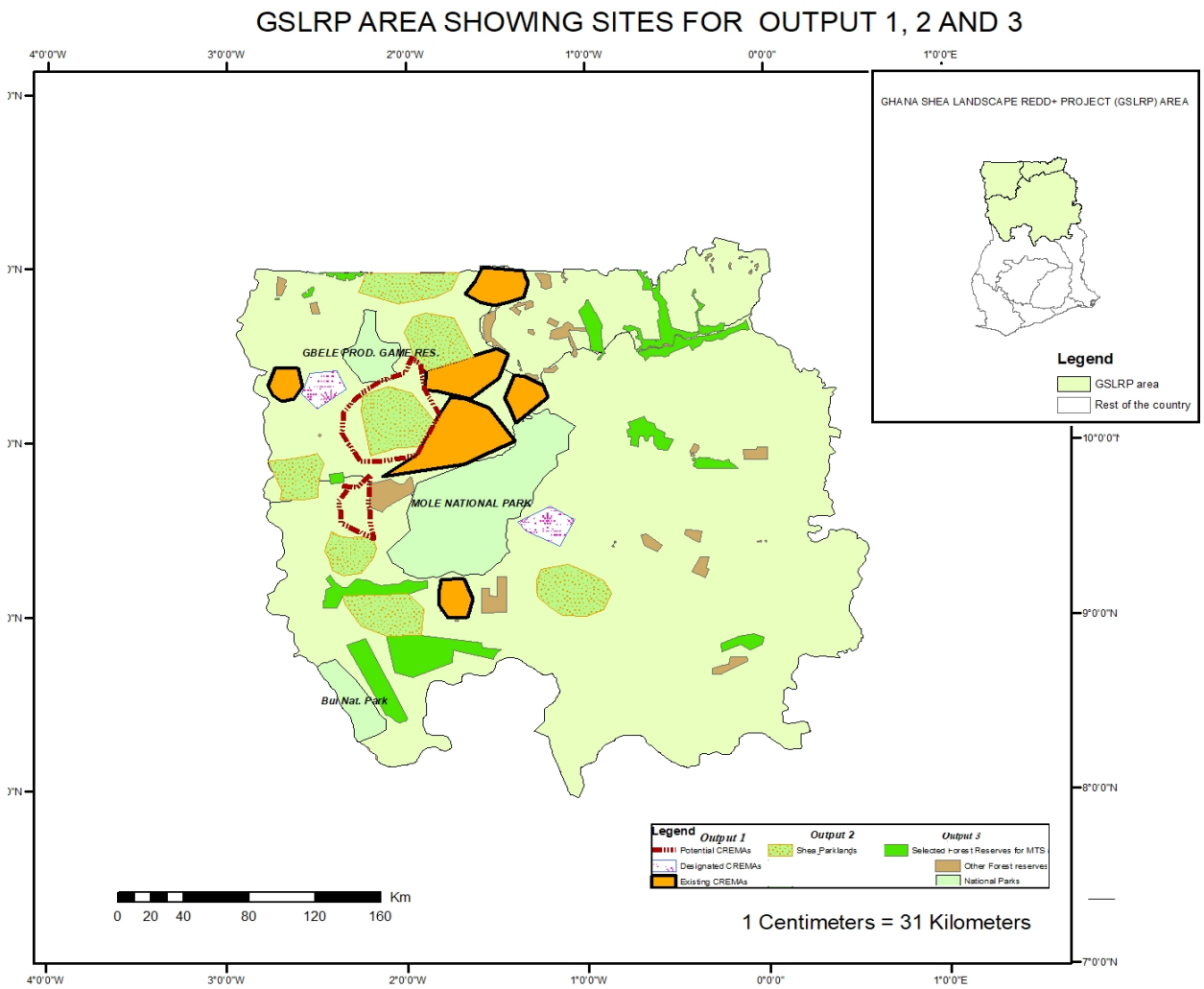
B.3. Project/programme description

Overview

44. The project has four interrelated outputs that will be implemented through a cross-sectoral, comprehensive and holistic approach, driven by communities, women's groups and government institutions. These outputs will be achieved through long term community resource management, sectoral investments, capacity building, knowledge sharing, impact monitoring and performance contracts through public-private partnerships at the landscape level. They will remove the barriers described above in Figure 1. The results are reduced emissions from deforestation through fire and wood fuel resources management, sustainable management of forests and enhanced carbon stocks through shea restoration. The project will provide adaptation co-benefits for target populations by restoring ecosystems services, reducing the risks of environmental shocks and increasing incomes and options for livelihoods on 471,500 hectares of land in the Northern Savannah Zone. Overall this translates into strengthened adaptive capacity and reduced exposure to climate risks for 100,200 direct beneficiaries and indirectly benefits 540,200 inhabitants in the project area.

45. The field sites are presented in Map 1 below. The field sites for Outputs 1 and 3 are selected and those for Output 2 proposed based on criteria that are presented in Annex 2 and 22. These are summarised below the map:

Map 1: Country Map and Project Implementation Areas



- Sites for Output 1 are existing CREMAs, potential CREMAs and CREMA which are in the process of being established with at least 20,000 hectares of savanna forest and a minimum of

10 communities. Through consultations, there have been community requests for support and willingness to conduct participatory land-use planning to identify forests within their lands that they choose to place under community management. Other criteria include; high mitigation potential (forest restoration potential) in CREMA and alignment with existing initiatives on adaption and soil, land and water management project in the NSZ.

- Sites for Output 2 are selected as areas of shea parklands that have undergone relatively intense agricultural intensification with loss of fallows and tractor ploughing leading to significant loss of shea and areas that indicate high ecological viability for shea trees, however the exact locations will be determined when the project starts.

- The sites for Output 3 are forest reserves with severely degraded savanna forests/grasslands and with villages/communities contiguous to the degraded lands. Other criteria include security for existing protected areas and forest reserves; proximity to communities where labour will be sourced from and accessibility to these areas; suitability for mixed plantations in forest reserves; and records of willingness and commitment of fringe community members to be involved in MTS.

- The entire project area is at high risk from fire.

Annex 16 contains three additional maps for each output area and their details. For Output 2, the location would be flexible based on company and community preferences. The pre-selected CREMAs are shown in Table 2 below.

Table 2 – Preselected CREMA

Northern	West Gonja	Murugu-Mognori	Existing	40000
Northern	North Gonja	Kumbo-Grubagu-Wawato	Progress	80000
Northern	Mamprugu-Moaduri	Moaduri-Wuntanluri-Kuwomsaasi	Existing	103997
Upper West	Wa East	Chakali Sungmaaluu	Existing	175815
Upper West	Wa East	Belepong-Holomuni	Potential	50457
Upper West	Nadoli-Kaleo	Zukpiri	Existing	42000
Upper West	Dafiama-Busie-Issa	Naro-Fian-Duong	Progress	50107
Upper West	Sissala East	Welembele-Kundungu	Potential	178673
Upper West	Sissala East	Sanyiga-Kassena-Gavarakara	Existing	69082
Upper West	Sissala East	Sissala-Kassena-Fraah	Existing	144295

46. The project design recognizes that the landscape of the NSZ contains three main land use/land cover categories where nearly all forest and tree carbon is sequestered;
-off-reserve savannah woodlands and forest on community lands[24],
-shea agroforestry parklands found mainly on agricultural lands[25]; and

[24] **Savannah woodlands** are the "natural" dryland forests in the NSZ where agriculture has not been practiced for a considerable period of time -- long enough so that the spatial pattern of fields and fallow are not visible on imagery. Nearly all of the savannah woodlands of the NSZ have the potential to become woodlands with a nearly closed canopy and a greatly diminished herbaceous layer. However, the vast majority have been moderately to severely degraded. Most of them fall into the FRL category of open forests with 15 to 60% crown cover. When the canopy of trees over five meters in height falls below 15%, they are classified as grasslands. The term 'savannah woodlands' is used interchangeably with 'savannah forests' in this FP.

[25] **Shea parklands** is the ancient, traditional agroforestry system, dating back centuries, that predominates throughout the NSZ. It consists of household managed croplands with large field trees, mostly shea (Vitellaria Paradoxa). The present day shea parklands were developed under shifting agricultural, with farmers managing the fallow vegetation to favor the growth of healthy, well-placed shea trees. Increasingly, these systems are becoming permanent agricultural systems and shea are no longer being replaced through the fallow period. The FRL classifies all shea parklands that have over 15% crown cover of field trees as open forest. All CREMAs consist of a mix of remaining savannah forests and agricultural lands. Nearly all agricultural lands, both in and out of the CREMAs, are shea parklands. The term 'shea parklands' is also referred to in this FP as the 'shea landscapes'. The FC uses the term 'savannah woodlands, however the GSLREP required a term that would distinguish

- forest reserves managed by the State (FC).

These areas still have tree cover and significant woody vegetation, including root stock, with the potential to regenerate to forest land if pressures are reduced and active support to regeneration is provided. The project as a whole seeks to ensure that emissions are not simply displaced from one area to another.

47. A description of each **output** and **activity** within each output is presented below. The activities within each output are highly interlinked.

Output 1: Off-reserve, degraded, savannah woodlands and forests restored under self-financing community management in CREMA

48. CREMAs are a group of communities that have agreed to work together for the sustainable use of shared natural resources. Governance and management of CREMAs are mediated by locally developed consensual constitutions which are backed by the relevant district by-laws and management plans. A certificate of devolution of management responsibility and authority for natural resources management is issued by the Minister responsible for Lands and Natural Resources to provide additional legitimacy for community-based governance and management of the natural resources within the CREMA.

49. Output 1 will focus on a) the (re) organization and empowerment of women and men in communities in existing CREMAs, and the structuring and empowerment of communities in new CREMAs; b) the participatory development and implementation of sustainable, multiple use forest management systems on 200,000 hectares of savannah land (plus 220,000 hectares of deforested grasslands and degraded forest outside CREMAs protected from fire), alongside the acquisition of the requisite knowledge and skills; and c) support for enterprise development through the integration of investment components in the forest management plans that create optimal levels of revenue generation and employment equitably for women and men in communities, ensuring financial sustainability of the CREMA.

50. Output 1 will be implemented by FC (Forest Services Division) in collaboration with CREMA executive committee (CEC) and the Community Resource Management Committees which include traditional Authorities. Various institutions will be involved through the implementation of activities.

Activity 1.1 Structure and empower communities for savannah forest management

51. The ten candidate CREMA sites are presented in Table 2. Six of these areas are existing CREMAs, two are in CREMAs that were being created at the time of proposal development (designated CREMA) and two are potential sites for the creation of new CREMAs. For new CREMAs, the first phase will be to obtain final validation through stakeholder engagement of the new CREMA sites identified, and subsequently to work with the community structures to establish and operationalize the needed structures. The CREMA governance arrangements are as follows;

52. The Community Resource Management Committee (CRMC) is the local unit of organisation and is formed at the level of the community. See Figure 2. Each CREMA will have about 6 CRMC. The composition and function of the CRMC is outlined by a constitution[26] and women's participation

between shea parklands targeted by Output 2 and non-agricultural savannah forests or savannah woodlands that will be put under community management under Output 1.

[26] This is a social contract that sets out the organizational structure, defines the 'community' and its purpose and sets the basic rules and regulations that all will abide by. Following consultations led by the CEC, with all of the communities that make up the CREMA, and with the Wildlife Division (Forestry Commission) and project management unit, the constitution is vetted and ratified at a final meeting with CRMC representatives and traditional leaders. It describes, for example, the selection criteria for CREMA members - extensive and broad consultation is done in order to sensitize the community members and request for interested people to be nominated onto an Interim Committee which is about 30 members from all different and relevant interest groups including women groups, farmer groups traditional authority, opinion leaders,

will be a key component and will be fostered. The individual landholder and farmers are members of the CREMA as shareholders and determine the policies and activities through the land use planning process and development of the forest management plan. Committees typically consist of 5–13 women and men who are nominated or elected during a village-wide meeting, and who adequately represent the various sub-groups within the village.

53. The role of the CRMC is to help envision the goals and objectives of the CREMA, to implement activities and to serve as the main liaison between the CREMA Executive Committee (CEC) and the individual community members. Representatives from the community committees are subsequently elected to serve on the CEC, in addition to other co-opted resource persons. The CEC is the over-arching management body that directs and oversees CREMA operations and decision-making.

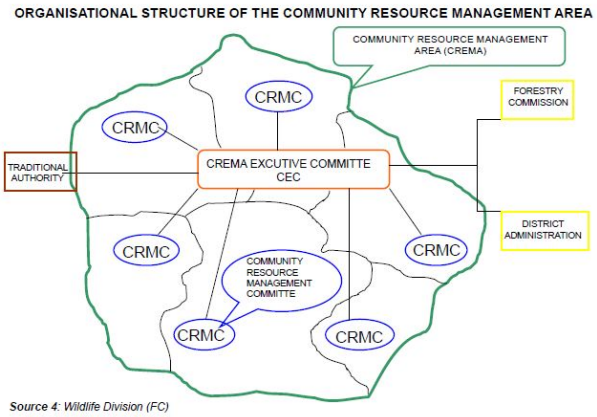


Figure 2 – Organisational Structure of the CREMA

54. The CREMA boundaries will be verified and clearly marked as it will ultimately be backed by District Assembly by-laws. During this time, the CEC and the CRMC also engage in land-use and investment planning, develop a strategy and set of activities (management plan) for the CREMA, and define the appropriate benefit-sharing arrangement.

55. The final step before official recognition (inauguration) is for the CEC, traditional authorities, the Wildlife Division and the District Assembly to review all of the CREMA rules and regulations in the context of other national laws and District Assembly by-laws. The CREMA rules are then drafted as district by-laws and eventually presented for debate and ratification before the General Assembly of the District Assembly and final approval by the Minister.

56. All CREMA will go through a participatory process to develop land use planning which designates core forest areas, production areas and offtake zones for wood fuel, agricultural lands and zones that will need to be protected from fire. GIS support will be key to this process; this will include the use of satellite imagery analysed by the FC's Resource Management Support Centre (RMSC) to designate these land use plans. The process integrates a social inclusion and gender approach. Forest management plans are developed within the land-use and investment planning framework (LUIP) which will be implemented by communities in CREMA. (The investment component is described in Activity 1.3). These will include participatory and gender responsive resource assessments or forest inventories, application of silviculture methods (as well as for wood fuel production). The difference in the approach adopted by the project is to set in place the process

hunters, professionals, youth groups, etc. The nominees must be of good reputation within the community and should not be culprits of crime and are willing to serve the community among others. A formal election to bring the number down to 15 substantive committee members. All committee members are to be of reputable conduct and the constitution stipulates ways of dealing with members who default including modalities for removal from membership.

towards a full devolution of rights to harvest timber and specifically to produce charcoal and other NTFPs where before CREMA had to only depend on income from ecotourism. This will allow more volumes of revenue to be generated and is the basis upon which the sustainability of CREMA operations lie.

57. As community forests are protected, managed and used, they will provide a stream of benefits and income over time from the various locations in CREMA lands. All CREMA stakeholders must agree upon a benefit-sharing arrangement and criteria that reflects their values, expectations and needs. Benefits usually include financial as well as non-financial resources, including payments at the individual or household level, access to information or agronomic resources, community development projects and scholarship funds. These criteria will be included in the constitution of the CREMA. The constitution also has guidance on how costs and revenues will be shared amongst the community members/producer groups (including those from more marginalized groups, such as women, youth, and minorities.

58. As revenue is generated, from the second year, from off-cuts of wood for fuelwood and charcoal, transparent financial management is crucial. A small percentage (up to 7%) of the revenue from revenue generating activities that the CREMA will be undertaking will be used to capitalise a community fund. Initially these will emanate from value-added processing from more efficient charcoal kilns and fuelwood as well as potentially from partnerships brokered (through Output 2) for premiums for shea production. Later other value chains in the community context would also be considered as well as revenues from MTS agricultural surplus in Output 3. This community fund will be set up at the level of the CREMA, managed by a kind of ‘’board’’ made up of CRMC members, a district assembly environmental officer and a traditional authority representative. Frequent oversight and auditing of accounts by the CEC and a clear mechanism for financial transparency and accountability will be adopted such as a third-party independent entity included in the structure.

    Municipal and District Assemblies representatives also form part of the CREMA executive bodies (and make inputs into the CREMA constitution which spells out the magnitude of activities and responsibilities). These bodies will contribute financing towards the CREMA community fund. The amount of resources is dependent on what the CRMC agree to in consultation with the Municipal or District Assemblies after community development needs are prioritized. As they have representation in the CRMC, they can make informed decisions as to what % to allocate. Depending on the business venture being implemented and its alignment with the district or municipal objectives, various degrees of stimulus packages are provided to boost CREMA enterprises. The assemblies have provision to contribute about 10-30 % of the running cost of the CREMA from their budgetary allocation.

59. The CREMA community will appoint the members to manage the community funds. These funds will be used for any services such as a CREMA manager, accountant or forester (which the community will decide on). The fund should increase over time for which it can then pay for services such fire management (when a fire breaks out), managing areas for fuel wood, tree planting or any other ‘’green’’ activity that will contribute to maintaining the forest cover, protecting and restoring the landscape and for sustainable forest management.

    The utilisation of the funds will be subject to investment criteria that will be developed by the CRMC, following best practice with oversight and guidance from FC, Business Advisory Centre and the project management unit.

60. A secondary, more local and smaller scale revolving fund is also envisaged whereby, for example women in a shea cooperative may (on a purely voluntary basis) want to become a member of a group where they contribute an agreed amount according to a specific timeframe, such as every quarter. These funds could then be used to extend concessional loans to those participating members for social and livelihood activities of their choosing.

It is to be noted, the project will only provide the technical, governance, accounting and capacity building skills to enable these two levels to be implemented such as establishing participatory, gender sensitive, accountable and transparent rules as to how the funds are to be deployed. Capacity building will occur in the context of forest management and investment plans at the CREMA level and the preparatory, sensitization, technical provisioning and communication activities that constitute a substantive part of Outputs 1, 2 and 3. Neither GCF funds, nor co-financing will be used to capitalise these funds.

Sub-activities will include:

1.1.1 Research, document and plan for new CREMA and develop participatory land use plans for all CREMA.

1.1.2 Inaugurate new CREMA and establish robust and credible governance mechanisms in all CREMA

1.1.3 Build capacity of communities in 10 CREMAs on land use planning, governance and all aspects of implementation and monitoring of the community forest managed area

Activity 1.2. Develop sustainable forest management systems and adapt them to local conditions

61. The land use plans developed by the community in the CREMAs will be informed by appropriate participatory and gender responsive resource assessments or forest inventories, application of silviculture methods (as well as for wood fuel production), natural resource management, fire management, the production of a range of useful maps and analysis of value chains. A communication strategy on how to deal with fire will be part of this activity in order to promote early burning in the first month of the dry season. The process will be accompanied by understanding and preparing for the regulatory, monitoring and permitting requirements to allow CREMA to sell timber and charcoal as well as other products.

62. Training will be conducted on the efficient production and processing of wood fuels and better silvicultural methods with a view to trigger reduced harvesting of forest products and timber outside of the CREMA and forest reserves. An essential component will be to ground the CREMA in good governance and management practices for community managed forests and agricultural lands. The supply of sustainable woodfuel from the CREMA is important to prevent further degradation and deforestation driven by the demand for woodfuel and constitutes a key part of Output 1. A UNDP NAMA study on the charcoal value chain estimated that the Northern region contributes 13% of the overall national production of charcoal, with Upper East contributing 7% and Upper West 4%. Of the total, 14% is utilized in the NSZ. CREMA operations aim to meet local demands substantially. In addition, the project will promote the effort to use shea cake, a by-product of the processing of shea nuts to butter (see Output 2), as an energy source in households especially those which involve members of women's groups undertaking the processing activities.

63. The participating CREMAs will be trained and receive technical assistance for nursery management and sale of seedlings. The CREMA foresters will be assisted by the FC's Forest Services Division (FSD) and Wildlife Division, and by Kwame Nkrumah University of Science and Technology (KNUST) and the Forest Research Institute of Ghana (FORIG). Once sub-activity 1.4.1, which is to develop a communication strategy for the entire NSZ region for fire, had been completed to develop and disseminate the strategy, the CREMA will create fire brigades in Year 2, made up of community members. The project will equip these brigades and provide transport allowances to conduct early burning as per the communication strategy on fire.

64. Implementation of the community forest management system will be refined during the life of the project by applied research by FORIG on silviculture, fire management, growth studies and the development of energy efficient, profitable charcoal production systems.

Sub-activities will include:

1.2.1. Promote early burning through capacity building of fire brigades and widespread awareness creation

1.2.2 Build capacity of CREMA structures to protect, regenerate and manage forests and harvest timber, fuelwood and non-timber products.

1.2.3 Review periodically and strengthen forest and management plans and forest inventories.

Activity 1.3 Develop enterprise and value chains

65. The participating CREMAs will be trained and receive technical assistance to build enterprises for aggregating charcoal or firewood, making efficient charcoal kilns and timber marketing once resources are harvested or collected in a sustainable manner. The efficient production of wood fuels, non-timber forest products and timber will provide livelihood diversification opportunities to communities. These should be to respond to social needs. Linkages between shea cooperatives who use wood fuel and wood fuels operators will strengthen local demand for sustainable wood fuel. CRMC will collaborate with the district environment management committees who have set up organs at the district level involved in water management.

66. The outputs will therefore result in the development of processing, marketing and financing systems for CREMA communities and build capacity on business and enterprise development. This will include collaboration and uptake of research results. Importantly, operational support will be provided to the CREMA in the first four years by amongst others, the Forest Services Division (FSD) in collaboration with the Business Advisory Centres of the District Assemblies and NGO partners. Costs will thereafter be covered by the revenue generating activities of the CREMAs.

Sub-activities will include:

1.3.1 Integrate investment components into the forest management plans for CREMA, including development and marketing of products and financing systems.

1.3.2 Build the capacity of CREMAs on business and enterprise development.

1.3.3 Provide operational support to the CREMAs during the first four years of the project.

Activity 1.4 Restore forests through fire management in the Northern Savannah Zone

67. The activity will support the development and implementation of a socially inclusive and gender-responsive communications strategy about fire management techniques and the impacts of fire, which will be transmitted through various media including rural radio[27]. The activity will increase awareness and introduce strategies to reduce vulnerability to fires both natural and those related to maladapted burning practice.

68. The strategy will be informed by in-depth studies adapted to the local context (e.g. social and cultural values associated with burning practices). This scope of the strategy goes beyond the CREMAs to include the entire landscape to enable a coherent fire management plan. The objectives are to replace destructive mid to late-season forest and fallow fires with early fires in the

[27] In the NSZ, there is a widespread use of radios. All communities have at least one radio that is used by community members to keep abreast with news and relevant information. For this reason, the project is going to 'aggressively' use radio (about 10,000 radio diffusions over the 7 years) to disseminate information and good practices on fire management and shea tree protection. Fire management is critical if the shea parklands are to be protected and widespread understanding is required

dry season that have minimum negative impact on forest regeneration and will help to reduce the effects of climate change currently being experienced in NSZ.

69. The fire management strategy will promote early burning in the first month of the dry season, once fire management capacities in the form of fire brigades are in place. The fire brigades (training and equipment) will be supported by GCF and co-financing funds and continue for four years after which they are to be self-sustaining through CREMA revenues. Recently harvested parcels will be protected from fire for two years and then treated with a mosaic of early burns to prevent the spread of destructive late dry season fires.

70. Communications messages will also include information about harvesting by thinning methods to avoid clear-cuts and the cutting of high value trees for wood fuel as well as the positive effects on fire management for adaptation to climate change. Communities that wish to invest in early burning/fire management can do this on their own or they will have the option of requesting technical assistance from the FC. The FC district foresters will record the GPS coordinates of each community's lands and send them to the RMSC antenna in Tamale. RMSC will make field visits to each site and will prepare a basic fire management plan with maps of the village lands. FC or one of their partners will provide training in fire management techniques, spread out over a period of years, to the community's fire brigade. Annual adaptive management reviews will be used on a sampling of the sites to perfect the development of cost-effective savannah forest restoration techniques based on early burning.

Sub-activities will include:

1.4.1 Develop a communication strategy on fire management for the NSZ.
1.4.2 Implement the communication strategy.
1.4.3 Provide support and equip 40 communities outside of CREMAs to prepare and implement fire management plans.

Activity 1.5 Undertake enabling and support measures for community management of forests

71. This activity focuses on the broader processes of strengthening the legal framework for community management of forests, and especially tenure of both naturally occurring and planted trees in off-reserve and on-reserve forests[28], to provide a clear and easily applicable set of legal procedures for community empowerment with community rights pertaining to Ghana and especially the NSZ region [29]. The activity also builds on strategic partnerships with research institutions and universities to inform the development of community management in Ghana through knowledge management and applied research.

72. It will involve advisory and technical support for reforms in the policy, regulatory and legal framework for the empowerment of, and incentives for, communities to sustainably manage off-reserve forests and to harvest and market forest products and to ensure that benefit sharing in the CREMA forest management plan are fair and reflect progress made by the FC in addressing tree tenure reform per se. The project will engage in the discourse on reforms in light of the new CREMA bill that seeks to regulate and provide the legal backing for the concept as well as strengthening or broadening the bundle of rights to include rights of ownership and disposal of forest resources. This will be linked to the LUIPs. Knowledge management in support of sustainable community management of forests and applied research on community management of forests and field trials will be conducted to support CREMAs in implementing optimal silvicultural/harvest and regeneration systems as well as cost effective fire management/early burning regimes, and test

[28] Tree Tenure and Benefit Sharing Framework in Ghana. June 2016 by the Ministry of Lands and Natural Resources https://www.fcghana.org/userfiles/files/MLNR/Tree%20Tenure%20final%20(2).pdf

[29] This includes the legal framework for tenure strengthened; including amendment of the schedule of the Economic Plant Protection Act to include shea as protected tree; and review and passage of the new Draft Wildlife Bill to give stronger legal backing for CREMAs

efficient and profitable charcoal kilns. Growth studies to determine productivity and carbon sequestration rates will be carried out. Sub-activities will include:

Sub-activities will include:

1.5.1 Support reforms in the policy, regulatory and legal framework for the empowerment of, and incentives for, communities to sustainably manage off-reserve forests.

1.5.2 Provide knowledge management support to CREMAs and facilitated sharing of lessons learnt on sustainable and profitable community management of forests.

1.5.3 Conduct applied research and field trials in the CREMAs.

Output 2: Degraded shea parklands restored through public private partnerships

73. Output 2 will focus on enhancing carbon stocks through the restoration of 100,000 ha of degraded and threatened shea parklands and increasing climate resilience through economic incentives for shea tree protection at the local, national, and international levels. GCF funds and co-finance will support women collectors to re-stock 1.75 million shea trees in the parklands with higher and quicker yielding varieties of shea and 400,000 other high value trees within agroforestry systems, increase shea-related incomes by 30-50%, as well as ensure shea future supply through commercial contracts between members of the Global Shea Alliance (GSA) and women's cooperatives[30]. Increased income will be recorded by tracking the prevailing market price in June / July of each year and comparing this with the price that the women's cooperative has sold their shea to the buyers.

74. A final component of this output is to establish pathways to scale landscape restoration across the northern savannah zone and engage in a multi-stakeholder process to determine and implement the long-term vision for a climate-smart shea industry in Ghana. Activity 2.3 will consist of targeted analyses that will be reviewed through multi-stakeholder engagement and remove barrier and provide inputs for a Ghana's shea sector strategy. Best practices, in terms of parkland management, sourcing of materials and public-private partnerships, will be disseminated to upscale the project, in Ghana as well as other countries in the region. The GSA aims to develop a larger programme in the shea producing zones across West Africa (Burkina, Benin, Mali, Togo, Nigeria and Cote d'Ivoire). This will aim to scale up further the experiential knowledge on economic, social (especially for women) and environmental benefits obtained across wider landscapes.

75. The Forestry Commission as Executing Entity will procure GSA as Responsible Party in the Project to undertake Output 2. GSA will use GCF financing to procure NGO entities to undertake activities within a series of partnerships with private sector companies, through legal sub-agreements mentioned in para 129. The private sector co-financing will be put towards the realisation of these public private partnerships (as a contribution from the entities to this project). See Annex 4, Budget Notes for an estimated breakdown of these contributions. For the final component, UNDP will facilitate a multi-stakeholder process, including government agencies (MOFA, FC, Ghana Cocoa Board).

76. The various components of Activities 2.1 and 2.2 (with the exception of communication campaigns) will be implemented through smaller public-private partnerships between private sector companies, NGOs, and communities. NGOs will be in charge of implementing GCF-funded activities, including nursery set-up, tree planting, and parkland management training activities

[30] 3.5 million trees will be planted in the parklands and in CREMA, and it is expected that at the very minimum half of these will survive at the end of 7 years.

(Activity 2.1) with GCF financing; while private sector companies will implement complementary activities including setting up cooperatives, sourcing programmes, constructing warehouse for aggregation and conducting quality control and business training through their direct funding (Activity 2.2). Each public-private partnership will be assessed based on the following criteria: technical experience of the public-private partnership partners, KPIs achieved, cost reasonableness of the activities, impact, proposed project location, and due diligence. Upon approval of the proposed public-private partnership, a performance-based payment contract will be signed between the NGO and the GSA. This contract will integrate the results of both the private sector-funded activities as well as the GCF grant funded activities coherently to include all components of the value chain described above.

77. The exact intervention areas, based on the indicative areas shown in Map 1, for the location of activities in Output 2 will be determined by the actors in the public-private partnership and the women in the community. The final selection of the location of activitiesf, will be validated by the FC and the technical review committee, in line with the eligibility criteria in Annexes 2 and 22 to the FP, prior to the set-up of nurseries, tree planting activities, establishment of cooperatives, construction of warehouses and aggregation of shea. The rationale for allowing the public-private partnerships to determine locations is that it is essential that private companies source from beneficiary communities, in order to establish a direct linkage between tree protection and shea income. Consequently, location of the activities needs to be aligned with their sourcing strategy and consideration of constraints.

Activity 2.1 Restore and sustainably manage the shea parklands

78. Activity 2.1 will begin with the development of a communication and extension plan based on key messages and incentives needed for the restoration of shea in the parklands that will be disseminated across the project zone.

79. Nurseries for the production of seedlings will be set up and run by women's cooperatives set up as part of this Activity 2.2. The women's groups will be involved in the nursery production and out planting of shea and other seedlings, direct seeding, and will also be trained in the layout of the in-field planting schemes, in techniques for planting and care of the young trees and in other techniques for the sustainable management of shea parklands. Young shea trees will be protected against grazing and other disturbance factors. The trees will be protected when they are older from fire through the fire management activities in outputs 1 and 3.

80. Nursery and planting methods for shea will include results from latest trials that reduce the fruit production period to 2-4 years (as opposed to 15 years in the wild). Examples of new methods include grafting techniques to graft mature twigs onto young seedlings, other types of vegetative propagation and growth cultures[31]. These methods combined with fire management and efforts to increase pollination[32] will be employed to reduce the waiting time for shea fruits to appear on the trees.

[31] Depending on the technique used, shea can begin to fruit from between 7-15 years of age but does not reach its peak yield until the age of 40 to 50 years. Trees may live, and sequester carbon, for 200 to 400 years. Methods for reducing the period of time before fruiting of shea trees has been a subject of research for some years. On farm trials for instance through the AgNRM project in the Wa CREMA in the NSZ, have been conducted by the Cocoa Research Institute at the Bole sub-station. This has resulted in an increased number of trees per hectare and fruiting starting from 8 years. When grafting techniques are used to graft mature twigs onto young seedlings, shea fruiting may start from 2.5 years (Seeds are raised in nurseries before transplanting after 3 years), In Burkina Faso, trees have started fruiting from 3 years using vegetative propagation and growth cultures. These methods combined with fire management and efforts to increase pollination will be employed to reduce the waiting time for shea fruits to appear on the trees. The project will be able to have more definitive information on when actually fruiting can start (from 5, or 7 or 8 years) once it begins.

[32] Shea is primarily pollinated by bees, but there is a certain level of self-pollination. The main pollinators are honeybees and several species of wild stingless bees. Insect pollination results is linked to fruit yields. A positive correlation between fertilisation percentage and number of honeybee colonies within radii of 900 and 1000 m was observed. Local beekeeping with

81. In addition to the shea trees, another 480,000 trees will be planted (with 83% of these trees reaching maturity – 400,000) to enhance the agroforestry parklands. These could include Adansonia digitate; Moringa oleifera; Parkia biglobosa; Tamarindus indicus; Faidherbia albiza; Anogeissus leiocarpus; Terminalia spp, Balinites aegyptiaca, Pterocarpus erinaceous, Diospyros Mespliformis, Piliostigma thonningii, Nauclea Latifolia, Annona senegalensis and Combretum mole33. These species will be considered and ranked based on preferences by the women and men in the community and characteristics to promote soil productivity, apiculture, nutritious food, dyes for materials, traditional drinks such as *pito*, leaves for forage, fruits, medicinal and provision of pollination services for the shea trees. This list also extends to trees suitable to plant in farmers' fields and fallow areas, or near homesteads in the open parklands, within the CREMA areas for timber.

82. The community, with the guidance and support of the NGOs that have expertise in agroforestry will decide on the trees to be planted to ensure they meet their specific needs, whether in terms of alternative income generation, woodfuel and food production, or agricultural benefits and incorporate these ideas where relevant in the land use and investment planning in Output 1. This ensures oversight by the community and increase the likelihood that they will be valued and taken care of. Like for the shea trees, the indigenous trees will be grown in community nurseries and planted on individual and community land, depending on community preferences, ensuring that tree location is optimal for their survival and care. Tenure rights depend on the land on which the trees will be planted, however usage rights are different depending on the trees. Intended beneficiaries—women shea collectors and their families—benefit from usage rights.

83. The trainings will leverage the GSA Parkland Management Manual to ensure sustainability beyond project lifetimes. It includes all the technical requirements to look after the trees and provides planting methods favour optimal chances for the tree to grow to maturity such as good quality germplasm and planting methods, parasite control. Once trees do reach maturity less care is needed. The manual also addresses policy and capacity gaps to be addressed during implementation

84. To maximize survival rates in the early stage, the Global Shea Alliance and partners will embed survival performance indicators into the public-private partnership contracts, as well as engage the private sector buyers to contribute to tree monitoring and link tree production with incomes. All parties will be responsible for the tree survival, not just the farmers. Together, they will define which monitoring and support schemes are the most appropriate.

<u>Sub-activities will include:</u>

2.1.1 Develop a communication and extension plan based on key messages and incentives needed for restoration of the shea parklands.

honeybees and stingless bees is included in the activities and will have a positive influence on fruit production of shea trees. Bird and insect diversity should be enhanced as trees on the landscape are restored. The shea parklands manual that has been developed by GSA notes a 2.5 increase in yield with more pollinators in the habitat brought about by plants, birds and insects in the landscape.

33 The restocking of shea will be interspersed with Faidherbia albiza, an excellent leguminous tree for carbon storage and sequestration helps to improve soil fertility through its leaf litter, especially in places where number of fallows have been reduced. As a leguminous species, it had an additional unique feature of shedding its leaves in the rainy season and providing shade and fodder for livestock during the lean periods.
In addition, Combretaceae species of the semi-arid African savannahs are well known for the ability to re-grow from coppice and quickly produce reasonable sized fuelwood in the normal fallow periods will be included in the agroforestry system. Daniellia oliveri is another species that has been considered a potentially fast-growing native tree species for wood fuel production and these species will be chosen based on their ability to contribute to incomes and community management.

2.1.2 Establish community-based nurseries for shea and other tree seedlings, undertake tree planting and farmer management of trees and fallow vegetation as part of the set-up and implementation of the public-private partnerships.

2.1.3 Train and build capacity of women's cooperatives on sustainable parklands management as part of the set-up and implementation of the public-private partnerships.

Activity 2.2 Strengthen value chains for shea processing

85. This activity ensures that there are significant economic incentives for tree protection and maintenance, i.e. that the connection between trees and incomes is strong. Indeed, shea trees are not strictly a wild species, but a semi-domesticated one, selected and protected by farmers because of its value (cultural, household and commercial). The project is seeking to increase the economic value of shea trees for producing communities and increase shea-related income by 30%-50% compared to market prices.

86. The activity will create a long-term relationship between buyers and communities, which will encourage the continued investment into livelihoods and the environment. To help reinforce the crucial role of women in the shea value chain post-project, the GSA also places improvement of women's livelihoods as part of mission statement. This illustrates its commitment to continuing to promote women's involvement in the value chain.

87. This output will build public private partnerships between these upstream producers and the downstream private sector companies (small-scale farmers, cooperatives and local processors to global ingredient suppliers, cosmetic companies and other international buyers) who are investing in measures that put in place in-country capacity for processing additional volumes of shea generated over time, as the impact of landscape restoration takes effect. All the largest ingredient manufacturers to which large retail brands buy their shea-based ingredients from are engaged as stakeholders in the project.

88. Overall, the capacity and incomes of 20,000 women are expected to increase through the various improvements made to the shea value chain (e.g. more efficient collection of shea, access to new technologies, aggregation in warehouses and direct sales to processors for higher prices). Specific activities which begin from year 2 include: donation of newly constructed / refurbished warehouses to cooperatives, equipment provision such as jute sacks or scales, trainings related to cooperative management, business development, aggregation, quality, and conservation. This will allow women to start benefiting from better prices for the shea kernels that they currently collect.

89. As part of the GSA sustainability program, the women's cooperatives are encouraged to engage in alternative income-generating activities, leveraging their warehouse, shea income, and other partnerships. These activities can be farming, soap-making, bee-keeping etc. The shea cooperatives may join up with the CREMA to set up or strengthen community funds or cooperative funds in order to extend small loans for community priority needs. At the level of the CREMA or the shea cooperative, the community fund or trust fund will enable a transition from the current grant based scheme.

<u>Sub-activities will include:</u>

2.2.1 Establish women's groups (including governance training and co-operative registration) as part of set up and implementation of the public-private partnerships

2.2.2 Conduct activities to support aggregation and marketing, including warehousing) as part of set up and implementation of the public-private partnerships

2.2.3 Train women's groups on Improved technologies and efficiency (including audits, technical training, product quality training) as part of set up and implementation of the public-private partnerships

2.2.4 Train women's groups on improved business management including contract management and market linkages as part of set up and implementation of the public-private partnerships

Activity 2.3. Enhance the enabling environment for climate-smart shea and upscaling of finance and investments

90. This activity will establish pathways to scale landscape restoration across the northern savannah zone and engage in a multi-stakeholder process to determine and implement the long-term vision for a climate-smart shea industry in Ghana. This will mainstream adaptation and resilience benefits for systemic impact across the shea sector in Ghana. The activity will consist of targeted analyses that will be reviewed through multi-stakeholder engagement and provide inputs for a Ghana's shea sector strategy. Best practices, in terms of parkland management, sourcing of materials and public-private partnerships, will be disseminated to upscale the project in Ghana and other countries in the region.

91. The activity will involve legal and policy reviews, scenario planning to influence public and private decision making and other studies to inform policy reforms in the shea sector. The project will also support applied research to problem solve and improve the production ecology for shea restoration with the Cocoa Research Institute (CRIG) sub-station in Bole.

92. Finally, interest to form a multi-stakeholder platform engagement with balanced participation of government, food and cosmetic brands, processors, exporters, ingredient suppliers, women's groups, and civil society will be explored. These can review policy recommendations and support the finalisation of a national strategy including recommendations to improve policies related to shea production and sustainability. This forum will enable awareness to be created for buyers about sustainable sourcing and risks, and opportunities for investment in new public-private community partnerships. The activity will promote the learning and knowledge exchange on sustainable shea at national, regional and global levels. This will include working with MOFA to incorporate best practices and shea restoration information into training curriculum for extension agents.

Sub-activities will include:

2.3.1: Perform legal and policy reviews and scenario planning to influence public and private decision making

2.3.2: Collaborate with Cocoa Research Institute (CRIG) sub-station in Bole to conduct applied research in support of shea restoration across the eco-zone;

2.3.3: Scope out and set up a multi-stakeholder engagement process across the shea value chain at national level and from the three regions of the NSZ;

2.3.4: Create awareness for buyers about sustainable sourcing including the risks and opportunities for investment in new public-private community partnerships through the process above and in global conferences

2.3.5: Promote learning and knowledge exchange on sustainable shea at national, regional and global levels.

Output 3 Modified Taungya System plantations and fire management in forest reserves

93. The NSZ contains 66 forest reserves covering an area of 638,800 ha as well as two protected areas covering 512,200 ha of which 455,700 ha are in Mole National Park (NP), one of the country's flagship conservation and tourism areas. Most of the reserves are degraded/deforested and a strategy is to reforest them through a Modified Taungya System (MTS).
94. MTS plantations have been tested across Ghana and are promoted by the FC in order to attain their targets for timber production whilst enabling communities to benefit from the products of forestry management and allowing access to land for agriculture. Barriers identified from studies from the high forest zone include absence of clear benefit sharing arrangements, delays in setting up contracts, lack of consideration of farmer preferences for crops and NTFPs, and farmers' trust in the long-term economic feasibility of the MTS.

95. Under this Output, the FC will establish 18,500 hectares of MTS plantations on deforested portions of 12 identified forest reserves and will promote fire management in both savannah forests and grasslands in the same reserves. The MTS approach will be based on the lessons learnt from the FC's experiences and will include benefit sharing that incentivise communities to participate in the planting of mixed stands of species. FC will sign contracts with the communities, manage the plantations and set in place and oversee the benefit sharing arrangements. As part of its co-financing, FC will also establish another 7,000 hectares of plantations with hired labour.

96. Revenues from the MTS plantations will be shared by FC and the farmers in line with the benefit sharing arrangements as per Annex 22 of the FP (these are additional to surplus money individual members make on agricultural products). Some results under this output will also bring adaptation co-benefits to women and men in the communities, either through ecosystem and ecosystem-based services restored or through the increased income and livelihood made possible by benefit sharing. A gender approach will be applied using the gender action plan, including in MTS management structures, to ensure women and men equitably benefit from such outcomes of the work, and balance this also with the work that women do in output 2, which will in turn help to break down current gender inequalities in the forestry sector.

Activity 3.1 Structure MTS communities with clearly defined contractual and benefit sharing arrangements

97. The MTS approach reduce climate-related vulnerabilities by increasing income and food security through diversification and spreading of risks. This activity will support a formal consolidation of information on best practices recently gathered by FC, and the application of these during project inception, focusing primarily on the MTS plantations in the NSZ. The activity offers opportunities for perfecting the approach during implementation, with a strong focus on fire protection and management. Only severely degraded, deforested sections of the reserves classified under the FRL as grasslands will be converted to MTS plantations.

98. Through a participatory and evidence-based process, the FC will select the targeted communities and with them set up the MTS structures and arrangements, leading to the signing of contracts with the taungya farmers. These contracts will determine the types of species to be planted, the benefit sharing arrangement and the access rights to NTFPs, as the system first sets up an agroforestry-like system which then evolves into a plantation once the canopy closes. Woodlots with fast growing species to provide woodfuel from offcuts will be integrated into the forest management approach. By design, the taungya farmers would be organised into smaller groups to ensure effective trainings and sensitization of farmers. Technical trainings by both the Forestry Commission and Ministry of Agriculture will be organised for farmers periodically. Common inter and intra groups platforms will be created to ensure effectiveness and efficiency of the trainings. This gives the 13,000 taungya farmer the platform to enhance their work and discuss opportunities and challenges.

99. The Timber Industry Development Division of the Forestry Commission regulates the utilization and processing of all timber and timber products. A major policy reform in the forestry sector is the introduction of a competitive system of allocation of the timber resource. These reforms are based on Legislative Instrument (LI 2254), and its parent law, Act 547. The profits from the wood based industry accrue as per the benefit sharing contracts. Taungya women and men farmers will also be able to sell their surplus agricultural products enabling an additional income stream for them and allowing participation in the investment fund set up in the communities.

Sub-activities will include:

3.1.1 Review and strengthen MTS procedures to be applied in the targeted communities (after reviewing and documenting past MTS experiences)

3.1.2 Select and engage targeted communities for MTS establishment in a participatory and evidence-based manner

3.1.3 Set-up community structures for MTS and sign contracts with taungya farmers.

Activity 3.2 Establish, maintain and monitor MTS Plantations

100. A variety of tree species, including local hardwood species, will be used for the establishment of MTS plantations. The species suitability will be carefully studied for each site based on a participatory approach involving men and women. Factors to be taken into consideration include: a) the estimated financial rate of return; b) the risks of negative environmental impact such as invasiveness or depletion of water tables; c) the ability of each species/variety to suppress the herbaceous growth and the consequent fire risk in the plantation; and d) each candidate's suitability for local rainfall, soil conditions and other site factors. The activity will benefit 13,000 Taungya farmers and support the creation of 25,500 hectares of plantations for wood-based industry in the NSZ. The activity also includes provision to support the establishment of 60 village nurseries.

101. The activity will involve the creation and maintenance of seed orchards of improved varieties, demarcation and layout of plantation sites and training of local communities. Establishment of MTS and non-MTS plantations will be a significant component of this activity[34]. Training will be provided on how to intermediate thinning and guidance on tree planting and plot maintenance. The plantations will be monitored and supervised and benefit from participatory adaptive management reviews. The lead partners will be the Forestry Commission with the Taungya communities.

Sub-activities will include:

3.2.1 Create and maintain seed orchards which will ensure the future supply of seedling of MTS

3.2.2 Establish MTS plantation and conduct intermediate thinning of new and existing plantations

3.2.3 Monitor plantations and conduct participatory annual adaptive management reviews

Activity 3.3 Promote fire management and control for plantation protection and for the restoration of savannah forests in the reserves

[34] Best practice codes and this project's safeguards are also applied to these non MTS plantations

102. This activity will focus on fire management, prevention and control for the protection of MTS plantations. Maximum use of early burning of the savannah forests will be done to create fire breaks around the plantations and avoid destructive mid-to-late season fires in the reserves. Those risk reduction measures provide both mitigation and adaptation benefits to target populations. It will develop fire management, prevention and control plans for the protection of MTS plantations and for the restoration of savannah woodlands. As noted, training of fire brigades and implementation of fire management plans covering the entire reserve areas will be undertaken.

103. Following crown closure, the individual taungya farmers still have to maintain their sections of firebreaks every year for up to 10 years or more before they obtain the payments equivalent to 40% of the final harvest as per current benefit sharing arrangements determined by the FC. This has not been proven to be a viable model, as rural farmers can rarely make such an investment over such a long period without cash returns. The failure of one farmer to maintain sections of firebreaks puts other plantations at risk. The reliance on individuals needs to be replaced with community structures for fire control and management, and benefit sharing arrangements for harvest revenues need to be modified accordingly.

104. Ultimately, the taungya community management structures will be funded directly for fire protection and fire management out of FC revenues from the harvest of MTS plantations. GCF funding is needed to make the initial investments. Once these are made, the programme can continue on a self-financing basis. Taungya farmers can participate in the community fund facility set up at the community level and capitalised by shea income, surplus agricultural products and community forestry revenues.

Sub-Activities will include:

3.3.1 Develop fire management, prevention and control plans for the protection of MTS plantations and for the restoration of savannah woodlands

3.3.2 Build capacity of fire brigades and support implementation of fire management plans.

Output 4: Integrated monitoring system implemented and REDD+ Systems Strengthened

105. This output has a two-fold objective: 1) enable the completion of Ghana's Warsaw Framework architecture and 2) monitor implementation and outcomes of the project ensuring that safeguards are applied and respected. This project is characterised as a REDD+ Phase II intervention and seeks to implement actions which will result in reducing emissions and enhancing removals from the land use sector [35]. By integrating data from the NSZ, the Project will support the operationalization and strengthening of the National Forest Monitoring System (NFMS), and inform the stepwise improvement of the Forest Reference Level (FRL), and the Safeguards Information System (SIS) for reporting on how Ghana is addressing and respecting safeguards. Methods and protocols have been developed with readiness funds from the FCPF as well as within the context of the Ghana Cocoa Forest REDD+ Programme (GCFRP). These will be used to enable data and inputs from the NSZ which are currently absent at the national level. The data and information from the GSLERP will be integrated with the National Climate Data Hub within the Environmental Protection Agency (EPA) to facilitate effective reporting to the UNFCCC.

106. Ghana is developing a REDD+ Investment plan (with support from the Government of Italy and UNDP). Data and information from the monitoring system will also provide data and assurances for investors, as will a REDD+ Registry and a sustainable financing facility which can manage the

[35] The desirable next step would be to connect this to a process to results-based actions as per a verified contribution towards Ghana's NDC

use of proceeds from results based payments from public and private sources. This will be linked to the efforts to seek results based payment from the NSZ from various sources.

107. The output is divided into three parts for an innovative and effective integrated project monitoring system encompassing safeguards, carbon emission reductions and monitoring of project outputs. It will include addressing and respecting safeguards building on work already conducted.

Activity 4.1 Address and Respect Safeguards

108. Ghana recently submitted its first summary of information to the UNFCCC as part of its national communications. All REDD+ countries are expected to submit these summaries every two years to the UNFCCC. They describe the country's overall approach to safeguards implementation, and in particular, how the seven Cancun safeguards are being addressed and respected. The remaining activities to complete are the population of a web portal which would transparently report how Ghana is addressing and respecting REDD+ safeguards and the extension of the scope of implementing safeguards beyond the GCFRP area. Adequate capacity has already been built in respect of SIS. Ghana has a sub-working group on safeguards which is tasked to ensure that proposed REDD+ interventions to be implemented ''do no harm'' both socially and environmentally. Ghana's national approach encompasses the Cancun, World Bank, UNDP (as GCF AE), national and other safeguards requirements. The GCFRP has undertaken a Strategic Environmental and Social Assessment which produced an Environmental and Social Management Framework (ESMF) and a Resettlement Policy Framework (RPF) which have been completed. In 2019, a Feedback and Grievance Redress Mechanism (FGRM), and the Benefit Sharing Plan for the GCFRP were finalised[36].

109. At the national level efforts are being undertaken to strengthen capacity: Ghana's REDD+ safeguards architecture has been fully decentralized to the district level and trainings have taken place to train safeguard regional and district level focal points. These safeguard focal points include the Forestry Commission's Assistant Regional Managers, Assistant District Managers, and Assistant National Park Managers who have been trained on the national safeguards approach, safeguards data collection and monitoring and social and environmental compliance. A Safeguards Information System (SIS) web platform has been developed and data is yet to be populated on the platform. There is work on-going to define Principles, Criteria and Indicators (PCIs) and these indicators will feed into the SIS. Ghana envisages to have a fully functional SIS which will be improved over time as new information comes in from different areas. Ghana's SIS web address is www.reddsis.fcghana.org.

110. GSLERP will feed into the national process on safeguards by providing specific information regarding the NSZ which is not available currently, as detailed in the sub-activities below.

Sub activities will include:

4.1.1: Undertake a project-level Environmental and Social Impact Assessment through training, participatory reviews and stakeholder meetings.

This, as well as the Benefit Sharing Plan and FGRM developed for the GCFRP will inform the draft Environmental and Social Management Plan for the GSLERP and enable its finalisation and implementation. It will contain indicators guided by the national level approach in order to assess the impact of target interventions and ensure that activities undertaken are in line with the required social and environmental safeguards;

4.1.2: Populate the REDD+ portal with information and data incorporating data from the GSLERP.

In terms of collection of information, the regional and district SFPs will collect data in collaboration with the safeguards team which is reviewed and verified by the Programme Management Unit (PMU)

[36] Documents can be referred to here

safeguards specialist. The specialist will then forward the programme's safeguard information and data on to the National Safeguards Team for final validation and approval, with the knowledge of the Director for Climate Change Department. The Director will give final validation of safeguards information and then trigger reporting to the EPA for the UNFCCC (national communication), UNDP and enable web-based publication and updates into the SIS for relevant stakeholders and the general public.

Activity 4.2 Monitor, report and verify greenhouse gas emission reduction targets

111. The aim of establishing a forest reference level (FRL) is to construct a baseline upon which the information generated through the national forest monitoring system (NFMS) on effectiveness and the benefits from REDD+ interventions would be measured against. FRL and NFMS are essential tools for demonstrating transparency and accountability credentials of Ghana's REDD+ work and to seek results based payments under the UNFCCC. The development of sub-national FRL for the GCFRP and subsequent national FRL was finalized in 2016 with the draft submitted in 2017 to UNFCCC after which it was subjected to Technical Assessment (TA) within the UNFCCC process for one year. The final version of the Technical Assessment Report has been officially published in August 2018. The National REDD+ Secretariat is currently reviewing the FRL to ensure its consistency with the National Green House Gas Inventory Report which will be included in the technical annex to the BUR by third quarter of 2020. This includes refinement in some methodologies for the calculations of forest degradation and assessment of accuracy of land use change maps.

112. The standard operating procedures and guidance document that set out the step-by-step instructions in analysing both spatial data and emission factors for the FRL and MRV will inform the development of the sub-national FRL for GSLERP and the improved monitoring, measurement and reporting of emissions from the shea landscape which are not provided for in the national process. This will contribute to the step-wise improvement of the national FRL.

113. There has been investment both from the public and private sector in Ghana's National Forest Monitoring System. Pockets of the National Forest Monitoring System exist within government institutions and other players in the REDD+ sector. As part of Output 4, efforts shall be made to establish an integrated forest monitoring system which shall serve the need of all key stakeholders. To this effect, a national forest monitoring framework document has been developed which provides a road map for the establishment of the integrated NFMS.

114. The focus will be to harmonize and bring together the various components housed in different institutions for a functional NFMS that is able to meet the following requirements: regular tracking and reporting of GHG emission reductions (with links to the SIS) and transparent communication of REDD+ transactions as well as financial flows. The deployment of the NFMS will allow Ghana to be in a position present a proposal to receive further results based payments under the UNFCC framework. Furthermore, the system will also support all related sectors by providing them with transparent and accurate information about resources under their jurisdiction and third-party verification of reported activities. GSLERP will provide the elements to complete the NFMS platform.;

Sub-activities will include**:**

4.2.1: Update the FRL and land cover maps to develop a clear assessment of past and current trends in forest cover change within the NSZ.

This will feed into the development of a sub-national FRL. There is need to improve the activity data through the set-up of sampling plots (including maintenance of existing ones) to ascertain land use classifications which have not been carried out for the NSZ. Trainings will be required for Regional Management Support Centre (RMSC) and other partners. The Centre for Remote

Sensing and Geographic Information System at the University of Ghana is also carrying out forest degradation analysis using analysis of satellite images to replace the four different methods (fire, woodfuel, legal and illegal logging) that were used in calculating forest degradation for the FRL for GCFRP and the National FRL. This new method will be integrated on a Google Engine platform and the capacity of FC staff built to have ownership and understanding and usage of the platform in generating activity data and emissions factors NSZ. The capacity of the FC's Regional Management Support Centre in Tamale for the design of assessment methodology will also be strengthened. GSLERP is the only source of data for NSZ for the operationalization of the NFMS;

4.2.2: Procure service providers to develop the NFMS web portal to host data, maps and other information which can be accessed by key stakeholders.

This will include procurement of infrastructure, acquisition of existing datasets and structure for regular updates. It will also include stakeholder consultations on how different sources and providers of information and data can be integrated. The satellite land monitoring system and ground truthing exercises to be carried out by RMSC and communities will be designed, maintained and implemented with the appropriate frequency to detect and provide information on reversals and to perform the functions of monitoring, measuring and reporting results of the REDD+ activities. The development of requisite human resources and technical capacities for the NSZ will be covered by GSLERP.

4.2.3: Monitor timber value chains to better integrate the NSZ into the FC's work on timber legality.

The focus will be on accurately monitoring timber harvesting in the intervention areas, as well as improving processes for timber and salvage permit issuance. This will be integrated into the overall monitoring and evaluation system described in Section E.

The activity will build on the relevant systems in place to implement the provisions of the EU-FLEGT Voluntary Partnership Agreement (VPA), a process which begun in 2009. A Wood Tracking System (WTS) and the protocols for assessing legal compliance are key elements developed. The agreement sets out the commitments and actions of both parties to tackle illegal logging among others. REDD+ commenced in Ghana about the same time FLEGT began. Both processes have evolved over the period with close collaboration and consultations in making decisions that relate to forest cover management and sustainability. The definition of legal timber as provided in the VPA, has set out the standards for enforcement of regulations against illegal timber harvesting and trade. The WTS which has undergone several iterations and pilots and now being implemented has provided an efficient means of tracking wood right from the source to the final product which makes it easier to identify illegal wood. Verification Auditing and eventual acquisition of FLEGT license to export timber to the EU could provide further opportunities for the MTS plantations.

With regards to leakage and displacement of emissions reductions, the risks have been considered in the draft environmental and social management framework in Annex 6b. The planned actions are in themselves designed to have long-term financial and ecological sustainability, consider legal and regulatory frameworks including tenure, support and ownership among stakeholders, and potential changes in environmental conditions. Fire, a key potential source of reversals is fully embedded in the project activity through fire management by communities and the FC. Factors such as benefits derived from and incentives for restoration are considered through the nature of activities described in outputs 1, 2 and 3. These address the underlying and indirect drivers of deforestation and forest degradation, and barriers to sustainable management, conservation, enhancement of forest carbon stocks and land use change rather than only addressing direct drivers at specific locations.

The Forestry Commission has established REDD+ safeguard focal point in the districts and their role is to work with the ongoing initiatives to monitor where leakage takes place. GSLERP will work with the safeguard focal points to implement specific management measures. In addition, working

together with the various initiatives on the landscape is strongly envisaged and part of the implementation modality to achieve a collaborative approach to achieve shared objectives. For example, the Landscape Restoration Programme, a second phase of the Sustainable Land and Water Management Project (SLWMP) is also occurring in adjoining sites. The overall approach and various strategies planned in Outputs 1-3 for both off reserves and forest reserves, fallows and fields are also designed to prevent leakage across the Northern Savannah Zone.

Activity 4.3 Monitor and evaluate project outputs

115. This activity covers the third part of the integrated monitoring system, which encompasses the monitoring of the outputs of the project. GCF funding will be used to ensure that monitoring and evaluation systems are put in place to track progress over the 7 years of project implementation towards the planned project outcomes and fund level impacts. The integrated system will be supported by the use of MapHubs software and use of Ghana's tree registry system where this is possible to monitor planted seedlings. Trainings will be carried out on how to use the system and focal points will be assigned at the community level. This will enable various stakeholders to use the monitoring system during the project and after its completion.

116. The output will also focus on monitoring project outputs, which will be conducted primarily by the PMU together with stakeholders within target areas, with adequate checks on quality assurance. Methods developed will feed into methods for community monitoring of CREMAs and MTS by the Forestry Commission. There will be close linkages with field level monitoring and the work on safeguards to ensure streamlined data collection and storage which include baseline assessment of status of forest and tree cover within CREMA, forest reserves and shea parkland areas; training to communities on data collection on fire management – e.g. burning times, areas burnt, amount harvested; provision of equipment to target communities; training to regional forestry officers and provision of equipment to regional forest offices.

117. The institutions involved are Forestry Commission through the climate change directorate's working group on FREL, monitoring, safeguards and the Project Management Unit, safeguards focal points in the regions, FC's Regional Monitoring Service Centre in Tamale, Environmental Protection Agency and community focal points for safeguards, monitoring and reporting.

<u>Sub-activities will include:</u>

4.3.1 Set up and implement a system for effective monitoring of project outputs and communicate results

4.3.2 Conduct project evaluations

4.3.2 Support project level planning and review

B.4. Implementation arrangements

118. The relationship between the GCF and UNDP as Accredited Entity will be regulated by the Accreditation Master Agreement (AMA) and the Funded Activity Agreement (FAA). The project will be implemented following UNDP's National Implementation Modality (NIM), according to the Standard Basic Assistance Agreement between UNDP and the GoG, and the policies and procedures outlined in the UNDP POPP (see https://popp.undp.org/SitePages/POPPRoot.aspx).

119. The Implementing Partner (or Executing Entity - EE) for this project is the Forestry Commission (FC). It assumes full responsibility and accountability for the effective use of UNDP resources and is the EE for all outputs. It is accountable to UNDP for managing the project to deliver the planned outputs and manage risk in accordance with the agreed project document; reporting fairly and accurately on project progress and risk against agreed workplans and results frameworks, in accordance with the reporting schedule and formats included in the project agreement; and maintaining documentation and evidence that describes the proper and prudent use of project resources in conformity with the project agreement, and applicable regulations and procedures. The relationship between UNDP and the Implementing Partner will be regulated by the project document (or subsidiary agreement) signed by both parties.

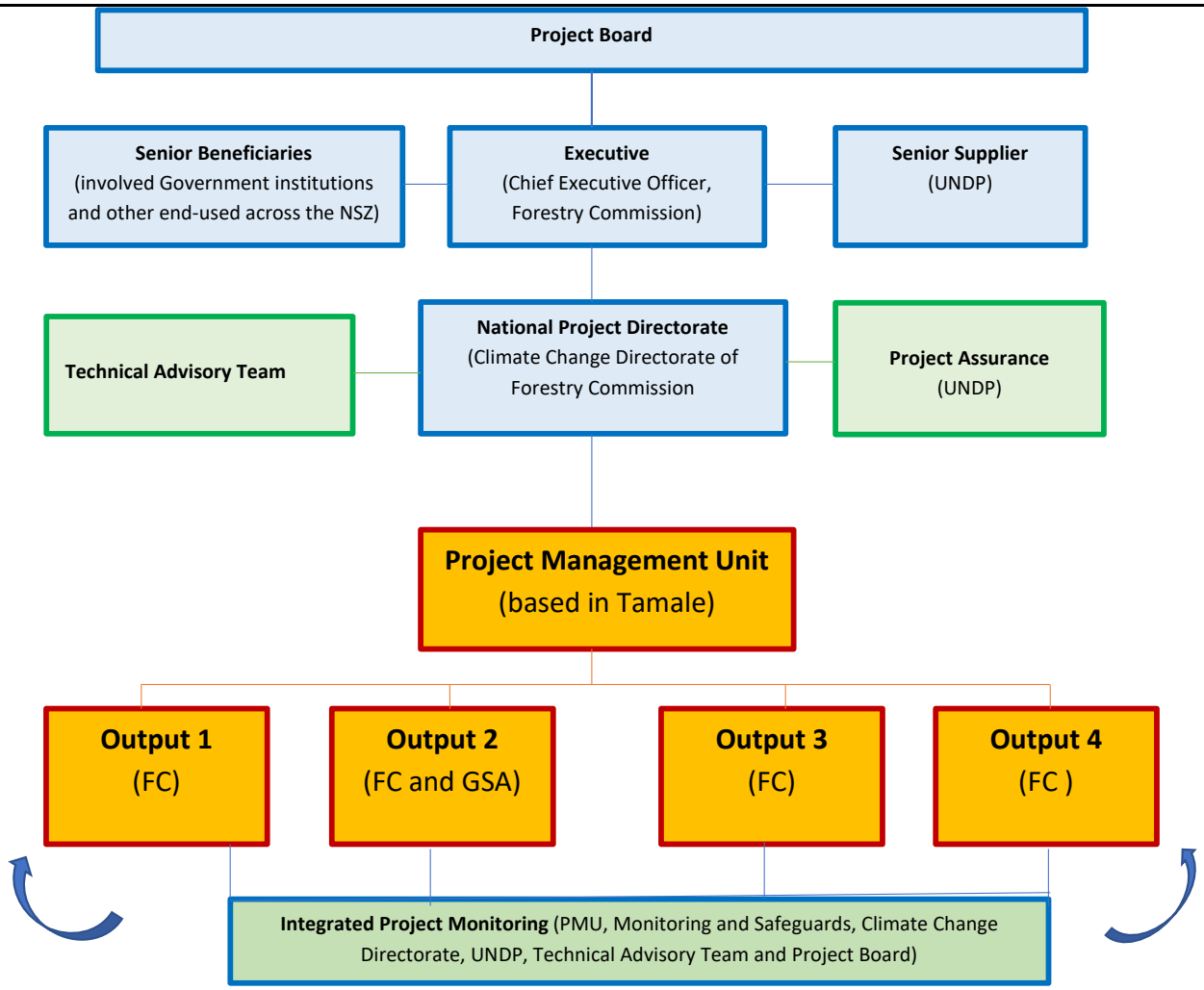
    Based on its collaborative advantage, the Global Shea Alliance (GSA) will act as Responsible Party in the delivery of the project outputs by leading and carrying out the implementation of Activities 2.1 and 2.2. GSA will be directly accountable to the FC in accordance with the terms of their agreement or contract.

120. These relationships are summarized through the following legal agreements:

    i. between GCF and UNDP (as Accredited Entity): Funded Activity Agreement;
    ii. between UNDP (as Accredited Entity) and the Forestry Commission (as Executing Entity): Project Document; and
    iii. between FC (as Executing Entity) and GSA (as Responsible Party). This agreement will be set up by the legal unit of the FC. FC's protocols will be followed and the agreement will be in the form of a Memorandum of Understanding.[37] GSA is the Responsible Party for Output 2, Activities 2.1 and 2.2. It will work in conjunction with the private sector entities to deliver the outcomes related to these activities as per the arrangements described in Para 129 below.
    iv. Project specific legal agreement to undertake the public-private partnership between GSA (as a responsible party) and NGO. The NGO will have the responsibility to ensure private entities activities are undertaken (see the list of private entities in co-finance annex) through these project specific (sub-) agreements (defined as public private partnerships).

The management arrangements for this project are summarized in the chart below.

[37] In the situations described in (ii) and (iii), UNDP's guideline in the POPP states: Implementing Partners use their own policies and procedures to implement projects as long as they are consistent with UNDP's policies. For projects implemented by partners other than UNDP, the relevant legal instrument of the partner institution will be used. The accountability of a responsible party to the implementing partner (EE) should be clearly specified in these legal instruments. For more information on the role of responsible party please see: https://popp.undp.org/SitePages/POPPSubject.aspx?SBJID=223 and https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PPM_Design_Select%20Responsible%20Party%20and%20Grantees.docx&action=default



121. The project will be governed by a Project Board which is responsible for making management decisions by consensus when required, including the approval of project plans and revisions. It reviews evidence on project performance based on monitoring, evaluation and reporting, including progress reports and the combined delivery report. It will ensure the implementation of management plan for project risks identified and oversee the project implementation, reviewing and ensuring compliance with Government of Ghana, UNDP and GCF requirements.

122. Board decisions are made in accordance with standards to ensure management for development results: best value for money, fairness, integrity, transparency and effective international competition. The project board is consulted should there be any major deviation from the approved multi-year workplan and it decides on project changes through appropriate revisions. It ensures that required resources are committed, arbitrates any conflicts in the project, and negotiates any issues between the project and external bodies. In addition, it approves the appointment and responsibilities of the project manager and any delegation of project assurance responsibilities. In case a consensus cannot be reached within the board, a final decision shall rest with UNDP's Resident Representative or staff member with delegated authority.

123. The Board will meet at least twice in a year, in addition to ad-hoc/emergency meetings called by the National Project Director.

The board will be composed of:

- The Executive: The CEO of the FC, who will chair the Project Board and represent project ownership. In addition, the National Project Director, who will be appointed by FC and will be responsible for overall direction, strategic guidance and delivery of project outputs (position non-remunerated with GCF resources).
- The Senior Supplier: UNDP in its capacity as GCF accredited entity will represent the interests of the parties concerned that provide funding and/or technical expertise to the project as outlined above.
- Senior Beneficiary: Representing the interests of those who will ultimately benefit from the project. Their primary function within the board is to ensure the realization of project results from the perspective of project beneficiaries. It includes GSA (representing the private sector partners) and representatives from civil society, research and academia, the national REDD+ Gender Sub-Working Group , and other relevant government MDAs including MOFA, MLNR, Ministry of Finance, EPA, and Ministry of Environment, Science, Technology and Innovation (MESTI).

Management arrangements

124. The project will be hosted by the Climate Change Directorate in FC, which will provide staff for overall coordination and monitoring of the project. A Project Management Unit (PMU) will be established and attached to the FC regional office in Tamale, capital of the Northern Region of Ghana. Led by a Project Manager (PM) that will be selected through a competitive selection process, the PMU will execute project activities, including day-to-day operations of the project, and the overall operational and financial management and reporting. The Project Manager will run the project on a day-to-day basis within the constraints laid down by the Project Board. The Project Manager function will end when the final project terminal evaluation report and other documentation required by the GCF and UNDP, have been completed and submitted to UNDP. The Project Manager's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost.

125. The overall strategy of the FC is to maximum reliance on its existing regional and district level staff, especially for implementation of Outputs 1 and 3. Gender balance will also be sought amongst project staff. All the Divisions of the Commission have Regional and District offices spread across the length and breadth of the country. At the Regional and District Level, the various arms of the FC - the Forest Services Division (FSD); Wildlife Division (WD); Timber Industry Development Division (TIDD); Forestry Commission Training Centre (FCTC); and Resource Management Support Centre (RMSC) work in tandem bringing their various expertise mandate together to nurture forests and ensure management, technical support and advice and monitoring functions are in place. These include a Regional Manager, two Assistant Regional Managers per region, District Managers, two Assistant District managers per district, a number of Forest Range Managers, Forest Range Supervisors and Forest Guards. More women are being engaged to various positions ranging from Directors, Regional Managers, District and Assistant District Managers and Range Supervisors.

126. UNDP provides a three-tier oversight and quality assurance role involving UNDP staff in Country Offices and at regional and headquarters levels. The quality assurance role supports the Project Board by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. The project assurance role is covered by the Accredited Entity (AE) fee provided by the GCF. As an AE to the GCF, UNDP is required to deliver GCF-specific oversight and quality assurance services including: (i) Day-to-day oversight supervision, (ii) Oversight of project completion and (iii) Oversight of project reporting. The 'senior supplier' role of UNDP is to represent the interests of the parties, which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). In addition, the Government of Ghana may request UNDP to provide

direct project services for this project. The UNDP and Government of Ghana acknowledge and agree that those services are not mandatory and will be provided only upon Government request and specified in the Letter of Agreement. If requested, the direct project services would follow UNDP policies on the recovery of direct project costs relating to GCF funded projects.

Engagement of the private sector

127. The activities to be co-financed by private sector partners will remain their own responsibility and all funds would be managed directly by themselves. No funds will be co-mingled with the GCF funds being managed by the GSA as a Responsible Party for Activities 2.1 and 2.2. GSA will be responsible for liaising with the private sector co-financiers on their funded sub-activities, monitoring their progress, and ensuring that there is synergy and complementarity between these sub-activities and those funded by the GCF.

128. GSA will also represent the private sector partners in the Project Board and ensure that their interests in promoting a sustainable, profitable and competitive shea industry are not compromised.

129. The private sector co-financing for Activity 2.2 will be disbursed through a joint proposal mechanism which details their proposed activities, key performance indicators, budget, funding structure and location of activities. These activities include warehouse construction, distribution of equipment, trainings related to cooperative management, business development, aggregation of kernels in warehouses, quality control and training and distributing improved cookstoves. The private sector will implement these activities directly within a public-private partnership framework. These proposals will be reviewed by Forestry Commission as part of the technical review committee, with representatives from the GSA, UNDP. Once approved, companies will implement the agreed activities together with NGOs and GSA will enter into a performance based payment contract with the NGO to implement the GCF funded-activities. This is basically a vendor relationship (contract with the private entities will be signed based on procurement principles and the modality that will be used is a payment for achieved results/deliverables).

130. Evolving farmer organizations to be capable of aggregation, warehousing and direct sales will require strong monitoring and evaluation. A supply chain expert will be hired to work on the mid-term evaluation and specific log-frame milestones to monitor real change in smallholder systems.

Describe the experience and track record of the AE and EEs with respect to the activities (sector and country/region) that they are expected to undertake in the proposed project/programme.

131. The Executing Entity or Implementing Partner for this project is the **Forestry Commission (FC) of Ghana**. It is responsible for the regulation of utilization of forest and wildlife resources, including fire management and control, the conservation and management of those resources and the coordination of policies related to them[38]. The FC's sector ministry is the Ministry of Lands and Natural Resources (MLNR). The FC is constituted of three main divisions; Forest Services Division (FSD), Wildlife Division (WD) and the Timber Industry Development Division (TIDD). Other specialist units under the FC are the Training Centre and Resource Management Support Centre (with an office in Tamale in the NSZ). The FC has decentralized offices at the regional and district level.

132. Beyond these Divisions, the Act 571 mandated the Commission to create the following Departments to constitute a part of the secretariat of the Chief Executive: Planning, Monitoring and Evaluation Department; Legal Department; Internal Audit Department; Finance and Administration Department; Research and Information Management Department; and Such other Departments/units as the Commission may determine, from which provision, the Information

[38] http://www.fcghana.org/

Communication Technology Department and the Timber Validation Department (TVD) have been formed. The Commission is responsible for the regulation of utilization of forest and wildlife resources, the conservation and management of those resources and the coordination of policies related to them.

133. The project will be hosted by the Climate Change Directorate[39], which was established in 2007 with a mandate to manage forestry-sector initiatives related to climate change adaptation and mitigation, including REDD+. As Implementing Partner/Executing Entity, the FC will be responsible for coordinating the implementation of this project, relying on its various divisions and decentralized offices, as well as working in close collaboration with relevant stakeholders.

134. The FC has vast experience in managing and implementing projects and programs relating to forest land use among which the key areas of focus have included biodiversity conservation, wildfire management, natural resource and environmental governance among others. The FC, with support from Global Environmental Facility (GEF), implemented the High Forest Biodiversity Conservation Project (USD7.8M) and the Northern Savannah Biodiversity Conservation Project (USD8.2M) intended to increase the ecological security of globally significant biological resources. Between 2009 and 2014, it implemented the Natural Resource Environmental Governance programme with funds from a number of sources including the EU, Switzerland, DFID, World Bank, the Netherlands, France with a total amount of USD 40M to ensure predictable and sustainable financing for the forest and wildlife sectors and effective forest law enforcement. The Dutch Government supported the FC with 12M euros to implement the Wildfire Management Project for the rehabilitation of fire-degraded forests to recover lost economic, social and environmental benefits to the rest of the transitional zones.

135. The FC is currently implementing a large portion (USD 30 million) of a USD 50 million Forest Investment Program (FIP) being funded the Climate Investment Funds. which is *inter alia* piloting key REDD+ activities in the Western and Brong-Ahafo Regions of Ghana. The overall goal of the FIP is to reduce greenhouse gas (GHG) emissions from deforestation and forest degradation, while reducing poverty and conserving biodiversity. The FC, through the Climate Change Directorate has completed the REDD+ Readiness Phase funded by FCPF (USD 8.6M) and signed an emissions reductions purchase agreement with the Carbon Fund for the GCFRP. The FC signed an agreement with the World Bank for USD 50 million with Government and private sector commitments.

136. UNDP is one of the world's largest brokers of climate change grants for developing countries, with a current portfolio of USD 1.34 billion in mitigation and adaptation grant-financed projects in over 140 countries, supported by co-financing of $6.7 billion. The project builds on UNDP's experience and extensive worldwide forest programmes which, through a range of partnerships, currently amounts to approximately US $750 million. UNDP's expertise ranges from strengthening forest governance (i.e. the ability of public administrations to sustainably manage forest resources and strengthen accountability for decision-making); developing financial systems and mechanisms to underpin governance (e.g. financial incentives; PES schemes; financial planning and delivery systems, national REDD+ related PAMs); working with the private sector and governments to promote deforestation-free commodity supply chains; ensuring the inclusion of indigenous peoples and civil society in sector decision-making; strengthening the livelihoods of forest-dependent communities, to ensure they are more sustainable and inclusive; and strengthening the management of protected areas, including indigenous and community conservation areas.

[39] The Unit was created in 2007 and was duly upgraded to a 'Directorate' on April 4, 2018.

137. The project also builds on UNDP's experience as a partner of the UN-REDD Programme, a delivery partner of the Forest Carbon Partnership Facility (FCPF), as well as an implementing partner for the Governors' Climate and Forests Taskforce Initiative, and CAFI. Within the UN-REDD Programme, UNDP supports, in particular, indigenous peoples and forest-dependent communities, and has been instrumental in supporting countries to develop national safeguard systems and grievance mechanisms, and developing and applying the principle of Free, Prior, Informed Consent (FPIC) to REDD+. UNDP plays a leading role in supporting countries to develop national REDD+ strategies and action plans that are inclusive and which respond to national development priorities as well as the requirements of the UNFCCC process.

138. UNDP already has experience in supporting a number of countries to transition into Phase II REDD+ implementation. For example, in Viet Nam, UNDP is the lead facilitating agency for the Norway-funded USD 30 million Phase 2 UN-REDD Programme. In Indonesia, UNDP provided the platform for the implementation of the USD 30 million first phase of Norway's $1 billion bilateral REDD+ agreement. In the Democratic Republic of Congo (DRC), UNDP has led the establishment of the National REDD+ Fund in DRC including the development of its investment framework and managing over $60m under CAFI. In Ecuador, UNDP led the development of the first-ever REDD+ project approved by the GCF in Ecuador and support other countries in Africa on Phase II work including Zambia, Liberia and Ethiopia. UNDP Climate and Forests team secured the first results based payments for Brazil and Ecuador from the Green Climate Fund's REDD+ RBPs window.

139. UNDP has a team of 35 REDD+ experts supporting more than 40 countries. They are based in regional teams in Panama, Nairobi and Bangkok, and backstopped by global technical advisors in New York and Geneva. The team has excellent working relations with key REDD+ donors, such as Norway's International Climate and Forests Initiative team, and is recognized as providing high-quality, trusted technical advice to many of the most rapidly advancing REDD+ countries in the world. UNDP has also a team of 11 experts in its Green Commodities Programme, which focuses on the sustainability of commodities. These experts will provide technical support to the UNDP Country Office in Ghana throughout project implementation.

140. The UNDP Ghana Country Office was established in 1978. As a long-term and trusted government partner, UNDP is recognized by national and local stakeholders for playing a relevant role in the country's development progress and in delivering on partner priorities. In recent years, UNDP has been playing a leading role in supporting the mainstreaming of climate change and environmental considerations into development planning and the development of a solid climate change policy framework in the country. UNDP has also supported government in accessing vertical funds such as the GEF and the Adaptation Fund. Since 2016, UNDP has co-chaired the Environment and Natural Resources Sector Working Group (ENRSWG) on behalf of development partners. The ENRSWG was established in adherence to the principles of Aid Effectiveness. The Country Office has the required operational, financial and technical capacities to manage this project, which complements its other initiatives in the environment portfolio under the United Nations Sustainable Development Partnership and the UNDP Country Programme Document, as described in E.5.1

141. **Global Shea Alliance (GSA)** is a non-profit industry association based in Accra with 500 members from 35 countries including women's groups, brands and retailers, suppliers, and NGOs. Through public-private partnerships, the GSA promotes industry sustainability, quality practices and standards, and demand for shea in food and cosmetics. Relevant to this project are: 1). *The Sustainable Shea Initiative,* which is a USD 13 million, five-year public-partnership agreement to promote shea markets worldwide and improve sustainable production in Africa signed between the GSA and USAID. In Ghana, there are sixteen on-going public-private partnerships under this

initiative; and 2) *The Sustainability Programme*, which includes a series of projects to promote sustainability in the shea value chain.

142. During project implementation, various key partners will participate. These roles will be further confirmed and determined.. These are including but not limited to the following government agencies, research institutions, CSOs and networks.

- **Ministry of Food and Agriculture (MOFA):** its mission is to promote sustainable agriculture and thriving agribusiness through research and technology development, effective extension and other support services to farmers. It will have an important role (in particular its decentralized extension divisions) in ensuring that food/crop production extension service in the NSZ is aligned to the project's goals. MOFA is fully decentralized with 7 directorates as well as information and monitoring officers at Regions and the Districts. Area Extension Agents (AEAs) are present in the District and these come under the Local Government Services. The research institution under MoFA is the Centre for Scientific and Industrial Research (CSIR). They will be working on Outputs 1 and 2
- **Forestry Research Institute of Ghana (FORIG):** This is a research institute under the Council for Scientific and Industrial Research (CSIR) conducting forest and forest products research for social, economic and environmental benefits of society. The project will rely on its expertise for applied research aspects of the project.
- **Environmental Protection Agency (EPA)** the National Focal Point for Climate Change and is responsible for all National Communication to the UNFCCC. It also hosts Ghana's Climate Change Data Hub, a one-stop information sharing portal on Ghana's actions to tackle climate change including a Domestic Electronic Registry System for climate actions in ministries, cities and project levels.
- **Ghana Cocoa Board (COCOBOD)**: Its main responsibility is to encourage and facilitate the production, processing and marketing of good quality cocoa, coffee and shea fruit in all forms in the most efficient and cost-effective manner. The extension arm of Cocoa Board is Cocoa Health and Extension Division (CHED), which currently has limited or no agents responsible for the shea sector in the northern savannah landscape. Research is carried out by the Cocoa Research Institute (CRIG) sub-station in Bole. The project will collaborate with CRIG on training for the on-farm trials and propagation. COCOBOD has developed a draft Shea Strategy which will be finalized during the life of the project. It will also develop the framework to implement the Strategy.
- **Kwame Nkrumah University of Science and Technology (KNUST):** Its mission is to provide an environment for teaching, research and entrepreneurship training in science and technology for the industrial and socio-economic development of Ghana, Africa and other nations. The project will collaborate with the Faculty of Renewable Natural Resources for managing the knowledge management aspects of the project.

  A Rocha Ghana, World Agroforestry Centre, Noé, Birdlife International, IUCN Ghana and Clientearth/Taylor Crabbe Initiative: These are well established NGOs in the country and the NSZ, with substantive experience in CREMA development and management, community-based conservation and forest and land tenure reform.
- **Northern Development Authority (NDA):** It was set up by an Act of Parliament, Act 963, 2017 to provide a framework for the accelerated economic and social development of the Northern Development Zone (NDZ) and for related matters. The NDA has regional offices in the three northern regions[40].
- **Shea Network Ghana:** It is a multi-stakeholder network whose mission is to engender a common national shea agenda, facilitate and coordinate the efforts of all stakeholders in promoting shea. It will be fully in work on the multi-stakeholder engagement.

[40] Ghana is in the process of establishing six new regions in addition to the existing ten. This may eventually increase the number of regions in Northern Ghana from three to five,

B.5. Justification for GCF funding request (max. 1000 words, approximately 2 pages)

143. The proposal makes a case for a grant (100% concessionality), on the basis of the following inter-related elements (i) all the project components target barriers which, in principle, need to be addressed within public expenditure frameworks; (ii) given the current state of Ghana's public finances (e.g., limitations to government taking on concessional debt in the current challenging macroeconomic circumstances), such public expenditures can now only come from international grants.

144. The GCF grant request is strategic, adds value and ensures the viability of various benefit streams and will be applied to all four outputs. First, the constituencies that the project addresses and the beneficiaries are amongst the poorest in Ghana[41], and whose already vulnerable livelihoods are being impacted by climate change. Funding will help them to meet emission reduction objectives while transiting to more sustainable livelihoods.

145. Second, Output 2 which attracts private sector co-financing is not commercially viable on its own in the land use sector, as these are unable to tackle the systemic issues in the shea value chain that are seeing a steady decline in tree stocks which occur on communal or farmland. The supply chain depends on women to collect the kernels but supply is diminishing. If women, organised in cooperatives would be guaranteed of fair prices and a market, various agents, (small enterprises, larger international companies and non-government organisations) could buy in bulk higher quality kernels (due to better storage) and ensure the supply of shea thus stabilizing the value chain in the long term. This arrangement embodies a risk sharing structure between the public and private sectors, whereby performance contracts are set up with groups of women who plant and collect shea to ensure the sustainable care and management of young vulnerable seedlings to maximize survival rates in the early stages of tree growth. Tree planting activities will be implemented through the results/performance-based payment contracts described in output 2. As the primary interlocuter, Global Shea Alliance and partners will embed these performance indicators to ensure survival of the trees into the public-private partnership contracts, as well as engage the private sector buyers to contribute to tree monitoring and link tree production with incomes. All parties will be responsible for the tree survival, not just the farmers. Together, they will define which monitoring and support schemes are the most appropriate.

146. The proposed project is the first attempt to plant shea trees at such a large scale, and thus it will have a positive impact in terms of cost reduction, development of proven methods, as well as demonstrate the benefits of parkland restoration. The project will be scalable or replicable in the absence of additional grant funding. First, the nursery infrastructure will stay with the communities, who will be able to amplify the restoration efforts through additional tree planting, and continuous parkland management. Second, because of its scale, the project will remove the current barriers or negative perceptions associated with shea tree planting (high cost, lack of knowledge, lack of results etc.) so that it is easier for private companies to replicate this effort in other parts of their supply chain. The GSA has seen that previous PPPs it has implemented have usually led to new projects by private companies, as they have been able to evaluate the benefits and draw the necessary partnerships to do so.

147. Third, the fiscal space is severely constrained and there are challenges in taking on even concessional debt. Ghana is currently under a 3-year extended credit arrangement (ECA, 2015-2018, extended for 1 year with closure requirements in 2019) with the IMF, the objectives of which

[41] The Ghana Living Standards Survey (GLSS) reports poverty is intense in the rural savanna including the shea landscape with more than a quarter of people living there being described as extremely poor. The GLSS 6 emphasizes that, overall, the dynamics of poverty in Ghana over the period 2005/06 to 2012/13 indicate regional variations, with the Upper West region being the poorest, and the Northern region being the highest contributor to poverty since 2005/06 periods (Cooke et al, 2016). GLSS 7, released in September 2018, noted a continuation of this trend, with regional differences widening and the Upper West region still the poorest, whilst the other two regions experienced significant increases

are to restore debt sustainability and macroeconomic stability in the country to foster a return to high growth and job creation, while protecting social spending. Under the ECA, there is a ceiling on the contracting or guaranteeing of new Non-Concessional External Debt as well as limits on Concessional Debt.[42] Given Ghana's still relatively high Debt/GDP ratio (it had risen to 73% by end 2016 and with significant efforts had been brought down to a still high 68.7% of GDP by November 2017[43])), and the potential for slippages, which are a cause for concern, it is unlikely that additional debt, even on concessional terms, could be taken on within these limits without a clear financial case even where social benefits are high [44]. Restructuring the maturity of the current debt profile and addressing the debt challenges of the energy sector state owned enterprises, especially the legacy debt and ensuring continued viability of these enterprises is Government's main priority.

148. Fourth, local private sector investment in Ghana has been hindered by the very high cost of credit (the policy rate for government has now come down to 18% (from 25% in 2016), but commercial rates are still high (around 29%+ for enterprises) although trending downwards. See Table 8, Annex 3. Moreover, access to finance is much more limited in the Northern Savannah where the risk premium is perceived to be effectively higher. Activities that can reduce the risk-premium for business in the zone in areas that can jump start sustainable economic activities are thus to be welcomed. Thus, the project is not investing in any activities that would 'crowd out' the private sector as there is a relatively low level of private sector investment in the savannah zone. Rather, the evident commitment of private sector co-financing and parallel financing demonstrates how financing can be 'crowded in' from the side of shea processors once foundational investments can be undertaken on the supply side.

149. Fifth, the GCF grant will purely finance activities directly linked to climate change mitigation and adaptation. The detailed models and financial analysis are presented in Annex 3.

150. The grant financing leverages about USD 24 million in co-financing from private sector and government, and significant parallel private sector investment (USD 50 million). This would not happen but for the strategic investments through the GCF. It also leverages close to 50% of the amount requested in co-financing from the Government of Ghana.

B.6. Exit strategy and sustainability (max. 500 words, approximately 1 page)

151. Output 1 will increase the resilience of population in an area covering 440,000 hectares of land and forests. Population will increase adaptive capacities through better management of forests (Activity 1.1, 1.2 & 1.5), the restoration of ecosystem services (Activity 1.2 & 1.4), reduced risks of fire (Activity 1.2 & 1.4) and the generation of new sources of income and livelihoods (Activity 1.2, 1.3 & 1.5). These activities will continue beyond the project period and over the long term as capacities are built to activate incentives, governance and institutional frameworks put in place and the proof-of-concept become evident through the stream of benefits. Equitable sharing of benefits will be developed by communities to ensure fairness amongst groups and across gender. The Forestry Commission (and other government bodies such as the Ministries of Lands and Agriculture) will continue to support these processes and follow the necessary bureaucratic arrangement such as devolution certificates, registration of trees and permits to be issued.

152. The goal to transition the CREMA into self-sustaining community management entities will be based on the various streams of benefits that will be made possible by the project support. Revenues will be captured into a CREMA fund that can sustain the communities' activities in the long term. When rights are effectively devolved, and governance is clear, the community as a whole is recognized as the rights holder and the CREMA are enabled and empowered to govern the commons. The

[42] See IMF Article IV Consultation, 4th Review, page 71 Indicative targets are established include a "ceiling on the contracting or guaranteeing of new external concessional debt".

[43] Under Ghana's Public Sector Debt Sustainability Framework, projections by IMF point the debt/GDP ratio declining to 55.6% by 2022 which is still high.

[44] Even the Ghana Cocoa Board, which has regulatory oversight on the Shea industry and who would normally set aside a portion of cocoa revenues for re-investment has indicated its inability to invest substantively in the Shea Parklands as a result of its own debt concerns.

CREMA can retain the benefits through this social innovation which reconfigures social practices and norms.

The overall financial analysis of Output 1 show estimated annual benefits over a 20 year period in the CREMA as follows (five cedi=one US$); However, some highlights include

- Benefits from woodfuel start accruing from year Two, with actual net benefits for the CREMA: Though largely fluctuating from Cedis 67,000 to 229,000 during the project period, these positive net benefits build up steadily from Cedis 200,000, two years after the project ends to 353,000 in year 20.
- The project will cover start-up and running costs during the project period, meaning that the net benefits for the CREMA will actually range from Cedis 721,000 to 838,000 during the project period, which is an opportunity for CREMAS to start capitalizing their Funds. This will give the CREMAS an ability to develop their activities further as well as resist unexpected shocks. It should also be noted that an important part of the costs corresponds to actual payments to the local wood cutters and processors, which represents therefore money benefitting the community

YEAR	Benefits from woodfuel (Cedis'000)	CREMA start-up costs (Cedis'000)	Payments to wood cutters/ processors at 50% (Cedis'000)	Payments to Local Chiefs- 5% (Cedis'000)	Payments to Districts-5% (Cedis'000)	CREMA recurrent costs (Cedis'000)	Total costs(Cedis'000)	Net benefits for one CREMA(Cedis'000)
1	-	364	-	-	-	492	856	(856)
2	1,802		901	90	90	492	1,573	229
3	1,867		933	93	93	680	1,800	67
4	1,928		964	96	96	680	1,837	92
5	1,987		993	99	99	680	1,872	115
6	2,042		1,021	102	102	680	1,905	137
7	2,095		1,047	105	105	680	1,937	158
8	2,145		1,073	107	107	680	1,967	178
9	2,193		1,096	110	110	680	1,995	197
10	2,238		1,119	112	112	680	2,022	215
11	2,281		1,140	114	114	680	2,048	233
12	2,322		1,161	116	116	680	2,073	249
13	2,360		1,180	118	118	680	2,096	264
14	2,397		1,199	120	120	680	2,118	279
15	2,432		1,216	122	122	680	2,139	293
16	2,465		1,233	123	123	680	2,159	306
17	2,497		1,248	125	125	680	2,178	319
18	2,527		1,263	126	126	680	2,196	331
19	2,555		1,278	128	128	680	2,213	342
20	2,582		1,291	129	129	680	2,229	353

153. In Output 2, the following estimated annual benefits to women cooperatives are projected to be realised from the benefits of aggregation and training of shea kernels from current collection of existing shea trees from year two, from collection of shea from new trees planted from year seven onward. They do not take into account potential revenues from selling of improved shea seedlings from nurseries managed by women's cooperatives and gains made in efficiencies in fuel wood use and shea cakes for fuel.

YEAR	Benefits from shea nut collection (Cedis)	Aggregation training benefits (Cedis)	start-up costs (seedlings & planting costs) (Cedis)	Total costs (Cedis'000)	Net benefits for one farmer/ha (Cedis)
1	-	-	1,350	1,350	(1,350)
2	-	75		-	75
3	-	75		-	75
4	-	75		-	75
5	-	75		-	75
6	-	75		-	75
7	38	75		-	112
8	38	75		-	112
9	75	75		-	150
10	75	75		-	150
11	113	75		-	187
12	150	75		-	225
13	150	75		-	225
14	150	75		-	225
15	150	75		-	225
16	150	75		-	225
17	150	75		-	225
18	150	75		-	225
19	150	75		-	225
20	250	75		-	325

154. The project will aim to increase the supply of shea kernel to 8,000 metric tonnes after 7 years and increase profitability to incentivize further investment in shea production and parkland restoration. Bunge, a private sector agricultural company, inaugurated its crushing and fractionation facilities to extract the fat from the shea kernels and process fat into products for the cosmetic and confectionary industries in December 2019. Four other companies will also upgrade facilities including installing improved industrial boilers and generators and are using shea waste as biofuel to improve energy efficiency. The facilities will capture greater value-added processes within the country creating jobs and income, economic multipliers, and knowledge transfer. This upgrading of local processing will enhance the overall industry value in Ghana and create a macro incentive for industry, government, and civil society to protect and develop shea tree populations as well as policy support for the shea value chain.

155. There are indications that private sector companies will continue to participate in the value chain due to the growth of the shea value chain once they are assured of quality supply[45]. The project proposal was announced on GSA website and through a newsletter and reached more than 3,000 stakeholders as of September 2019. There have been one-on-one discussions with the private companies in the food and cosmetics sector and the proposal has been discussed and proposed at

[45] Trends on shea:
Globally, 90% of all shea export is used in the confectionary industry mostly as cocoa butter equivalent/improver to manufacture chocolates. The global growth in chocolate consumption is increasing the demand for shea-based ingredients utilized in the production of chocolates for specific benefits including including an improved melting profile, consumer preferred textures, reduced bloom, and improved shelf life. Shea is used in chocolate spreads, hazelnut and chocolate fillings, coatings, extrusion, and moulding. The number of confectionary product launches using shea as an ingredient has increased from only 200 products in 2012 to more than 1,400 products in 2019. This growth is mostly driven by Europe (800 products launched in 2019) and Asia (400 products). Following confectionary, shea is mostly used in bakery (pastry dough, margarine etc.) and snacking products.
Shea use will continue to grow in the food industry for the following reasons: 1/ a growing CBE demand which has had a 6.4% CAGR since 2002; 2/consumer preference for palm-oil free products; 3/demand for healthy and natural ingredient—shea stearin does not increase LDL cholesterol. In the cosmetic industry, shea use is driven by consumer trends focused on functionality, sustainability, as well as natural and traceable ingredients. Shea is the most frequently used natural ingredient in skincare. It ranks number 1 in the US, France, United Kingdom, Japan, and Germany and number 2 in Brazil, India, and China (Mintel Data – average 2014-2016).

multiple forums, including the GSA Sustainability Working Group in November 2017, 2018, and 2019, as well as in other conferences such as Beating Famine and the Land Degradation forum.

156. The project will help transform Ghana's shea commodity sector to become more climate-smart, using less wood in village-scale processing, which in turn reduces pressure on forest resources. The shea value chain will result in the development of sustainable, climate resilient and more profitable business opportunities for rural women. 370 women will be trained in shea restoration and equipped with business and marketing skills to set up cooperatives and manage shea-related infrastructures and 70 village nurseries, employing 700 women, will support the supply of seedlings for restoration efforts. Investments in enhancing efficiencies in village-scale processing, will add value in local communities and incentivize long-term participation in landscape management.

157. This integrated system across the value chain, with increasing upstream incomes early in the project will create incentives for shea restoration and sustainable management in the long term. Investment by producers and buyers to enhance the long-term reliable supply of quality shea through well managed landscapes and achieving higher prices for farm-level producers in Ghana will continue. Activity 2.1 and 2.2 will be implemented as public-private partnerships, with private sector companies and NGOs coming together to implement project activities in beneficiary communities through the performance based contracts – women will have learnt to care for planted seedlings of shea and other trees and have undertaken business, management and shea production trainings to ensure the women cooperatives are able to sustain themselves after the project phases out.

158. With respect to Output 3, Farmers engaged in MTS models will be able to accrue net benefits from intercropping from year 2 to 5, in a range from Cedis 154 to Cedis 675 per farmer/ha. A conservative approach has been taken and benefits from only one or two crops are considered with production only from year 2 to 4.
Other highlights include;
    - Year 6 and 7 won't see any benefits but a large benefit of 9,883 is expected in 8 from sawn timber, as well as 771 in years 16 and 20
    - Part of the start-up costs will go to the MTS farmers for their labour in setting up the system (nurseries + plantation)
    - As for CREMAS, most to all costs will go to wood cutters, which is money remaining in the community.

Estimated annual benefits for Taungya Groups are as follows

YEAR	Benefits (Cedis) from wood fuel	Benefits (Cedis) from saw timber	Benefits (Cedis)from intercroping	MTS start-up costs (Cedis)	Payments (Cedis) to wood cutters at 50%	Payments (Cedis) to Local Chiefs- 5%	Payments (Cedis) to Districts- 5%	Total costs (Cedis)	Net benefits (Cedis)for one farmer/ha
1	-	-	376	1,350	-	-	-	1,350	(974)
2	-	-	301		-	-	-	-	301
3	-	-	241		-	-	-	-	241
4	1,207	-	193		724	-	-	724	675
5		-	154		-	-	-	-	154
6	-	-			-	-	-	-	-
7	-	-			-	-	-	-	-
8	1,171	23,244			12,208	1,162	1,162	14,532	9,883
9					-	-	-	-	-
10	-	-			-	-	-	-	-
11	-	-			-	-	-	-	-
12	-	-			-	-	-	-	-
13		-			-	-	-	-	-
14	-	-			-	-	-	-	-
15	-	-			-	-	-	-	-
16	1,542	-			771	-	-	771	771
17	-	-			-	-	-	-	-
18	-	-			-	-	-	-	-
19	-	-			-	-	-	-	-
20	1,542	-			771	-	-	771	771

159. The approach to restore profitability and ecosystem services within the forest reserves will be proven. The Forestry Commission can extend the approach to other forest reserves incrementally and the business model is based on the sale of timber from these sustainably managed plantation zones in the reserves. Benefits to the community include the flexibility to own all food crops produced in the plantation, the main incentive to participate. Production from these plantation sites go beyond subsistence quantities and farmers cash in on surpluses. The project will have therefore laid the basis for this economic opportunity to expand as other actors and projects support market options storage and transport facilities to channel the food produced to the market. For example, the "One District, One Warehouse" being undertaken by the Ministry of Food and Agriculture (MoFA).The proceeds generated from this surplus could be used to support innovative additional livelihood ventures that will see beneficiaries expanding return on investments to more inhabitants in the community.

160. At the national level: The Warsaw Framework requirements are fulfilled as a result of this grant financing from the GCF, especially with respect to safeguard requirements. Ghana will assess the eligibility to receive results based payments from the NSZ and other programmes by tapping into opportunities presented by the operationalization of cooperative and voluntary approaches and the mechanism established through Article 6 of the Paris Agreement. It is exploring the opportunity to create a long term facility which incorporate public and private financing (including the recent ERPA signed with the World Bank's Carbon Fund) to develop a sustainability platform which leverages and enables re-investment in the forests and landscapes sector.

161. The project will demonstrate that tree planting can be achieved at scale for shea. The model for reforestation is easily adapted and pursued by companies after the project ends, building on established partnerships (NGOs, communities) and infrastructure (nurseries, warehouses). In this way, Continuing engagement from various private sector partnerships to support community supply of shea over the long term at the district and regional levels is expected as the demand for quality shea continues to grow for many years to come. The project will create a long-term relationship

	between buyers and communities, which will encourage the continued investment into livelihoods and the environment. Most of the large companies mentioned buy shea-based ingredients through ingredient manufacturers, who are all engaged as part of the project. The long term sustainability of the programme can be tested if MFIs are willing to finance such activities and Ghana is discussing this presently with interested parties.

B. FINANCING INFORMATION

C.1. Total financing

(a) Requested GCF funding (i + ii + iii + iv + v + vi + vii)	Total amount	Currency
	30.100000	million USD ($)

GCF financial instrument		Amount	Tenor	Grace period	Pricing
(i)	Senior loans	Enter amount	Enter years	Enter years	Enter %
(ii)	Subordinated loans	Enter amount	Enter years	Enter years	Enter %
(iii)	Equity	Enter amount			Enter % equity return
(iv)	Guarantees	Enter amount	Enter years		
(v)	Reimbursable grants	Enter amount			
(vi)	Grants	30.100000			
(vii)	Results-based payments	Enter amount			

(b) Co-financing information	Total amount	Currency
	24.446775	million USD ($)

Name of institution	Financial instrument	Amount	Currency	Tenor & grace	Pricing	Seniority
Forestry Commission	In kind	15.039622	million USD ($)	Enter years Enter years	Enter%	Options
Private Sector Companies	In kind	9.057153	million USD ($)	Enter years Enter years	Enter%	Options
UNDP	In kind	0.350000	million USD ($)	Enter years Enter years	Enter%	Options

(c) Total financing (c) = (a)+(b)	Amount	Currency
	54.546775	million USD ($)

(d) Other financing arrangements and contributions (max. 250 words, approximately 0.5 page)

Please explain if any of the financing parties including the AE would benefit from any type of guarantee (e.g. sovereign guarantee, MIGA guarantee). Please also explain other contributions such as in-kind contributions including tax exemptions and contributions of assets. FC, the Implementing Agency for this project, enjoys complete tax exemptions including company tax and import tax but is mandated to withhold taxes from payment for contracts and services obtained from other companies, firms and individuals.

Please also include parallel financing associated with this project or programme. Ministry of Food and Agriculture (MOFA) will provide in-kind support through the extension agents in the NSZ[46]. Parallel financing will be go toward upgrading processing plant capacity in Ghana, set-up of crushing facilities to extract the fat from the shea kernels, set-up of fractionation facilities (separating the oleic and stearic acids from the whole butter) and improved energy efficiency of industrial boilers and generators, using shea waste as biofuel. All four areas will contribute to strengthening the value chain and enhancing the incentive through performance agreements for farmers and government to maintain the shea parklands in the long term. Other entities such as Birdlife International, Ferrero S.p.A have provided letters of interest indicating their willingness to collaborate but have not yet specified particular activities. The Italian Ministry of Environment, Land and Sea (IMELS) has provided support for the design and elaboration of this project through the Global Italian initiative on REDD+ National Implementation (GIORNI)

[46] The Ministry of Agriculture will provide the exact nature of in-kind support when project implementation begins. They cannot provide this currently as there are changes envisaged to the manner in which extension is carried out in the districts and therefore it is not clear how many extension agents will be involved in training to include shea restoration.

C.2. Financing by component

The detailed budget plan is presented in Annex 4.

Component	Output	Indicative cost million USD ($)	GCF financing		Co-financing		
			Amount million USD ($)	Financial Instrument	Amount million USD ($)	Financial Instrument	Name of Institutions
Click here to enter text.	1. Off-reserve, degraded, savannah woodlands and forests restored under self-financing community management in CREMA	7.755856	5.779690	Grants	1.962222	In kind	Forestry Commission
					0.013944	In kind	UNDP
Click here to enter text.	2. Degraded shea parklands restored through public private partnerships	19.359672	10.397753	Grants	8.667695	In kind	Private sector
					0.294224	In kind	UNDP
Click here to enter text.	3. Modified Taungya System plantations and fire management in forest reserves	23.008442	10.669079	Grants	12.325419	In kind	Forestry Commission
					0.013944	In kind	UNDP
Click here to enter text.	4. Integrated monitoring system implemented and REDD+ systems strengthened	2.026940	2.012996	Grants	0.013944	In kind	UNDP
Click here to enter text.	Project Management	2.400864	1.245481	Grants	0.751981	In kind	Forestry Commission
					0.389458	In kind	Private sector
					0.013944	In kind	UNDP
Indicative total cost (USD)		**54.546775**	**30.100000**		**24.446775**		

With respect to co- financing amounts, letters from private sector partners were issued and the above listed amounts committed to this project - Ghana Shea Landscape Emission Reductions Project (GSLERP). The letters were issued referring to a different title (Ghana Shea Landscape REDD+ Proposal - GSLRP) at the time of issuance. The letters provide information on the activities that these entities will contribute to.

Private sector entities will work together with the Global Shea Alliance to implement Activity 2.1 and 2.2. Sub agreements as per para 129 above will be developed with these entities to set out the details for implementation including information on budgets. These will be available during project implementation.

C.3 Capacity building and technology development/transfer (max. 250 words, approximately 0.5 page)

C.3.1 Does GCF funding finance capacity building activities?	Yes ☒ No ☐
C.3.2. Does GCF funding finance technology development/transfer?	Yes ☒ No ☒

Capacity building activities include training of CREMA forest staff, women's groups, taungya groups and community fire brigades to undertake project activities. Other targeted groups include District and Regional Staff to undertake land use planning and monitoring and support through extension services. The funding amount for these activities per output is

Output 1: USD 1,841,444 Output 2: USD 4,096,900 Output 3: USD 333,591 Output 4: USD130,480

D. EXPECTED PERFORMANCE AGAINST INVESTMENT CRITERIA

This section refers to the performance of the project/programme against the investment criteria as set out in the GCF's Initial Investment Framework.

D.1. Impact potential (max. 500 words, approximately 1 page)

Mitigation Impact

162. The impacts of the GSLERP on emission reductions from the forest sector across the NSZ have been estimated based on information and data presented primarily from Ghana's FRL submitted to the UNFCCC in January 2017 and subsequently revised in June 2017, as well as the IPCC Good Practice Guidelines (IPCC GPG 2003) with additional area specific data added where available and referenced under the that specific target area. Estimates of impacts are divided into two main areas – those directly associated with i) Outputs and Activities which focus on sustainable management of forests and carbon stock enhancement and ii) a series of cross-cutting impacts that are estimated to occur as a result of the full project implementation and which focus on reduced emissions from deforestation and forest degradation.

163. Direct emission reductions associated with activities/outputs are described below:

Table 3: Estimated emission reductions and removals for the GSLERP

Output	Key Targets	Removals and Reductions in Emissions – 7 years	Removals and Reductions - 20 years
1. Off-reserve, degraded, savannah woodlands and forests restored under self-financing community management in CREMA	Place 200,000 of heavily degraded forest and grassland under sustainable forest management An additional 220,000 ha in which communities adopt improved fire management techniques	1,271,899 tCO_2e from `management for wood fuel 905,952 tCO_2e from fire management	4,019,034 tCO_2e from management for wood fuel 3,067,915 tCO_2e from fire management
2. Degraded shea parklands restored through public private partnerships	Planting of 1.75 million shea trees and 400,000 other valuable tree species. Increase value of shea industry and sustainability of supply chain Reduce overall industry wood fuels consumption	58,520 tCO_2e from shea planting and 26,663 tCO_2e from 400,000 other trees 165,135 $mtCO_2e$ from reductions in wood fuel use	217,290 tCO_2e from shea planting and other trees 522,927 $mtCO_2e$ from reductions in wood fuel use
3. Modified Taungya System plantations and fire management	Establishment of 18,500ha of MTS plantations and 7,000 ha under plantations Establishment of a sustainable financing system	1,012,958 tCO_2e from MTS and plantations 342,471 tCO_2e from improved regeneration of natural forest due to fire management	6,557,845 tCO_2e from MTS plantations 1,614,505 tCO_2e from improved regeneration of

in forest reserves	based on MTS and plantations 26,000ha surrounding plantations of improved fire management		natural forest due to fire management
Cross cutting impacts identified from actions across outputs:	Based on 15% reductions in agricultural expansion, conversion to grassland (equating to 6,842ha of avoided loss each year) and degradation due to timber and woodfuel harvesting and fire management	2,040,843 tCO_2e from reductions in deforestation 341,656, tCO_2e from reductions in degradation	8,673,581 tCO_2e from reductions in deforestation 1,452,038 tCO_2e from reductions in degradation
Total Emission reductions:		**6,139,433 tCO_2e**	**25,248,972 tCO_2e**

Adaptation impact

164. The project has significant benefits to enable increases in ecosystem services (through restoration of trees and fire management) and for families through increased incomes and access to natural resources positively affecting 100,00 direct beneficiaries and 540,200 indirect beneficiaries. The project helps to improve environmental and social resilience and poverty alleviation which is key for the NSZ noting that the latest (2018) Ghana Living Standards Survey indicates continuing high poverty rates in the Northern, Upper West and Upper East regions, with the NSZ the only ecological region with increased rates of poverty. Survey reports notes that the Upper East region is the poorest in Ghana and this area should be especially targeted for social intervention programs as it is experiencing higher and widening inequalities.

165. Furthermore, the project helps to bring about resilience to environmental shocks such as droughts and floods through the restoration of forests and planting of trees throughout the landscape. It secures the supply of energy sources – reducing the need to access and degrade forest areas for wood fuels. Planting choice trees that provide non-timber forest products including medicinals and fruits (such as baobab which have high nutritional value) reduce vulnerability of communities and provide options and a safety net should subsistence cropping systems fail. Forests that will be set up in CREMA will include a wide range of species providing other needs in the household, including beverages, dyes, fibres and many other products. It is anticipated that, benefits will accrue to those that are most insecure in the communities with rural women being empowered through the shea processing industry and increased rights over tree resources. They will have opportunities to participate in the community management of forests and become key beneficiaries of the additional farm revenue available during the intercropping years of the MTS.

166. More broadly, by increasing areas of forest across the NSZ, strengthening their management, increasing the protection of river catchments and increasing the number of trees on farm, the project will have important impacts on soil fertility, localized climate and management of the water cycle[47]. Tree planting will increase the capacity of soil to absorb and retain water and contribute to enhanced

[47] World Agroforestry Centre, 2014

water cycles[48]. These elements contribute to the NSZ becoming more resilient to climate change while also lessening its impacts.

167. Biodiversity improvement is also envisaged with the improvement of forest regeneration mainly through fire prevention. This singular action will catalyze improvement in flora and fauna abundance since regeneration will be for indigenous vegetation and trees that will provide the suitable ecological environment for return of savannah forest animals.

D.2. Paradigm shift potential (max. 500 words, approximately 1 page)

168. The project will contribute directly to the implementation of Ghana's REDD+ Strategy its NDC by focusing on the NSZ. The realization of the sub-national programmes which is part of Ghana's NDC target will demonstrate significant progress in the attainment of that target.

169. The Forestry Commission has identified specific targets in the National Plantation Strategy and the Forestry Master Plan, but these have been traditionally channeled to the high forest zone due to capacity and costs. By setting up the project in the NSZ, capacity would be strengthened in the RSMC, and through the district focal points who in turn can provide effective extension services to the communities in the NSZ through the CREMA and directly for the MTS. The paradigm shift will come about from enabling communities to generate revenue from sustainable forest management from the CREMA model which has not been done in the past at scale and in a robust manner. They can do this whilst generating emission reductions which will be eligible for future payments. In the meantime, community investment funds can be created or strengthened supplied by revenue from community forest management and shea collection, processing and sale that will be available for further development for community needs, which will continue into the future.

170. CREMA and women's cooperatives are equipped with business planning skills, financial capacity and will have recourse to collateral to meet requirements (these include warehouse, stocks of products, saw machines, woodlots). A planned fund at the national level managing use of proceeds from RBPs will act as another source of financing for continuing climate change mitigation and adaptation activities in the NSZ and in Ghana as a whole.

171. The project places strong emphasis on the fundamental role that communities and especially women can play in the sustainable management of forest resources, once capacity, resources, governance and legal structures are in place (such as women's cooperatives, CREMA management committees and contracts with Taungya communities and FC). Building on lessons learnt from previous experiences in the country and the region, the project will support the government in undertaking policy reforms, to legislate CREMA in the Wildlife Resources Management Bill before Parliament and to create enabling conditions for scaling up, in forest and tree tenure and benefit sharing. The project will follow and support the process to strengthen and broaden the bundle of rights associated with community management of the CREMA – tree tenure - to include ownership and disposal. As noted, the difference in this CREMA model which goes beyond wildlife management to incorporate forestry assets is key to their success in the long term.

172. Planting of shea trees in the woodlands of the NSZ increases the potential availability of shea kernels for more than 50 years to come, and thereby has a transformational impact for the value chain. The project will plant 1.75 million shea seedlings and 400,000 other high value species in the agroforestry parklands (these figures already take into account mortality rates). Most of the

[48] Regions in NSZ that still have sufficient closed forest cover, such as the area around the Taï National Park, enjoy a more or less stable rainfall due to the micro-climate created by the Park.

planting will be done in areas of permanent agriculture where fallows are no longer practiced, but farmers still practicing bush fallow who wish to plant higher yielding varieties will also be assisted.

173. Women are already aware of the future benefits of shea and as aggregation and marketing of current shea stocks increase the value and income (through direct marketing) of shea for the women, protection of shea seedlings will have further incentive (by fencing, protection from grazing and watering). Increasing the number of easily accessible shea trees will increase the quantity of shea that women collectors can sell in the market, increasing their incomes as well as the availability of shea supply for food and cosmetic products. This also ensures production of shea's oil rich fruit and the revival of these trees in providing fruits, shade, wood fuel, butter and tree bark for medicines at the household level and at scale. Shea represents between 12%- 32% of household income and by-products such as soap and wood fuel provide important additional sources of income. The expected income streams created throughout the project (through facilitating aggregation and wood-related cost savings) for 20,000 women collectors is estimated at $3,150,000[49]. This will be accompanied by a process which ensure that women are able to continue playing a major role in the shea value chain through engagement and agreement on issues that would arise, fostering their empowerment and putting in place the conditions for increased decision-making, for 20,000 women[50].

174. Embedded in this project are various outputs addressing drivers of forest degradation that provide clear adaptation co-benefits for target populations and communities, especially women and poor households. Restoration activities ensure the provision of buffering ecosystem services that will reduce the vulnerability of populations in those landscapes. This includes the forest management measures to prevent the occurrence of fires, exacerbated by temperature increase and dryer conditions in degraded landscapes.

175. The public private partnership model brings in substantial financial resources leveraged by GCF funding. Fifteen GSA members are contributing USD 9 million and will invest or are investing USD 50 million in downstream industrial facilities. Additionally, the project will leverage the deep experience of civil society and companies working with shea communities in northern Ghana. Each activity will be implemented by at least one company and an NGO ensuring good quality of services and a commercial outlet for all shea products and services produced as part of the initiative ensuring that these activities continue in the long term. Funding from the private sector partners will result in private crushing and fractionation plants in Ghana to meet the increased demand for shea-based ingredients, improving their operating efficiency, and access greater quality kernels. Such enhanced capacity will also add value in-country to the additional 8,000 mt of shea kernels expected to be available annually as a result of the project interventions and will strengthen the supply chain for long term sustainability of the shea sector. The high profile, visibility, and contribution to the Ghanaian GDP by the processing plants will help to ensure that the connection between shea tree restoration and economic growth is well understood at the country level, promoting long-term investment in landscape management.

176. This project supports the development of a NSZ sub-national FRL with field specific data to enable the refinement of the national FRL. It also allows for further training of safeguards focal points as well as communication and knowledge management of achievements and lessons learnt during GCFRP implementation.

[49] Considering a price of $350 per ton, a capacity of 100 tons per warehouse
[50] Please see Note 13

177. The GSLERP is the first REDD+ project being developed in a savannah zone which makes it a flagship project and enables the scale up of Ghana's evolution to national REDD+ implementation and emissions reductions from the land and forest sector.

Potential for scaling up and replication

178. New CREMA can be set up in the NSZ and in other parts of the country once it is demonstrated that revenues from timber and non-timber products can indeed sustain the CREMA operations. As has been noted, the unique feature of the project's approach is a focus on active, profitable management of community forests for wood fuels and saw timber. CREMAs are being set up to be financially viable forest based green "enterprises". New communities can adopt these models as best practices will be evident and they can draw these without having to figure out the design and implementation modalities. These communities can receive some start-up funds from the Government through the Municipal and District assemblies as proof of concept will have been obtained for example for fire management and fire-fighting and exchanges with operational successful CREMA with a potential to replicate in 30 CREMA or more.

179. In this way, the project will be able to greatly scale up community management of forest resources in NSZ. The communities in the NSZ are being further affected by climate change and are further convinced of the importance of the community management model, to enable a wider set of benefits, including ecosystem service benefits as CREMA are zoned to include protection areas. The full devolution of rights to include timber and wood fuel will be key. The focus is not to continuously seek for grants but to get to a level of national consciousness where all these practices are institutionalized in policy and practice and become a way of life. This sets the stage of large scale transitions and changes of the landscape dynamics.

180. The project will be scalable or replicable in the absence of additional grant funding. First, the nursery infrastructure will stay with the communities, who will be able to amplify the restoration efforts through additional tree planting, and continuous parkland management as there are incentives to continue shea collection and maintain revenues from wood and other non-wood products. Second, because of its scale, the project will remove the current barriers or negative perceptions associated with shea tree planting (high cost, lack of knowledge, lack of results etc.) so that it is easier for private companies to replicate this effort in other parts of their supply chain. The GSA has seen that previous PPPs it has implemented have usually led to new projects by private companies, as they have been able to evaluate the benefits and draw on the necessary partnerships to do so. Similarly, women who have set up cooperatives can use revenues to scale up operations as there will be a continuing and growing demand for shea kernels.

181. Global demand for shea has increased by 600% over the last 20 years, and this trend is expected to continue, with a further 50% increase forecasted by industry players for the next 5 years. With this project, Ghana will be able to tap into this market share, that is, the 350,000 metric tonnes of shea kernels equivalent that are exported every year are used as ingredient in confectionary, bakery, and cosmetic products. Five companies will be improving and increasing the facilities to enable the processing of shea kernels into cosmetic or food ingredients.

182. The MTS approach can be scaled up to other Forest Reserves in the NSZ and other parts of the country (280 forest reserves) and in West Africa.

183. The project also has a high potential to create an enabling environment for knowledge generation. This is due to the nature of project interventions, which include applied research capacity building activities across some activities and stakeholder engagement and networking. A number of planned

projects will augment the outcomes such as those supported through the European Development Fund Project (2018-2021) managed by the Northern Development Authority and the just concluded GIZ project on agricultural markets in the Upper West Region.

D.4. Needs of recipient (max. 500 words, approximately 1 page)

184. Development of the Northern Savannah Ecological Zone is an imperative for Ghana's economic growth, macroeconomic stability, balance of payments, food security, employment generation, and poverty alleviation. Poverty rates are almost twice as high as the national rate. Agriculture land is becoming scarce. Climate change affects NSZ more intensely than other regions Well-targeted investments could expand choices for revenue generation, lower food prices and improve food security, increase growth and employment, and reduce poverty throughout Ghana. Thus, the slogan: 'Lifting Ghana, Lifting the Savannah'. An investment into restoration of the landscapes, increased incomes from forests for communities will benefit communities directly and will help to revive environmental and social services from the parklands and woodlands. Investments in the shea value chain will be beneficial to the country as a whole, increasing trade and economic benefits and enabling further farm inputs by women.

185. Community management of forests can be tested across scale and the institutional frameworks for natural resource management can be strengthened to pave way for land use planning and balancing agriculture growth and expansion with environmental and social needs. The shea production system serves a major source of livelihoods for shea-growing communities but currently marginal profit to the farmer at the local village level is low. The project will create incentives to compensate for the cost of managing the shea trees and build capacity building across the value chain, from restoration and sustainable supply, to increasing the interest of buyers and the importance of the shea value chain for the NSZ.

186. In order to protect vulnerable groups, at the implementation stage, the GSA will launch a call for public-private partnerships. Each public-private partnership will consist of one private sector company and one NGO. The partnership will draft a proposal that will include proposed KPIs, location, budget, and experience. Each partnership will be assessed by a technical review committee, based on the criteria laid above. If approved, the GSA will enter into a result-based payment agreement with the NGO, which will include both GCF-funded and private sector funded results. These partnerships will start implementing activities as soon as they are approved to ensure that communities start receiving economic benefits from shea while the trees are growing. The private sector will not contribute grants, but rather spend their money to implement activities directly. This model has already been used successfully in the NSZ. They will fund the following activities: warehouse construction, equipment, trainings related to cooperative management, business development, aggregation, quality, and conservation, as well as improved cookstoves. Women's cooperatives have the option to sell their shea to the private sector company with whom they are working, however this is not an obligation. They are at liberty to sell to whichever buyer offer the best conditions, thus ensuring there is no price fixing that could marginalize them further

187. Access to finance is limited and attracting skilled labour and managerial capabilities into the NSZ is difficult because of limited social and economic infrastructure. The project will contribute to address some of these issues by incentivizing and crowding-in private sector investment amongst others. An enabling mechanism for managing social and environmental risks can help to address the systemic weaknesses found in the NSZ. This is coupled with policies to expand agriculture which must be done in a manner which addresses clarification of land ownership and use where this is relevant.

188. Ghana's third national communication to the UNFCCC provides a comprehensive picture of financial, technical, capacity and institutional needs and gaps. These include all aspects of data processing and management, training and conducting monitoring, review and verification of GHG

emissions. The project enables Ghana to contribute to the advancement of national SIS and a NFMS by providing data for the NSZ. Forest Carbon Partnership Facility funding for readiness and the GCFRP have funded the design and infrastructure of the SIS and the NFMS but would now require deployment and data to populate the system. FCPF funding has also financed initial capacity building of safeguard focal points in the districts. GCFPR will provide data of carbon stock land use change, safeguards and benefit sharing from the High Forest Zone only. The GSLERP will provide data on the NSZ by collecting data and training focal points at the RMSC and build on the capacity building for safeguards begun in the district. Ghana is not in a position to generate funding for the provision of this data without external sources.

D.5. Country ownership (max. 500 words, approximately 1 page)

189. In the past few years, Ghana has made significant progress in mainstreaming climate change into national and local development plans, as well as in establishing a solid policy framework and institutional structure to tackle climate change. Agriculture, forestry and other land use (AFOLU) is the largest source of carbon emissions in the country - 45.1% in 2012 according to the Third National Communication. The project is coherent with the following existing plans and policies;

- **National Climate Change Policy**, in particular Focus Area 4 (increase carbon sinks) which aims to minimize the loss of carbon sinks by reducing activities that lead to the destruction of natural ecosystems, especially forest degradation and deforestation; and to enhance carbon stocks through programmes that restore degraded forests and ecosystems.
- **National Climate Change Master Plan** (2015-2020), which, in response to the Policy, outlines several programmes to increase carbon sinks through improving governance (4.1), securing the integrity of the forests (4.2), sustainable wood-fuel production (4.3), plantation development (4.4), conservation of trees through agroforestry (4.5), community based natural resource management (5.2). All these areas strongly feature in the various components of the project.
- **Nationally Determined Contribution** (NDC): the project directly relates the Policy and Action on "promoting sustainable utilization of forest resources through REDD+" in the NDC, and its related Programmes of Action on "reforestation/afforestation of degraded lands translating to 20,000 ha on annual basis" and "wildfire management in the transition and savannah dry lands in Ghana". Investments in these policies and sanctions are conditional to access to international sources of finance.
- **National REDD+ Strategy**: The strategy is to implement REDD+ at a national scale, but to roll out concerted actions and activities at sub-national landscape scales. One of two sub-national jurisdictional REDD+ programmes identified in the strategy is the "The Emission Reductions Programme for the Shea Landscape of the Northern Savannah Woodland (The Shea Savannah Woodland Programme)". The GSLERP contributes to three elements of the REDD+ Strategy to: a) Significantly reduce emissions from deforestation and forest degradation, while enabling carbon stock enhancement through sustainable forest management and forest restoration; b) Transform the approaches for the production of Ghana's major agricultural commodities into climate-smart production systems and landscapes; and c) Expand platforms for cross-sector and public-private collaboration and sustainable economic development. All the four Outputs are consistent with the National REDD+ Strategy.
- The **National Climate Change Adaptation Strategy** intends for a consistent, comprehensive and a targeted approach to increasing climate resilience and decrease vulnerability of the populace, sensitize Ghanaians on the critical role of adaptation in national development efforts, raise funds by demonstrating the needs and mainstream disaster risk reduction and adaptive actions into programmes.
- Ghana also developed, and is seeking funding for, a NAMA to improve the sustainability of the charcoal value chain. In this regard, the project will support community enterprise development for sustainable production and marketing of wood-fuels.
- The revised **Forest and Wildlife Policy** (2012) is the overall sector policy for conservation and sustainable development of forest and wildlife resources in Ghana. A Wildlife Resources

Management Bill has also been developed to support the policy and includes provisions for CREMA. Passing the Bill means that the CREMA can be established into law, thus formalizing the role of communities in CREMA. The project will provide policy support to advance the bill into law.

- **Ghana Forestry Development Master Plan** (2016-2036). The vision of the FDMP is to achieve a just, prosperous, and sustainable forestry sector that inclusively and continuously optimizes welfare and provides adequate means of livelihoods to all Ghanaians, in tandem with the 2012 Forest and Wildlife Policy[51].
- **Ghana Forest Plantation Strategy** 2016-2040 seeks to achieve sustainable supply of planted forest goods and services to deliver a range of economic, social and environmental benefits through five strategic objectives to:
  - Provide a sustainable supply of timber and non-timber forest products, and environmental services through the: management of 625,000 ha of forest plantations and enrichment planting of 100,000 ha by year 2040; incorporate trees-on-farms within 3.75 million hectares of agricultural landscapes, by year 2040; and rehabilitation of an estimated 235,000 ha of existing forest plantations through the application of best practice principles.
  - Promote investments in the establishment and management of small, medium and large-scale forest plantations.
  - Create employment opportunities and sustainable livelihoods in rural communities through forest plantation development (MTS).
  - Increase investments in research and development, extension, training and capacity building for forest plantation development, timber utilization and marketing.
  - Improve governance in the regulation and management of forest plantations.

190. The project is fully aligned to the United Nations Sustainable Development Partnership (UNSDP) 2018-2022, which reflects Ghana's national goals and its commitments to global development initiatives and sets out the UN system's collective contributions to help the government and other stakeholders achieve these goals. In particular, the project contributes to Outcome 5 (environmental governance at national and local levels is effective, efficient and coherent) and its Output 5.1 (national and sub-national institutions have greater capability to implement environment and climate-related policies in line with global conventions), as well as to Outcome 6 (urban and rural communities have access to affordable services, knowledge and tools to increase their resilience) and its Output 6.3 (communities have greater capacities and skills to adopt environmental conservation practices). The project is also aligned to UNDP's Country Programme Document (CPD), which indicates how UNDP will contribute to the implementation of the UNSDP by strengthening public institutional capacities to reduce environmental degradation, implement climate action; and facilitating access to information, knowledge and tools that promote citizen participation in environmental conservation.

191. The initial project idea stems from the Ghana REDD+ Strategy which benefited from several rounds of multi-stakeholder reviews and engagements under the REDD+ Readiness Phase. On 22 November 2016, the FC officially requested UNDP to support the development of a GCF project proposal to implement the Shea Landscape Programme of the REDD+ Strategy. UNDP communicated this request to the NDA on 25 November. After discussing this request with the NDA Technical Advisory Committee[52], the NDA nominated UNDP as AE for this project on 28 December 2016.

[51] The goal of the Forestry Development Master Plan is to ensure the conservation and sustainable development of forest and wildlife resources to create a balance between forest products, services and marketing to satisfy domestic and international demands whilst ensuring good governance and transparent forestry enterprises development, biodiversity conservation and ecotourism development.

[52] The NDA set up a Technical Advisory Committee made up of key sectoral ministries and agencies to support the NDA in performing its roles, including the prioritization and selection of projects for submission to the GCF, the selection of National Implementing Entities, and more in general to provide advice on GCF related issues.

192. Subsequently, a concept note was developed by the FC with support from UNDP with review from a multi-stakeholder National REDD+ Working Group constituted by the FC during the preparation of the REDD+ Readiness Phase. The FC established a multi-stakeholder task force - composed of the Manager for Evaluation, Monitoring and Budgeting, FC; Northern Regional Manager for Forest Services Division; Wildlife Division, FC; Head of Shea Unit, COCOBOD; Ministry of Finance NDA; the Northern Development Authority; World Conservation Union (IUCN) and A Rocha, a National NGO to provide technical inputs and advisory support at each stage of the development of the project proposal. The FC selected these stakeholders based on their relevance and/or experience in the sector and in the target area. Please see Annex 7 for a summary of the consultative process.

193. Under the leadership of FC's CEO, the FC organized a series of high-level meetings to mobilize inputs and support for the project, including a meeting with the Parliamentary Select Committee on Lands and Natural Resource and Members of Parliament from the NSZ on 22 November 2017, and a meeting with the CEO of Ghana Cocoa Board on 31 October 2017. The project concept was also presented to a wide range of stakeholders and high-level dignitaries during the 2nd National REDD+ Forum on 19 October 2017. The President of the Republic of Ghana, H.E. Nana Addo Dankwa Akufo-Addo, in his key-note address indicated that "*Ghana is currently developing another sub-national REDD+ programme in the Upper West, Upper East and Northern Regions of Ghana, with the support of the Italian Government through the United Nations Development Programme, for submission to the Green Climate Fund. The programme has the potential to transform the northern savannah ecosystem of Ghana with the right implementation and enforcement structures*".

Green Climate Fund Readiness Programme

194. The Government of Ghana has nominated the Real Sector Division of Ministry of Finance to be the National Designated Authority (NDA) to liaise with the GCF. The Green Climate Fund (GCF) Readiness Programme, a joint partnership between UNDP, UNEP, and World Resource Institute (WRI), is a global programme to support countries for enhanced access to international climate finance. The Programme in Ghana aimed to support the government in strengthening their national capacities to effectively and efficiently plan for, access, manage, deploy and monitor climate financing in particular through the GCF. A GCF country programme is being developed through this readiness programme.

See capacity of the AE and EEs to deliver in Section B.4.

D.6. Efficiency and effectiveness (max. 500 words, approximately 1 page)

195. The proposed grant from the GCF will help promote transformative change in the forestry sector in Ghana without crowding out private investment, rather it will crowd-in private investment.

Appropriateness of the Financial Structure and efficiencies

196. The grant financing (approximately 56% of the total) that is being requested from GCF will be applied to all four outputs. The grant will be targeted at a combination of activities – some with immediate financial benefits to facilitate transition, while addressing others have pay-offs that fully accrue only in the long-run, making them less attractive to the private sector. The combination of GCF grant financing and stakeholder involvement has been designed to stimulate systemic change that can be rapidly scaled-up.

197. Most of the barriers that the project seeks to address are institutional or governance-related and need to be addressed within public expenditure frameworks[53]. Confirmation that these barriers are

[53] "Public framework expenditures include capacity building for closing public and private actors' knowledge gaps; developing, implementing and monitoring climate policies to remove technical, legal and administrative barriers to investment; R&D; law enforcement; land-use/spatial planning and mapping; building measuring, reporting and verification systems; and developing demonstration projects » (source: *Three Tools to Unlock Finance for Land-Use Mitigation and Adaptation*).

addressed through such public funding has then been able to reveal and make way for revenue streams suited for private sector investment. All the project components contribute to mitigating risks and barriers to investment and financing as well as addressing knowledge and capacity barriers. For **output 1,** without the support of the GCF, sub-national governments would not have the capacity or resources to systematically take forward the CREMAs at scale. For **output 2**, without GCF support, the private sector would not have sufficient incentive for investing in the supply of shea in a sustainable manner or be in a position to scale up shea processing. The shea industry competes with other oils and fats in the global marketplace and therefore must constantly improve production efficiency to continue recent growth trends. 90% of shea in the explore markets are processed industrially and involve seven main stages described in Section B.2 and shown in Figure 3 below;

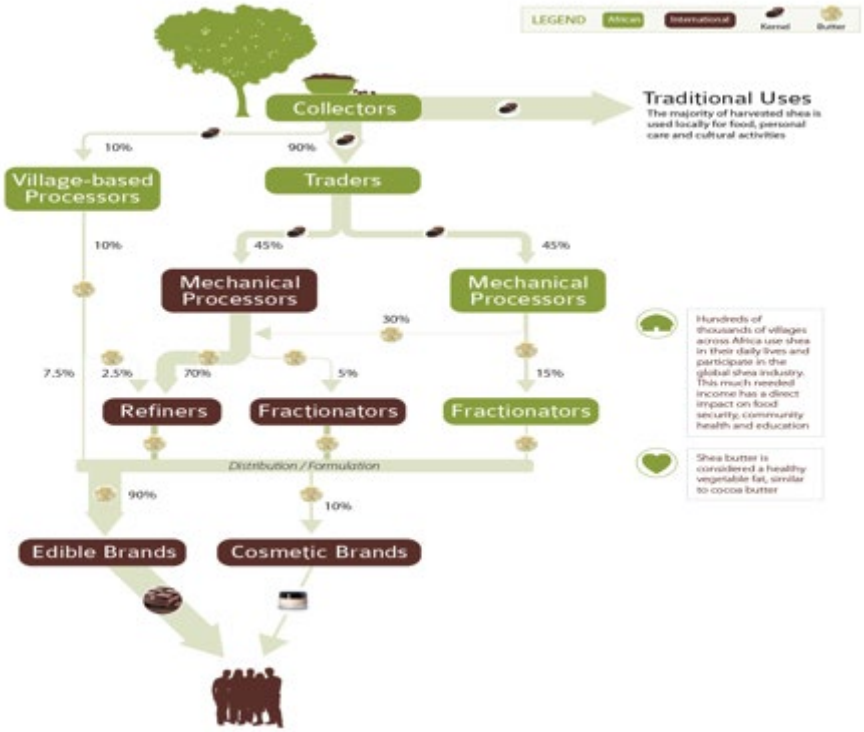


Figure 3 – Stages of shea value chain (Source: Global Shea Alliance, 2017)

193. In line with the above, it is important to mention that, GSA's industrial processors such as AAK and Bunge are normally purchasing at stage 2 and then operating activities 3-6 prior to sale of food and cosmetic ingredients. Currently, 100% of stages 1 and 2, 50% of stage 3 (crushing), and approximately 5% of stages 4-7 take place in Ghana. Output 2 will promote the advancement of women collectors from stage 1 to 2 and establish greater levels 3-4 processing stages in Ghana.

194. The establishment of industrial processing facilities will render the stage 6 products more marketable by capturing efficiencies related to quality, transportation, and other production costs. The continued advancement of shea competitiveness at stage 6 is critical to securing the sustainability of markets at stages 1-5.

195. For **output 3**, without GCF support, there would be no seeding and support for kick-starting the public private partnerships. For **output 4**, public finance is needed to set up measurement, monitoring and verification for carbon and the application of safeguards in the NSZ but Ghana faces considerable fiscal space constraints. The GCF grant leverages significant private sector investment for Output 2 which is found to be otherwise not viable commercially. That is to say but

for the risk-mitigation and foundational strategic investments made possible through the GCF, the private sector would not come on board.

Cost-effectiveness

196. The project has explored the cost-effective options to implement the proposed activities, building on and using existing approaches to enable beneficiaries to establish and maintain their forests. Cost efficient approaches such as early burning as part of fire control, using community structures, coupled with the extensive communication strategy will yield immediate benefits even from first year of the project in areas that have established regeneration. Areas that have already gone through a participatory process designated as CREMA will be confirmed; and a range of private sector and civil society organisations working already in the shea sector will be project partners. The MTS used in Output 3 is easily the most cost-efficient technique for plantation establishment and will deliver substantial benefits for taungya farmers and taungya communities. This will motivate the beneficiaries to incur the initial establishment costs such as ploughing / weeding. Despite the wide project coverage, programme management costs have been strictly limited to 5% of the total costs thus limiting the chance for unnecessary operational costs.

Effectiveness

197. The project is expected to be highly effective in delivering the proposed results because many of the enabling conditions are in place, there is significant capacity and competence of the implementing units where the constraints are more financial. This unit cost of USD 1.2 per tCO2e of reduced emissions is considerably lower than the social cost of carbon estimated by the US Environmental Protection Agency[54] and compares favourably with other land use mitigation projects (e.g., *USD5.53 to USD 66.25 per t CO2eq for other projects funded by the GCF).*

[54] See for instance - https://19january2017snapshot.epa.gov/climatechange/social-cost-carbon_.html where the social cost of carbon was valued at US $ 36 per tonne.US

E. LOGICAL FRAMEWORK

This section refers to the project/programme's logical framework in accordance with the GCF's Performance Measurement Frameworks under the Results Management Framework to which the project/programme contributes as a whole, including in respect of any co-financing.

E.1. Paradigm shift objectives

Please select the appropriated expected result. For cross-cutting proposals, tick both.

☒ Shift to low-emission sustainable development pathways

☒ Increased climate resilient sustainable development

E.2. Core indicator targets

Provide specific numerical values for the GCF core indicators to be achieved by the project/programme. Methodologies for the calculations should be provided. This should be consistent with the information provided in section A.

E.2.1. Expected tonnes of carbon dioxide equivalent (t CO_2 eq) to be reduced or avoided (mitigation and cross-cutting only)	Annual	0.88 million t CO_2 eq
	Lifetime	25.24 t CO_2 eq
E.2.2. Estimated cost per t CO_2 eq, defined as total investment cost / expected lifetime emission reductions (mitigation and cross-cutting only)	(a) Total project financing	54,546,775 USD
	(b) Requested GCF amount	30,100,000 USD
	(c) Expected lifetime emission reductions	25.24 million tCO_2eq
	(d) Estimated cost per t CO_2eq (d = a / c)	**2,16 / tCO_2eq USD / t CO_2eq**
	(e) Estimated GCF cost per t CO_2eq removed (e = b / c)	**1.19 / tCO_2eq USD / t CO_2eq**
E.2.3. Expected volume of finance to be leveraged by the proposed project/programme as a result of the Fund's financing, disaggregated by public and private sources (mitigation and cross-cutting only)	(f) Total finance leveraged	24,446,775 USD
	(g) Public source co-financed	15,389,622 USD
	(h) Private source finance leveraged	9,057,153 USD
	(i) Total Leverage ratio (i = f / b)	0.81
	(j) Public source co-financing ratio (j = g / b)	0.51
	(k) Private source leverage ratio (k = h / b)	0.30
E.2.4. Expected total number of direct and indirect beneficiaries, (disaggregated by sex)	Direct	100,000 direct beneficiaries 60%% of female (60,000 as Nursery development, cooperatives and training is targeted to women)
	Indirect	540,200 beneficiaries 264,600 female beneficiaries
E.2.5. Number of beneficiaries relative to total population (disaggregated by sex)	Direct	0.3% of the total population.
	Indirect	Click here to enter text.Ghana's total population is approximately 30 million (World Bank) and indirect male beneficiaries are 0.2% of the total population.
	For a multi-country proposal, leave blank and provide the data per country in annex 17.	

6.139 million tCO2e in emission reductions and removals over the first seven years of the project's lifetime and 25.24 million tCO2e over 20 years.

E.3. Fund-level impacts

Select the appropriate impact(s) to be reported for the project/programme. Select key result areas and corresponding indicators from GCF RMF and PMFs as appropriate. Note that more than one indicator may be selected per expected impact result. The result areas indicated in this section should match those selected in section A.4 above. Add rows as needed.

Expected Results	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term	Final	
M4.0 Reduced emissions from land use, reforestation, reduced deforestation, and through sustainable forest management and conservation and enhancement of forest carbon stocks	4.*1 Tonnes of carbon dioxide equivalent (t CO2eq) reduced or avoided (including increased removals) as a result of Fund-funded projects/programmes* – forest and land-use sub-indicator	REDD+ Technical Annex to the Biennial Update Report submitted to UNFCCC in 2020 and subsequently in 2022 and 2024.	0tCO^2	1.913 million tCO_2e cumulative ER value up to the mid-term)	Total is 6.136 million tCO_2e after 7 years	• GCF funding secured for the project • Land cover and land use change measurements provide information on emissions reductions and removals. • Biannual update report will be submitted by the GoG The emission reductions will be achieved through the following breakdown; • Emission reduction of 2.382 mtCO2e • Sustainable management and enhancement of carbon stock 3.753mtCO_2e. It is assumed that these will emanate from the following outputs in the described manner in a) as follows; Output 1 and Output 3 • 1,271,899 tCO2e from management for wood fuels • 905,952 tCO2e from fire management in CREMA • 1,012,958 tCO2e from MTS plantations • 338,707 tCO2e from improved regeneration of natural forest due to fire management in forest reserves Output 2 • Reduce overall industry wood fuel consumption • Removals of 58,520 tCO2e from shea planting and from additional tree species in the agroforestry system • 165,135 mtCO2e from reductions in wood fuel use; and b) Cross cutting emissions reductions by helping to prevent remaining forest being deforested and degraded: 2'382'499 tCO2e 25.24 million tCO_2e will be achieved over the project lifetime and these will be tracked and reported by the Forestry Commission as the implementing entity (EE) in the Government of Ghana through its NDC and National Communication

A4.0 Improved resilience of ecosystems and ecosystem services	*A4.1 Coverage/scale of ecosystems protected and strengthened in response to climate variability and change*	Monitoring of project outputs and Project annual reports Regional Land use and land use change maps	440,000 ha of badly degraded grassland and forests 0 ha of plantations	200,000 hectares under CREMA management or MTS plantation	471,500 hectares of land restored in the Northern Savannah Zone	Sustainable forest and land management techniques have additional co-benefits in restoring ecosystem services and increasing biodiversity, making these lands more resilient to climate change. Communities have set aside core forest management areas for the project lifetime.
A1.0 Increased resilience and enhanced livelihoods of the most vulnerable people, communities, and regions	*A1.2 Number of males and females benefiting from the adoption of diversified, climate resilient livelihood options.*	600-800 Women shea collectors in one cooperative Nurseries run by women (10 women for each nursery) Men and Women in the Taungya communities	6 Cooperatives No Nurseries No Taungya Communities	16 cooperatives 35 nurseries (10 Women for each nursery) 8,000 men and 5,000 women participating in the Taungya system	26 Cooperatives 70 nurseries (10 women for each nursery)	Women will share responsibilities within the cooperatives amongst the women's groups to enable them to work in the nurseries and shea collection effectively. This will be discussed and schedules recommended in the training workshops The breakdown of the women and men that will be contracted in the Taungya system is an estimated and it is assumed that this will be the ratio. However, this will need to be verified as the communities are contracted to participate in the Tuangya System.
A1.0 Increased resilience and enhanced livelihoods of the most vulnerable people, communities, and regions	*A4.2 Value (US$) of ecosystem services generated or protected in response to climate change*	Value per restored hectare of land using proxy indicators of ecosystem services including carbon measurements. soil erosion and cultural values such as ecotourism	220,000 ha of badly degraded grassland and forests	100,000 hectares under CREMA management	220,000 hectares of land restored in the Northern Savannah Zone	Fire management will be carried out early in the dry season. Natural fires in the late dry season prevented, Core conservation areas protected in the CREMA.

E.4. Fund-level outcomes

Select the appropriate outcome(s) to be reported for the project/programme. Select key expected outcomes and corresponding indicators from GCF RMF and PMFs as appropriate. Note that more than one indicator may be selected per expected outcome. Add rows as needed.

Expected Outcomes	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term)	Final	
M9.0 Improved management of land or forest areas contributing to emissions reductions	*9.1 Hectares of land or forests under improved and effective management that contributes to CO2 emission reductions*	Project monitoring reports, annual reports and NFMS system produces information on this indicator.	2700 under improved management that contributes to CO2 reductions	• 85,000 ha of land under sustainable forest management; • 100,000 ha under fire management • 500,000 shea trees planted • 200,000 other species and 15,000 ha under MTS plantations	• 200,000 ha of degraded forest and grassland under sustainable forest management including core conservation areas • Further 220,000 ha in which communities adopt improved fire management techniques • Planting of 1.75 million shea trees and 400,000 other species which comprise of a variety of indigenous tree species in the agroforestry systems • 26,000 ha surrounding plantations of improved fire management	• Institutional and political will and capacity to manage lands in the NSZ in an integrated manner, including large scale planning that takes into account land management criteria such as restoration and agroforestry practices on agriculture land and continuation bush fallows • Enabling policies and regulatory framework for land use planning • Acceptance of agroforestry land management practices by farmers • Project management will be based on a strong synthesis of best practices and lessons learned • Reducing deforestation and forest degradation from cross cutting actions start at 5 % building up to 15% in the 6th year. This is a likely assumption • Benefits to communities will be clearly superior to the costs • Incentives will continue in the long term .
	Number of technologies and innovative solutions transferred or licensed to support low-emission development as a result of Fund support.	CREMA set up for sustainable community forest management Planted shea trees in agroforestry systems Modified Taungya System farmers	Zero CREMA set up for community forest management No shea trees planted in agroforestry systems Zero MTS farmers	6 CREMA 800,000 trees planted 6,000 Taungya Farmers	12 CREMA 1.75 million trees planted 13,000 Taungya farmers	
A7.0 Strengthened adaptive capacity and reduced exposure to climate risks	*7.1: Use by vulnerable households, communities, businesses and public-sector services of Fund supported tools, instruments, strategies*	National Forest Monitoring System and Project M&E, Annual reports Reports from Fire brigades	No CREMA has core conservations areas No fire management No cooperatives	5 CREMA have core conservation areas set up. 13 Cooperatives are using an energy saving kiln	• 10 CREMA with core conservation areas set up • 26 cooperatives using an energy saving kiln • 26 cooperatives are storing shea in warehouses which results in income that act as a safety net • 40 firebreaks covering 200,000 hectares	

	and activities to respond to climate change and variability		using energy saving kilns	13 cooperatives have built a warehouse to store shea 20 firebreaks are built covering 100,000 hectares		

E.5. Project/programme performance indicators

The performance indicators for progress reporting during implementation should seek to measure pre-existing conditions, progress and results at the most relevant level for ease of GCF monitoring and AE reporting. Add rows as needed.

Expected Results	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term	Final	
1 Off-reserve, degraded, savannah woodlands and forests restored under self-financing community management in CREMA	*Number of CREMAs with legal right and regulations established* *Number of people trained in efficient wood fuels, NTFPs and timber production* *Number of facilities set up to allow communities to invest further into activities (fund)* *Number of land use and investment plans*	Integrated project monitoring and evaluation system Targeted reports on indicators Certificates of Devolution for CREMA Forestry Commission Records (RMSC in Tamale) FC Fire Management Plan	0 trees planted in the targeted communities 0 women trained 0 women cooperatives formed	Legal right and regulations established in 8 CREMA 5 land use and investment plans developed 6 facilities set up to allow communities to invest further into activities (fund)community funds set up 6 land use and investment plans	Legal right and regulations established in 10 CREMA 10 land use and investment plans developed 10 facilities set up to allow communities to invest further into activities (fund)community funds set up 10 land use and investment plans	Community forest management plans provide a range of benefits and roles and responsibilities are clearly defined. Communities develop equitable systems of sharing of benefits. Devolution certificates are obtained
2. Degraded shea parklands restored through	*Number of shea and other high value trees planted*		0 trees planted in the targeted communities 0 women trained	800,000 additional shea seedlings planted	1.75m shea seedlings and 400,000 additional other tree seedlings provided and planted	Increased revenues from shea motivate farmers to invest in shea parkland restoration.

public private partnerships	*Number of women trained* *Number of village nurseries created.* *Number of women's cooperatives created*		0 nurseries 0 women cooperatives formed	35 additional women trained in grafting and 150 trained in business skills. 35 additional village nurseries created 20 additional cooperatives in place	70 additional women trained in grafting and 300 trained in restoring shea, business skills, setting up cooperative, managing warehouses, direct marketing 70 additional village nurseries created with employment for 700 women (10 women per nursery). 26 women's cooperatives created	
3. Modified Taungya System plantations and fire management in forest reserves	*Hectares of MTS plantations set up* *Number of nurseries set up* *Number of Taungya farmers*	Integrated project monitoring and evaluation system Targeted reports on indicators Government records MTS farmers registered	2553 hectares of MTS plantations set up in NSZ Eight nurseries set up No Taungya farmers registered currently	12,000 hectares of MTS Plantation 22 additional nurseries set up 6,000 Taungya Farmers	25,500 plantations created for wood based industry in the NSZ 60 additional village nurseries created 13,000 Taungya farmers benefit from access to cropland	
4.Integrated monitoring system implemented and REDD+ systems strengthened	*Land cover and land cover change data provided to NFMS* *Safeguards information provided to SIS* *Annual collection of data according to indicators, verification and documentation* *Targeted reports available for Outputs 1, 2 and 3.* *Adaptive management of project activities*	Integrated project monitoring and evaluation system Biannual Update Report GHG Emissions Report - Ghana 4th and 5th National Communication to the UNFCCC Targeted reports on indicators Safeguards Information Summary to the UNFCC	National forest monitoring system in the process of being set up; National Forest Reference Level has been submitted to the UNFCCC; Preliminary data collected for a study focusing on the 3 northern regions on forest cover with Winrock International. A focal point in each district trained to collect information relating to addressing and respecting safeguards	Capacity set up in the regional centre in Tamale, equipment in place and first draft land cover map and land use change time series maps produced. Final Environmental and Social management framework in place with clear actions for risk mitigation and the roles and responsibilities identified. Clear understanding of the types of information and collection of this	• Provision and integration of climate information related to forest management in the NSZ into national level NFMS and SIS. • Regional data and monitoring on forest cover and forest and land use change and addressing and respecting social and environmental standards generated and potentially included into national communications to the UNFCCC.	Regional centres are equipped and have the capacity to do remote sensing and ground truthing to generate the data needed to monitor The BUR is being updated

				information to feed into the ESMF.		

E.6. Activities

Activities	**Description**	**Inputs**	**Description**
Activity 1.1 Structure and empower communities for savannah forest management	1.1.1 Research, document and plan for new CREMA and develop participatory land use plans for all CREMA. 1.1.2 Inaugurate new CREMA and establish robust and credible governance mechanisms in all CREMA 1.1.3 Build capacity of communities in 10 CREMAs on land use planning, governance and all aspects of implementation and monitoring of the community forest managed area	International Consultants Local Consultants Contractual Services (Companies) Training, Workshops and Conferences	• Image analysis validates biophysical suitability of proposed new CREMA sites. • Meetings with Northern Development Authority and District Assemblies on land use planning. • Meetings and workshop on community-level land use planning in new CREMA to delineate community-managed forests, household-managed agricultural lands and other zones as appropriate. • Meetings and technical assessment for forest management plans for new CREMA. • Set up of representative community structures (community forest management committees - CRMC) for each community forest. • CREMA Executive Committee for each CREMA constituted. • Trainings for CRMC capacities on good governance, financial arrangements and set up of community funds
Activity 1.2. Develop sustainable forest management systems and adapt them to local conditions	1.2.1. Promote early burning through capacity building of fire brigades and widespread awareness creation 1.2.2 Build capacity of CREMA structures to protect, regenerate and manage forests and harvest timber, fuelwood and non-timber products. 1.2.3 Review periodically and strengthen forest management and forest inventories.	Salary Costs – NP staff International Consultants Local Consultants Contractual Services (Companies) Training, Workshops and Conferences	• Trainings and knowledge sharing community capacities for fire management developed. • Procurement with radio stations to produce programmes. • Trainings and assessments on community capacities for forest, silviculture and natural resource management. • Revised participatory land use planning to define limits of forests to be put under community management. • Participatory resource assessments updated for management planning. • Engagement of Forest Services Division and Wildlife Division support to CREMA staff. • Participatory development of revised forest management plans • Determination of priority activities for the investment plans. .
Activity 1.3 Develop enterprise and value chains	1.3.1 Integrate investment components into the forest management plans for CREMA, including development and marketing of products and financing systems. 1.3.2 Build the capacity of CREMAs on business and enterprise development	International Consultants Local Consultants Training, Workshops and Conferences	• Expert to develop harvest, processing, marketing and financing systems - applicable for all CREMAs. • Training on business and enterprise development in each CREMA. • Meetings to discuss and set up fund management arrangements. • Meetings to determine benefit sharing plan with stakeholders. • International consultant to support the development of energy efficient, profitable charcoal production systems adapted to local conditions.

	1.3.3 Provide operational support to the CREMAs during the first four years of the project		• Routine support to CREMAs from district business advisory centres (BACs)
Activity 1.4 Restore forests through fire management in the Northern Savannah Zone	1.4.1 Develop a communication strategy on fire management for the NSZ. 1.4.2 Implement the communication strategy 1.4.3 Provide support and equip 40 communities outside of CREMAs to prepare and implement fire management plans	International Consultants Contractual Services (Companies) Audio Visual & Print Production Costs	• Experts to conduct in-depth study on cultural and social values associated with burning practices and on the development of effective fire management systems for the restoration of degraded forests. • Develop a communication plan on fire management, to promote early burning on CREMA and non-CREMA savannah woodlands and grasslands • Implementation of communications plan making strong use of rural radio outlets and other appropriate tools and media. • Recruitment of 40 community groups, which will be drawn from volunteers. • They will be hiring of experts and holding of meetings to fire management/early burning plans by RMSC for the restoration of degraded forests for 40 communities requesting assistance. • Early burns take place by Fire Brigades (equipment produced). • Equipment and training for communities' fire brigades by district foresters for implementation of fire management plans.
Activity 1.5 Undertake enabling and support measures for community management of forests	1.5.1 Support reforms in the policy, regulatory and legal framework for the empowerment of, and incentives for, communities to sustainably manage off-reserve forests 1.5.2 Provide knowledge management support to CREMAs and facilitated sharing of lessons learnt on sustainable and profitable community management of forests. 1.5.3 Conduct applied research and field trials in the CREMAs	International Consultants Local Consultants Contractual Services (Companies) Training, Workshops and Conferences	• Legal expert to support strengthening of the legal frameworks for community management of natural forests. • Legal and fiscal reform stakeholder workshops at local, regional and national levels. • MoU with a KNUST For Knowledge Management. • Participatory annual adaptive management reviews at community level for identifying lessons learned and best practices and for overcoming problems encountered. • MoU with FORIG for applied research on silvicultural systems, fire management, growth studies and efficient, profitable charcoaling systems.
Activity 2.1 Restore and sustainably manage the shea parklands	2.1.1 Develop a communication and extension plan based on key messages and incentives needed for restoration of the shea parklands. 2.1.2 Establish community-based nurseries for shea and other tree seedlings, undertake tree planting and farmer management of trees and fallow vegetation as part of the set-up and implementation of the public-private partnerships. 2.1.3 Train and build capacity of women's cooperatives on sustainable parklands management as part of the set-up and implementation of the public-private partnerships	International Consultants Local Consultants Contractual Services (Companies) Training, Workshops and Conferences	• Support from experts for identification of messages and incentives needed for shea parklands restoration and development of a communications and extension plan. • Implementation of plan using rural radio, role playing, posters. • Seeds and seedlings procured (shea and other trees) and cared for • Support for seedling production from nurseries run by women's cooperatives • Training of women's groups and farmers in lay out, planting and care of seedlings, direct seeding, farmer management of fallow vegetation, pruning and parasite control. • Training in grafting techniques for early fruiting.

		Audio Visual & Print Production Costs	
Activity 2.2 Strengthen value chains for shea processing	2.2.1 Establish women's groups (including governance training and co-operative registration) as part of set up and implementation of the public-private partnerships 2.2.2 Conduct activities to support aggregation and marketing, including warehousing) as part of set up and implementation of the public-private partnerships 2.2.3 Train women's groups on Improved technologies and efficiency (including audits, technical training, product quality training) as part of set up and implementation of the public-private partnerships 2.2.4 Train women's groups on improved business management including contract management and market linkages as part of set up and implementation of the public-private partnerships	International Consultants Local Consultants Contractual Services (Companies) Training, Workshops and Conferences	• Support for creation and governance capacity of women's cooperatives. • Opportunity for revenue from shea funds to fund community priorities • Warehouse construction and equipment and training of cooperatives for aggregation, warehousing and direct marketing. • Training for finance, modern shea production techniques, equipment maintenance and management, labour optimization, and healthy and safe use of technologies. • Procurement of efficient wood stoves & briquetting equipment, and training with respect to their usage.
Activity 2.3. Enhance the enabling environment for climate-smart shea and upscaling of finance and investments	2.3.1: Perform legal and policy reviews and scenario planning to influence public and private decision making 2.3.2: Collaborate with Cocoa Research Institute (CRIG) sub-station in Bole to conduct applied research in support of shea restoration across the eco-zone; 2.3.3: Scope out and set up a multi-stakeholder engagement process across the shea value chain at national level and from the three regions of the NSZ; 2.3.4: Create awareness for buyers about sustainable sourcing including the risks and opportunities for investment in new public-private community partnerships through the process above and in global conferences 2.3.5: Promote learning and knowledge exchange on sustainable shea at national, regional and global levels.	International Consultants Local Consultants Training, Workshops and Conferences	• Multi-stakeholder consultation to engage actors across in the shea value chain at national scales and from the three regions of the NSZ • Consultants for legal analysis and drafting & revisions of legislation, Targeted scenario analysis, studies on supply chain incentives and studies to access to market for organic / fair trade producing cooperatives. • Participatory stakeholder meetings for inputs and validation. • Support for applied research in support of shea restoration including a synthesis of past research results. • Meetings on learning and knowledge exchange on sustainable shea at national, regional and global scales. • Conduct awareness amongst buyers about sustainable sourcing and risks, and opportunities for investment in new public-private community partnerships, including through global conferences.
Activity 3.1 Structure MTS communities with	3.1.1. Review and strengthen MTS procedures to be applied in the targeted communities (after reviewing and documenting past MTS experiences)	International Consultants	• Synthesis of lessons learned and best practices from past MTS experiences. • Modification of MTS procedures and benefit sharing to enhance effectiveness.

clearly defined contractual and benefit sharing arrangements	3.1.2 Select and engage targeted communities for MTS establishment in a participatory and evidence-based manner 3.1.3 Set-up community structures for MTS and sign contracts with taungya farmers	Local Consultants Contractual Services (Companies) Training, Workshops and Conferences	• Awareness raising, analysis and identification of suitable communities and MTS plantation sites. • Creation of two-tiered community management structures for each forest reserve • Contracting with taungya farmers. • Capacity building for good governance
Activity 3.2 Establish, maintain and monitor MTS Plantations	3.2.1 Create and maintain seed orchards which will ensure the future supply of seedling of MTS 3.2.2 Establish MTS plantation and conduct intermediate thinning of new and existing plantations 3.2.3 Monitor plantations and conduct participatory annual adaptive management reviews .	International Consultants Local Consultants Contractual Services (Companies) Training, Workshops and Conferences	• Create nurseries, training in nursery practices, nursery production. • Training in pegging, planting, seedling care, thinnings and fire management and protection. • Establishment of MTS plantations. • Supervision and monitoring. • Experts to provide support.
Activity 3.3 Promote fire management and control for plantation protection and for the restoration of savannah forests in the reserves	3.3.1 Develop fire management, prevention and control plans for the protection of MTS plantations and for the restoration of savannah woodlands 3.3.2 Build capacity of fire brigades and support implementation of fire management plans.	International Consultants Local Consultants Contractual Services (Companies) Training, Workshops and Conferences	• International expert to provide support on fire prevention and management. • Development of fire management plans. • Training of fire brigades. • Contracting with taungya community structures for implementation of fire management plans. • Creation and maintenance of firebreaks. • Early burning of degraded savannah woodlands and grasslands for forest restoration.
Activity 4.1 Address and respect safeguards	4.1.1: Undertake a project-level Environmental and Social Impact Assessment through training, participatory reviews and stakeholder meetings. 4.1.2: Population of the REDD+ portal with information and data incorporating data from the GSLERP.	International Consultants Local Consultants Contractual Services (Companies) Training, Workshops and Conferences	• Hire Gender and Safeguards Specialist. • Technical and advisory Inputs from safeguards and gender experts to ensure processes are gender sensitive and responsive and take into account safeguards in all activities above. • Finalise terms of reference for the Environmental and Social Impact Assessment (ESIA). • Complete field work and analyses, base line reports. • Hold workshop to discuss and validate findings. • Integrate finding into the ESMF and finalise EMSF led by consultants in participatory workshop. • PMU and consultants to Implement gender action plan and ESMF with project beneficiaries. Provisions for logistics and associated costs as well as equipment purchase.

			• Trainings of PMU, FC, district assembly and CRMC staff on safeguards, gender and operationalisation of the grievance redress mechanism.
Activity 4.2 Monitor, report and verify greenhouse gas emission reduction targets	4.2.1: Update the FRL and land cover maps to develop a clear assessment of past and current trends in forest cover change within the NSZ. 4.2.2: Procure service providers to develop the NFMS web portal to host data, maps and other information which can be accessed by key stakeholders. 4.2.3: Monitor timber value chains to better integrate the NSZ into the FC's work on timber legality.	International Consultants Local Consultants Contractual Services (Companies) Training, Workshops and Conferences	• Provide equipment and software. • Training of RMSC and FC staff. • Develop tools for monitoring impacts of fires and of timber and wood fuel harvest. • Develop of tools for monitoring degradation and restoration of parklands. • Provide training of communities in data collection. • Develop and implement of techniques for monitoring degradation and restoration of shea parklands.
Activity 4.3 Monitor and Evaluate Project Outputs	4.3.1 Set up and implement a system for effective monitoring of project outputs and communicate results 4.3.2 Conduct project evaluations 4.3.2 Support project level planning and review	International Consultants Local Consultants Contractual Services (Companies) Training, Workshops and Conferences	• Contract with and set up Map Hubs. • Hire of monitoring and evaluation specialist. • Annual planning and review meetings • Final APR is due Q1 of the year following the last year of implementation • PMU and consultants develop communications materials. • PMU/partners/consultants produce required reports for monitoring, annual planning, knowledge sharing and technical guidance. • Hold Project Board annual review.

E.7. Monitoring, reporting and evaluation arrangements (max. 500 words, approximately 1 page)

198. Project-level monitoring and evaluation will be undertaken in compliance with the UNDP POPP and the UNDP Evaluation Policy. The primary responsibility for day-to-day project monitoring and implementation rests with the Project Manager. The Project Manager will develop annual work plans to ensure the efficient implementation of the project and inform the Project Board and the UNDP Country Office of any delays or difficulties during implementation, including the implementation of the M&E plan, so that the appropriate support and corrective measures can be adopted. The M&E plan will cover the following monitoring the following indicators;

199. Full list of indicators

Output 1:

- Review of forest management plans for land use planning components, core conservation areas and areas under silviculture management
- Certificate of Devolution issued in CREMA
- Number of fire breaks constructed
- Number of communities and people involved in fire management
- Number of energy-saving kilns constructed and in use

Output 2

- Number cooperatives set up and number of female headed households engaged with
- Number of shea trees planted
- Number of other species of trees planted
- Number of warehouses constructed
- Number of nurseries set up and capacity of the nurseries noted (number of seedlings available)
- Number of women trained and using grafting skills, business and accounting skills, reporting and
- Number of public-private partnerships contract

Output 3:

- Number of hectares of plantations set up
- Number of Taungya farmers contracted by the Forestry Commission
- Acreage of Crop production and types of crops planted in MTS forest reserves
- Number of steres of woodfuel produced per year
- Number of large nurseries set up and seedlings produced
- Number of people constructing fire breaks and conducting patrols every three months.

Output 4:

- Provision and integration of climate information related to forest management in the NSZ into national level NFMS and SIS.
- Regional data and monitoring on forest cover and forest and land use change
- Safeguards data and monitoring of the Environmental and Social Management Framework, Gender Action Plan and other plans under the ESMF framework.
- Maps of CREMA with land use planning officers and community

193. The Project Manager will also ensure that all project staff maintain a high level of transparency, responsibility and accountability in monitoring and reporting project results.

194. The UNDP Country Office will support the Project Manager as needed, including through annual supervision missions. The UNDP Country Office is responsible for complying with UNDP project-level M&E requirements as outlined in the UNDP POPP. Additional M&E and implementation quality assurance and troubleshooting support will be provided by the UNDP Regional Technical Advisor as needed. The project target groups and stakeholders including the NDA Focal Point will be involved as much as possible in project-level M&E.

195. A project inception workshop will be held after the UNDP project document has been signed by all relevant parties to: a) re-orient project stakeholders to the project strategy and discuss any changes in the overall context that influence project implementation; b) discuss the roles and responsibilities of the project team, including reporting and communication lines and conflict resolution mechanisms; c) review the results framework and discuss reporting, M&E roles and responsibilities and finalize the M&E plan; d) review financial reporting procedures and mandatory requirements, and agree on the arrangements for the annual audit; e) plan and schedule Project Board meetings and finalize the first year annual work plan. The Project Manager will prepare the inception report no later than one month after the inception workshop. The final inception report will be cleared by the UNDP Country Office and the UNDP Regional Technical Adviser (RTA) and approved by the Project Board.

196. A project implementation report will be prepared for each year of project implementation. The Project Manager, the UNDP Country Office, and the UNDP RTA will provide objective input to the annual Project Implementation Review (PIR). The Project Manager will ensure that the indicators included in the project results framework are monitored annually well in advance of the PIR submission deadline and will objectively report progress in the Development Objective tab of the PIR. The annual PIR will be shared with the Project Board and other stakeholders. The UNDP Country Office will coordinate the input of the NDA Focal Point and other stakeholders to the PIR. The quality rating of the previous year's PIR will be used to inform the preparation of the next PIR. The final project PIR, along with the terminal evaluation report and corresponding management response, will serve as the final project report package.

197. An independent mid-term review (MTR) and an independent terminal evaluation (TE) (no later than three months prior to the operational closure of the project), will be undertaken and the findings and responses outlined in the management response will be incorporated as recommendations for enhanced implementation during the final half of the project's duration as regards the MTR. The terms of reference, the review process and the final MTR and TE report will follow the standard templates and guidance available on the UNDP Evaluation Resource Centre. The final MTR and TE report will be cleared by the UNDP Country Office and the UNDP RTA and approved by the Project Board. The final reports will be available in English.

198. The final TE report will be cleared by the UNDP Country Office and the UNDP RTA and will be approved by the Project Board. UNDP Country Office will include the planned project terminal evaluation in the UNDP Country Office evaluation plan, and will upload the final terminal evaluation report in English and the management response to the public UNDP Evaluation Resource Centre (ERC) (www.erc.undp.org).

F. RISK ASSESSMENT AND MANAGEMENT

F.1. Risk factors and mitigations measures (max. 3 pages)

Selected Risk Factor 1

Description	Category	Probability	Impact
Duty- bearers do not have the capacity to meet their obligations in the Project.	Technical/Operational	Medium	Low

Mitigation Measure(s)

The capacity and resources to be able to plan, implement, adapt and monitor all four outputs are key and provisions have been made for this throughout the project activities for duty-bearers including the FC regional and district staff, extension workers, NGO trainers, and community managers through the community executive management committees and the CREMA executive committee for all the community areas. These include extension services for the shea value chain, FC's ability to plan with communities, monitor, train, assess and adhere to contractual arrangements. Appropriate opportunities for governance, gender, natural resource management related training and requisite equipment and resources, as well as for dialogue have been made in the budget for core management groups. Monitoring methods and mechanisms are described in Section G.

Legal and policy provisions are mostly in place, however the enforcement and implementation of these will need to be supported through the project activities, contracts and agreements and the integrated monitoring framework. Expectations will be managed through dialogue and contractual processes reflecting viable and appropriate arrangements made through consensus A coordinated system of forest management that both allows for collective action on fire management and incentivises communities and individuals to undertake these actions are part of the project activities.

The FC has initiated efforts towards the development of a more sustainable charcoal and fuel production system[55]. and the project activities will implement this through collection, processing and sale of charcoal.

Mitigation and management measures will lower the probability of this risk occurring to 'low'.

[55] The 2016 Forest Development Master Plan (FDMP) identifies a key programme as the Sustainable Production and Management of Commercial Wood fuel in the Savannah Woodland (Programme 1.8.)

Selected Risk Factor 2 and 3			
Description	Category	Probability	Impact
a) Threats to tree species biodiversity as shea is restored in the landscape b) Inadequate water for set-up of new nurseries and other water needs during shea processing. Seedlings will need to be watered daily, at a rate of 10-15 liters for every 200 seedlings during the dry season. Shea and other seedlings to be transplanted in the parklands and forest reserves will need to be regularly watered) c) Water Balance Estimates under Climate Change Scenarios; climate change may result in less water available on the landscape in the long term d) Future precipitation levels may not sustain requirements for the project to meet its objectives. c) Pollution Prevention and Resource Efficiency: The Project potentially can result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/ or transboundary impacts. e) The Project may involve the application of pesticides that may have a negative effect on the environment or human health. Pollutants can include fertilisers or herbicides used to manage forest plantations. Plastic bags for seedlings may also cause pollution.	Social and environmental	Low (<5% of project value)Low (<5% of project value)	LowLow
Mitigation Measure(s)			
a) Shea trees are the main species to be restored in the parklands, however other species will also be planted such that tree-species biodiversity is not threatened (See para 81). These species will also help to improve pollination services on the landscape. Shea occurs in the wild with other species and does not dominate as does a monocrop. The definition of Shea parklands is a mixture of trees on the landscape in fallow fields, farmlands and within community forest areas. b) Only seedlings in the nurseries will be watered. The project aims to leverage the “one village one dam” programme and dug-outs and aquifers that exist, for watering needs. These are managed by water user associations with local ownership and control. Studies indicate sufficient supplies of ground water and recharge[56]. Once planted in the savannah, young trees will not need to be manually watered as they will have established themselves and will be strong enough to survive after two years in nurseries. Thereafter the following tasks will be undertaken by MTS farmers and women planting shea. - mulching to keep the soil moist - leaving a little gap in the planting hole to retain as much water as possible; and - loosening the soil at the base of the planting hole to encourage deep rooting as much as possible			

[56] Adam, Ayuba B., and Emmanuel K. Appiah-Adjei (2019) Groundwater potential for irrigation in the Nabogo basin, Northern Region of Ghana. Groundwater for Sustainable Development, Volume 9, Article 100274; and Akurugu, Bismark Awinbire, Larry Pax Chegbeleh and Sandow Mark Yidana (2020) Characterisation of groundwater flow and recharge in crystalline basement rocks in the Talensi District, Northern Ghana. Journal of African Earth Sciences Volume 16 Article 103665.

c) A number of studies provide a concrete water balance estimate to achieve the results of the project under climate change scenarios. These studies project that there will be sufficient ground water to recharge water bodies and enough water to continue irrigation of crops and trees. There are

Draft Report on Trend Analysis of Climate variability on the Black Volta, White Volta and Oti River Basins. Emmanuel Obuobie, Frederick Yaw Logah, Barnabas Amisigo, and Mark Osei-Owusu

Worqlul, Abeyou W., Yihun T. Dile, Jaehak Jeong, Zenebe Adimassu and Neville Clarke (2019) Effect of climate change on land suitability for surface irrigation and irrigation potential of the shallow groundwater in Ghana. Computers and Electronics in Agriculture. Volume 157. Pgs. 110-125.

d) Spraying of fungicides and herbicides will be avoided. Fertilizer recommendations for nursery seedling production, hardening and field establishment will be assessed by CRIG and KNUST experts. There will be a minimal generation of waste. Charcoal making will be conducted so as not to affect communities (through smoke pollution) and will be done in a manner that reduces smoke pollution. For instance, this will be done through improved kilns which have higher efficiency rating than traditional earth-mound kilns. The efficiency of traditional charcoal production methods is about 10%–22% (calculated on using oven-dry wood with 0% water content) while the efficiency of the improved kilns is approximately 30%–42%. As compared with traditional carbonisation processes and can reduce emissions to the atmosphere by up to 75%.

Storage of shea kernels in warehouses will not result in pollution.

The use of pesticides will be minimal.

e) The main control methods will involve the use of resistant hybrids, weeding will be done manually, protecting young plants with collar wire and destroying nestling/breeding areas of pests will be considered as part of plantation management. Degradable bags will be used for seedlings and where these are not available, the collection, re-use and proper disposal will be included in the management agreement with the FC. A constant phytosanitary observation will be maintained to help prevent the outbreak and spread of any potential disease/pest into plantations.

Selected Risk Factor 3

Description	Category	Probability	Impact
Risks related to private sector engagement and requirement to carry out due diligence for example to identify risks related to money laundering, terrorist financing, and prohibited practices?	Other	Low	High

Mitigation Measure(s)

A Partner Capacity Assessment and a micro-assessment have been carried out for the Forestry Commission and Ghana Shea Alliance. No money laundering, terrorist financing, and prohibited practices risk were identified. In line with UNDP's policy on partnering with the private sector, due diligence risk assessment for the private companies providing co-financing will be available. Under the terms of the FCP Policy, UNDP has a commitment, when developing a new programme or project, to ensure that risks related to fraud and corrupt practices are fully identified and considered in the programme/project design and processes and that adequate and effective measures to mitigate such risks are put in place. In this light, UNDP is, pursuant to the processes and requirements set out in its capacity assessment tools for partnerships, carrying out a thorough due diligence of the risks of fraud, corruption and conflicts of interest in relation to this Project. UNDP applies a zero-tolerance policy in relation to fraud and corruption. The guiding principles of UNDP's commitment to prevent, identify and address all acts of fraud and corruption have been laid out in the UNDP Policy against Fraud and Corrupt Practices (the "FCP Policy"), which applies to all activities and operations of UNDP, including projects and programmes funded by UNDP as well as those implemented by UNDP. The fundamental principles of UNDP's FCP Policy serve as the basis upon which UNDP's policy frameworks in relation to procurement, financial management, control and accountability are vested. In relation to the activities funded by the GCF, UNDP's commitment to uphold its policies in relation to fraud and corrupt practices was reaffirmed in the Accreditation Master Agreement signed between the GCF and UNDP on 5 August 2016.

G. GCF POLICIES AND STANDARDS

G.1. Environmental and social risk assessment (max. 750 words, approximately 1.5 pages)

193. UNDP's **Social and Environmental Standards** (SES) were reviewed by the GCF accreditation panel and deemed sufficient to accredit UNDP to submit 'low' and 'moderate' risks projects. The overall social and environmental risk category for this project is Moderate. Annex 6a describes the environmental and social screening conducted for this project and 6b provides the full environmental and social management framework. The social and environmental screening was undertaken by the project development team, a safeguards consultant who consulted with civil society[57], community, traditional leaders and the Global Shea Alliance and on the consultative process with the task force set up to provide inputs to the GSLERP, consultants.

194. As a **Moderate Risk Project**, further impact assessment and management measures will be needed in order to manage risks effectively throughout project implementation. These steps and components are described in Annex 6b, Environmental and Social Management Framework. The first step during project inception will be to conduct an environmental and social impact assessment (ESIA). This will be carried out by experts and will involve research, consultations, field work, stakeholder engagement and management planning. In this way the Environmental Social and Management Plan will be further clarified and finalised. The ESIA will cover the activities planned by the project including final selection of community forest parcels in the CREMA, contracting with Taungya communities in the MTS, confirmation of smallholder farms and bush fallow areas for shea restoration, and setting up women's cooperatives, warehouses and processing facilities. Potential issues may arise whereby men could co-opt the activities of women in the shea value chain as they become more lucrative. Benefits and risks pertaining to biodiversity conservation such as selection of tree species, land use planning, rights over resources, benefit sharing and social and governance aspects will be assessed. Impact assessment will be carried out for nursery establishment/management, plantations and fire management and upgrading of facilities (in conjunction with the private sector partners) and in conformity with Ghanaian impact assessment regulations.

195. The draft ESMF includes an approach to stakeholder engagement (see Annex 6) and references the Gender Assessment and Action Plan (see Annex 8) which is in accordance with the GCF's Gender Policy as well as provision for a Biodiversity Plan and a Livelihood Plan which incorporates the GCF's policy on indigenous people. The ESMF applies to all elements of the project and must comply with UNDP's social and environmental standards and approach to attaining these. A project Grievance Redress Mechanism will be established and will complement the traditional grievance redress mechanisms already in place at the local and district level. Women's potential access to the GRM will also be assessed to identify any pitfalls.

196. The ESMP implementation will be overseen by the FC. The project team will include an environmental and social safeguards expert, responsible for monitoring and implementation of the ESMP and the Gender Action Plan, as well as ensure that a working mechanism for receiving and handling complaints is in place. This team will be dedicated to the formulation and follow-up of these frameworks and to the bi-yearly evaluation these actions with oversight from the Project Board. Roles will be designated across stakeholder groups such as traditional authorities, community executive committees and district assemblies. Through Activity 4.1. the project will contribute to the national SIS with information generation from the implementation of the ESMP. The project will also be called upon to produce reports for a Summary of Information, that will be included in Ghana's Fourth National Communication submitted to the UNFCCC.

[57] A meeting was held to review and validate the SESP with experts from civil society actors on March15 2018 (see Annex VII)

197. Finally, the project's approach is bolstered by the **principles** embedded in Ghana's national REDD+ strategy and the accompanying national ESMF, which are to be respected in project planning and implementation as follows;

- Recognize and respect the rights of all people and segments of society, including landowners, land users, marginalized groups, women and children.
- Maintain and enhance the integrity of Ghana's forests and its environment in order to safeguard ecosystem services.
- Implement through an open, inclusive, equitable, and transparent process at all levels and at all times.
- No promotion of external interests or 'elite capture' at the expense of peoples', communities' or the Nation's interests.
- Align with national development goals and aspirations.

198. Through the social and environmental screening procedure and consultations with women's groups, traditional authorities at the local level, district assemblies at the district level, government institutions, private sector and a range of partners and relevant projects, a careful assessment of risks were considered as project outputs were defined. The proposal development process was supported by a specially constituted task force who participated in the risk assessment. A further assessment was conducted by members of civil society working in the NSZ to review and confirm the description of risk factors and mitigation measures in March 2018. The mitigation measures have been incorporated into the Outputs and Activities.

199. The main risks relate to setting up appropriate governance structures and contractual arrangements to prevent elite capture and allow incentives to continue to be realised over and beyond the project period. As communities will lead, manage and implement outputs 1-3, arrangements should ensure that roles and responsibilities are defined and agreed to, in a fair and appropriate way and benefits distributed equitably amongst stakeholders. The legal basis to secure access to timber and other resources to enable community management of forests to be tenable is required When processes and capacity are put in place to comply with good practice guidelines, codes and management practices and all groups within the communities are engaged, barriers, governance and technical risks will be lowered.

200. Risks regarding appropriate fire management techniques are deemed to be lower as an adequate budget and relevant expertise has been accounted for, however cultural practices by some groups (such as hunters) will need to be considered and these groups engaged with to ensure late season fires are not set. Cropland, grassland and degraded land that will be reforested have to be identified through land use planning processes and community participation and with the requisite technical capacity in place. Areas designated for plantations must conform to biodiversity conservation and sustainable natural resource management guidelines[58]. Land may have already been designated for a different purpose as a result of a policy or practices and further action may be needed to reconcile optimal land use. Moving from open-access to strong community management of lands, may result in some actors losing access to resources and governance arrangements need to mitigate the effects of this. Environmental risks include adequate rainfall for species to grow and availability of water sources for tree nurseries. Finally, the risk of displacement and for reversals of carbon emission reductions need to be taken into account.

201. The mitigation measures include:
    - The actors in the project, the FC, district assemblies, private sector companies, communities and women and men farmers will have access to forums, resources, expertise and know-how, therefore technical, structural and administrative factors will be addressed.

[58] UNDP Social and Environmental Standards, Guidance on Biodiversity Conservation and Sustainable Natural Resource Management

- A stakeholder engagement process is defined so that no groups are marginalised and a grievance redress mechanism to allow consensus building and solutions to be identified where there are conflicting interests.
- Implementation and monitoring of the ESMF, with application of UNDP SES guidance, as well as adaptive management through the integrated monitoring framework of the GSLERP.
- Execution of community led and farmer-led participatory processes, in order to build a relationship of trust and dialogue with FC, traditional authorities, district staff and private sector agents. Engagement includes capacity to negotiate, develop, implement and monitor agreements and ascertain and implement gendered roles and responsibilities.
- Ensure that land zoning is consistent with environmental and social standards and that the potential for large scale land use plans initiated by the Northern Development Authority recognises and engages the regional land use planning process and involve FC, CREMA governance, Taungya Farmers and District Assemblies.
- Engage with current policy reform on tree tenure on both off-reserve and on-reserve lands to enable communities and individuals to benefit directly from revenues from timber, wood fuels, shea and other NTFPs.
- Conduct in-depth capacity building and training in the NSZ, for FC, shea producers (women), farmers, land use planners at the district level, fire managers, extension workers at the district level, and all actors within the community management framework for which roles and responsibilities will be defined. Strong community governance and institutions will be the hallmark of the project.
- An awareness, communication and extension plan to seek the best way to carry out activities and continual adaptive management to ensure that changes in implementation are based on needs and lessons learnt[59].
- Integrate capacity building for the Shea Unit in COCOBOD, MOFA, CRIG In Bole (for research purposes) and the Ghana Shea Network to address extension needs and gaps.
- Ensure collaboration with the Sustainable Land Management project and the efforts made for water harvesting and lessons learnt for nursery management including various shapes for ground preparation and plastic bottle technology.
- Propose environmental and social indicators relevant for the NSZ and feed these into the national SIS; providing information relating to the social and environmental standards and safeguards to the national SIS.
- Use of innovative, accessible and effective approaches, to monitor land use change and carbon emission reductions as a result of project activities not only within the project areas but for the entire NSZ.

202. A detailed analysis of the environmental and social risks of the project and the related management plan is presented in Annex 6. UNDP's SESP requires that no activities that may cause adverse social and environmental impacts will proceed until the ESIA has been completed and per the revised ESMF, adoption of appropriate mitigation and management measures are completed. It is suggested that the ESIA consultants, together with stakeholders, create a list of such possible activities that is available to all stakeholders and respected by the various governance and stakeholder bodies of the project.

203. Project financial disbursements are scheduled to ensure timely completion of all social and environmental risk measures –including the prompt completion of the ESIA, the elaboration of the proposed ESMP and associated management plans (including the review and possible modification of the Gender Assessment and Action Plan – Annex 8), and the adoption and readiness of all recommended mitigation measures. The design and actual implementation of each mitigation measure may be a pre-condition to the carrying out of a specific project activity.

[59] Various types of micro-catchments are to be employed; U-shape, V-shape and W-shape, depending on slope condition and type of tree. Trees are planted inside of the mound. These techniques are to have been found effective in very dry conditions (200-750 mm of rainfall).

204. There is capacity of the Forestry Commission and the Global Shea Alliance to implement the ESMP and ESMF and arrangements for compliance monitoring, supervision and reporting are in place and budgets set aside for the required assessments.

G.2. Gender assessment and action plan (max. 500 words, approximately 1 page)

205. A gender assessment was conducted and involved an overview of the situation in Ghana, with a specific focus on the GSLERP proposal. The assessment was based upon available data from studies conducted by the Government of Ghana, including the Forestry Commission, donor agencies, and multilateral development banks. It involved a desk study and interacting with stakeholders. It proposes an alignment of approaches with the national priorities of Ghana and how gender considerations are integrated in the project's indicators, targets and activities. It identifies women as leaders and decision-makers and espouses a set of recommendations for a gender action plan.

Proposed gender targets to implement recommendations

206. Given the cross-cutting nature of the recommendations in the assessment, gender-responsive activities **will be integrated across the outputs of the proposed project.** Women will be targeted as a key stakeholder group and beneficiary of the project. To help achieve this, the project has established the following 8 targets on gender:

- **Target 1**: Build capacity of women and provide them with adequate resources (e.g. technology, financing, know-how, etc.) to play a key role effectively in the shea value chain
- **Target 2:** Rights to control access, manage, harvest and market forest products and associated benefits within the CREMA and MTS are agreed to by women and men
- **Target 3:** Women and men (and youth, when relevant) are meaningfully engaged in all capacity building and awareness raising activities and decision-making processes
- **Target 4:** Women represent at least 40% representation of any decision-making body, committee, consultation, workshop, etc.
- **Target 5:** Necessary support is provided to build capacities on how to mainstream gender in REDD+ implementation among involved agencies (e.g. FC), REDD+ institutions and structures, and project staff
- **Target 6:** Ghana's Gender Sub-Working Group is integrated into the institutional structure for the project and is on the PSC
- **Target 7:** Adequate budget to implement gender related activities is allocated and a gender perspective integrated into mid-term and terminal evaluations with perhaps using the W+ Approach.
- **Target 8:** A gender perspective is integrated into data collection, monitoring and reporting

There may be the

207. Utilizing such a cross-cutting and integrated approach on gender will not only help to address the identified gender gaps and barriers, but also help to ensure effective and equitable inclusion of women, men and youth in the project. The investment in the sensitization of women and men about gender issues can on other components of the programme and will be integrated as such. In the monitoring process, quantitative and qualitative gender-sensitive indicators will be refined and sex and age disaggregated data will be collected, with the goal of measuring both the numerical impact and benefits of the project on women, men and youth as well as the changes in women's and men's (and youth, when applicable) perception and livelihoods as a result of the project. This breadth of indicator usage will help to identify successes in gender mainstreaming as well as areas of improvement and allow the project to monitor changes and gender impacts in order to have them then feed back into decision-making and planning.

G.3. Financial management and procurement (max. 500 words, approximately 1 page)

208. The financial management and procurement of this project will be guided by UNDP financial rules and regulations available here: UNDP Financial Rules and Regulations.

209. Further guidance is outlined in the financial resources management section of the UNDP Programme and Operations Policies and Procedures available at Financial Resources Management.

210. UNDP has comprehensive procurement policies in place as outlined in the 'Contracts and Procurement' section of UNDP's Programme and Operations Policies and Procedures (POPP). The policies outline formal procurement standards and guidelines across each phase of the procurement process, and they apply to all procurements in UNDP. See here - Procurement.

211. The project will be implemented following the National Implementation Modality (NIM) following NIM guidelines available here: NIM – and here; UNDP Support Services to NIM.

212. The NIM guidelines are a formal part of UNDP's policies and procedures and were corporately developed and adopted by UNDP and are fully compliant with UNDP's procurement and financial management rules and regulations.

213. The national executing entity FC (also referred to as the national 'Implementing Partner' in UNDP terminology), is required to implement the project in compliance with UNDP rules and regulations, policies and procedures (including the NIM guidelines). In legal terms, this is ensured through the government's signature of the UNDP Standard Basic Assistance Agreement (SBAA), together with a UNDP project document which will be signed by the Implementing Partner to govern the use of the funds. Both of these documents require compliance. Prior to signature of the project document, FC as the national Implementing Partner, needs to have undergone a Harmonized Approach to Cash Transfer (HACT) assessment by UNDP to assess capacities to implement the project. During implementation, UNDP will provide oversight and quality assurance in accordance with its policies and procedures, and any specific requirements in the Accreditation Master Agreement (AMA) and project confirmation to be agreed with the GCF. This may include, but is not limited to, monitoring missions, spot checks, facilitation and participation in project board meetings, quarterly progress and annual implementation reviews, and audits at project level or at implementing partner level on the resources received from UNDP.

214. UNDP ascertained the national capacities of the implementing partner by undertaking an evaluation of capacity following the Framework for Cash Transfers to Implementing Partners (part of the HACT framework) which consists of four processes, namely: i) macro assessments; ii) micro assessments; iii) cash transfers and disbursements; and iv) assurance activities. Assurance activities include planning, periodic on-site reviews (spot checks), programmatic monitoring, scheduled audits and special audits. During micro-assessment, there can weaknesses identified for which actions are required to addresses the gaps. When a spot check finds that the gaps are not addressed, it will mean that the level of assurance activities will have to remain higher and modalities of engaging with that implementing partner will have to be reviewed if necessary.

215. The project will be audited in accordance with UNDP policies and procedures on audits, informed by and together with any specific requirements agreed in the AMA. According to the current audit policies, UNDP will be appointing the auditors. In UNDP scheduled audits are performed during the programme cycle as per UNDP assurance/audit plans, on the basis of the implementing partner's risk rating and UNDP's guidelines. A scheduled audit is used to determine whether the funds transferred to the implementing partner were used for the appropriate purpose and in accordance with the work plan. A scheduled audit can consist of a financial audit or an internal control audit.

216. All GCF resources will be provided to the executing entity, less any agreed cost recovery amount. Under UNDP's national implementation modality, UNDP advances cash funds on a quarterly basis to the executing entity for the implementation of agreed and approved programme activities, in accordance with UNDP standard policies and the NIM Guidelines. The executing entity reports back expenditure via a financial report on quarterly basis to UNDP. Any additional requirements will be as in accordance with the AMA as and when it is agreed.

G.4. Disclosure of funding proposal

☒ No confidential information: The accredited entity confirms that the funding proposal, including its annexes, may be disclosed in full by the GCF, as no information is being provided in confidence.

☐ With confidential information: The accredited entity declares that the funding proposal, including its annexes, may not be disclosed in full by the GCF, as certain information is being provided in confidence. Accordingly, the accredited entity is providing to the Secretariat the following two copies of the funding proposal, including all annexes:

- full copy for internal use of the GCF in which the confidential portions are marked accordingly, together with an explanatory note regarding the said portions and the corresponding reason for confidentiality under the accredited entity's disclosure policy, and
- redacted copy for disclosure on the GCF website.

The funding proposal can only be processed upon receipt of the two copies above, if containing confidential information.

C. ANNEXES

H.1. Mandatory annexes

☒	Annex 1	NDA no-objection letter
☒	Annex 2	Feasibility study - and a market study
☒	Annex 3	Economic and/or financial analyses in spreadsheet format
☒	Annex 4	Detailed budget plan
☒	Annex 5	Implementation timetable including key project/programme milestones
☒	Annex 6	E&S document corresponding to the E&S category (B): ☒ Environmental and Social Impact Assessment (ESIA) or ☒ Environmental and Social Management Plan (ESMP) or ☐ Environmental and Social Management System (ESMS) ☒ Other (Social and Environmental Screening Procedure Report
☒	Annex 7	Summary of consultations and stakeholder engagement plan
☒	Annex 8	Gender assessment and project/programme-level action plan
☒	Annex 9	Legal due diligence (regulation, taxation and insurance)
☒	Annex 10	Procurement plan
☒	Annex 11	Monitoring and evaluation plan
☒	Annex 12	AE fee request
☒	Annex 13	Co-financing commitment letter
☒	Annex 14	Term sheet including a detailed disbursement schedule and, if applicable, repayment schedule - using the correct template.

H.2. Other annexes as applicable

☒	Annex 15	Evidence of internal approval
☒	Annex 16	Map(s) indicating the location of proposed interventions
☐	Annex 17	Multi-country project/programme information
☐	Annex 18	Appraisal, due diligence or evaluation report for proposals based on up-scaling or replicating a pilot project
☐	Annex 19	Procedures for controlling procurement by third parties or executing entities undertaking projects financed by the entity
☒	Annex 20	First level AML/CFT (KYC) assessment
☒	Annex 21	Operations manual (Operations and maintenance)
☒	Annex 22	Benefit Sharing Plan

** Please note that a funding proposal will be considered complete only upon receipt of all the applicable supporting documents.*