

SAFEGUARDS IMPLEMENTATION AND MONITORING REPORT

JUABOSO – BIA HIA

**CLIMATE CHANGE DIRECTORATE
(NATIONAL REDD+ SECRETARIAT)**

Contents

1.0 INTRODUCTION	1
1.1 Background	1
2.0 GENERAL DESCRIPTION OF JUABOSO - BIA HIA	5
2.1 Basic Administration	5
2.2 Socio-economic, geographic and environmental profile	7
2.3 Traditional structures and land tenure	9
2.4 Socio-cultural values & beliefs	10
2.5 Livelihoods & markets	11
2.6 Forests, biodiversity, & threats	14
2.7 Activities/Interventions in Juaboso – Bia HIA	16
2.7.2 Restoration Activities	16
2.7.3 Climate- Smart Cocoa	18
2.7.4 Wildlife Conservation and Protection	22
2.8 Some key project outputs in the Asunafo-Asutifi HIA	23
3.0 INSTITUTIONAL SETUP FOR IMPLEMENTING GCFRP ACTIVITIES	24
3.1 Coordination of Interventions/Activities at the HIA Level	31
3.2 Integration of Stakeholders in the Implementation of Interventions/Activities through the HIA Governance Structure	31
3.3 HIA functional units	33
3.3.1 Community Resources Management Committee (CRMC)	33
3.3.2 Community Resources Management Area (CREMA)	33
3.3.3 Sub-Hotspot Intervention Area (SUB-HIA)	34
3.3.4 Hotspot Intervention Area Management Board (HMB)	34
4.0 STAKEHOLDER ANALYSIS	36
4.1 Stakeholder Identification and Mapping	36
4.1.1 Stakeholders in the landscape	37
4.2 Public Consultations	38
5.0 INSTITUTIONAL SETUP AND RESPONSIBILITY FOR ENVIRONMENTAL AND SOCIAL SAFEGUARDS REPORTING	44
5.1 Implementing institutions	44
5.2 Collaborating Institutions	46
5.3 Safeguards Information System (SIS)	46
6.0 COMPLIANCE WITH ENVIRONMENTAL AND SOCIAL SAFEGUARDS IMPLEMENTATION	51
6.1 Approach to safeguards screening	51

6.2	Approach to the Safeguards Monitoring.....	52
6.3	Safeguards compliance to legislature and policy reform	52
6.4	Tree tenure	53
6.4.1	Mitigation measures	54
6.6	Tree registration.....	55
6.7	REDD+ Gender mainstreaming	56
6.7	Uptake of Safeguards in REDD+ Programmes/Activities at the HIA Level	57
7.0	OPERATIONALISATION OF FEEDBACK AND GRIEVANCE REDRESS MECHANISM (FGRM)	92
8.0	INSTITUTIONAL STRENGTHENING AND CAPACITY BUILDING.....	94
9.0	RECOMMENDATIONS AND NEXT STEPS	102
ANNEXES		103
Annex 1:	Lists of stakeholders consulted/engaged	103
	Safeguards monitoring exercise.....	103
	Safeguards Training Workshop for the 3PRCL	103
	Sub-national stakeholder engagement meetings -updates and discussions for enhancing GCFRP implementation	108
	REDD+ Safeguards Training- Juaboso Forest District.....	110
Annex 2:	Some feedback received from stakeholders (FGRM)	113
Annex 3:	Public disclosure	116
Annex 4:	Forest reserves condition scores and biodiversity assessment.....	118
Annex 5:	List of approved and banned agro chemicals	125
Annex 6:	Awareness materials from FC and stakeholders	131
Annex 7:	Ghana REDD+ programme screening checklist for environmental and social issues.....	141

LIST OF TABLES

Table 1: World Bank Operational Procedures triggered by the GCFRP	2
Table 2: Summary of the socioeconomic and environmental profile of Juaboso and Bia West districts.....	8
Table 3: Details on Forest Reserves & National Parks in Juaboso-Bia West Landscape	14
Table 5: Organizations/institutions and Partner agencies involved in the programme implementation	24
<i>Table 6: Results of monitoring of activities in the HIA</i>	<i>60</i>
Table 6: Stakeholder Matrix Model Explained with Implication on Programme Implementation	36
Table 7: Sub-National Stakeholder Influence Matrix.....	38
Table 7: List of some Institutional strengthening and capacity building events	Error!
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Table 7: Description of Forest Condition score	118
Table 8: Star rating system for plant species in Ghana	118
Table 9: Ten most important tree species identified in forest ecosystems	119
Table 10: Ten most important tree species identified on cocoa farms.....	119
Table 11: Red and Scarlet star rating of plant species recorded in cocoa farms	120
Table 12: Red and Scarlet star rating of plant species recorded in the cropland	120

LIST OF FIGURES

Figure 1: Map of Juaboso - Bia HIA	6
Figure 2: Juaboso-Bia HIA Landscape Cocoa Production Estimates Based Upon COCOBOD District Purchases Data	13
Figure 3: Disclosure of REDD+ safeguards instruments.....	116
Figure 4: Disclosure of BSP for GCFRP	117

LIST OF ABBREVIATIONS

AfDB	African Development Bank
CIF	Climate Investment Funds
COCOBOD	Ghana Cocoa Board
CRI	Crops Research Institute- CSIR
CREMA	Community Resource Management Area
CRMC	Community Resource Management Committee
CSIR	Council for Scientific and Industrial Research
CSO	Civil Society Organisation
DA	District Assembly
EA	Environmental Assessment
EMP	Environmental Management Plan
EPA	Environmental Protection Agency
ESAP	Environmental and Social Assessment Procedures
ESIA	Environmental and Social Impact Assessment
ESS	Environmental and Social safeguards
FC	Forestry Commission
FDP	Farm Development Plan
FGRM	Feedback and Grievance Redress Mechanism
FIP	Forest Investment Programme
FORIG	Forest Research Institute of Ghana- CSIR
FP	Focal Point/Focal Person
FR	Forest Reserve
GoG	Government of Ghana
GSWG	National REDD+ Gender Sub-Working Group
HFZ	High Forest Zone
HIA	Hotspot Intervention Area
HMB	Hotspot Intervention Area
IUCN	International Union for the Conservation of Nature
JCC	Joint Coordinating Committee
LULUCF	Land Use, Land Use Change and Forestry
MDAs	Ministries, Departments and Agencies

MESTI	Ministry of Environment, Science, Technology and Innovation
MOFA	Ministry of Food and Agriculture
MMDA	Metropolitan, Municipal District Assembly
MLGRD	Ministry of Local Government and Rural Development
NEAP	National Environmental Action Plan
NEP	National Environmental Policy
NGO	Non-Governmental Organisation
PMU	Project Management Unit
RCC	Regional Coordinating Council
REDD	Reducing Emissions from Deforestation and Forest Degradation
SA	Social Assessment
SEA	Strategic Environmental Assessment
SAP	Safeguards Action Plan
SESA	Strategic Environmental and Social Assessment
SHEC	Sub-HIA Executive Committee
SIS	Safeguards Information System
SRI	Soil Research Institute- CSIR
UNFCCC	United Nations Framework Convention on Climate Change
WB	World Bank
WRC	Water Resources Commission
WRI	Water Research Institute- CSIR

1.0 INTRODUCTION

1.1 Background

The Ghana Cocoa Forest REDD+ Programme (GCFRP) is the premier emission reductions programme fully developed from a 25-year Ghana REDD+ Strategy (GRS) by the Government of Ghana through the Forestry Commission and Ghana Cocoa Board (Cocobod) with funding support from the Forest Carbon Partnership Facility (FCPF) of the World Bank. The programme seeks to significantly reduce carbon emissions resulting from cocoa expansion into forests through the promotion of appropriate climate-smart cocoa production approaches, including intensification and yield enhancement. The programme spans a mosaic landscape that produces commodities of international and national importance; - cocoa, timber, palm oil, food crops. However, the dominant crop in the landscape and also of national importance is the cocoa from which the programme derives the name “Ghana Cocoa Forest REDD+ Programme”.

Cocoa is Ghana’s most important agricultural commodity, accounting for roughly 57 percent of all agricultural exports and supporting the livelihoods of about 2.5 million rural farmers and their dependents. Cocoa production is predominant in the High Forest Zone (HFZ) of Ghana. The Western Region holds the largest area of remaining primary forest in Ghana and produces over 50 percent of the country’s cocoa beans. However, Ghana’s forests have come under severe threat from agricultural expansion, which is the major cause of forest loss, mainly being driven by cocoa production. This makes cocoa production the single biggest driver of deforestation in the landscape. Underlying causes for this include: limited financial and technical support for sustainable cocoa production leading to expansion into forest areas; legal disincentives to maintaining trees on farms; a lack of land use planning and landscape management; and a lack of collaboration amongst cocoa stakeholders.

In line with the goal of GCFRP, on-the ground implementation of GCFRP is routed through Hotspot Intervention Areas situated within the GCFRP operational area. The Juaboso-Bia HIA is the first HIA developed under the GCFRP, where implementation is underway with the support of a consortium made up of Forestry Commission, COCOBOD, Partnership for Forest (P4F), Touton SE, Agro-Eco, SNV and Nature Conservation Research Centre (NCRC). The partnership adopts a jurisdictional approach which ensures that all stakeholders across the

cocoa sector commit to and collaborate on achieving Climate Smart Cocoa which is tied to Ghana's Emission Reduction Programme. Key activities implemented in the HIA include restoration (Enrichment Planting, Modified Taungya System, Tree On Farm), livelihoods improvement interventions and Climate Smart Cocoa. All these interventions are primarily aimed at helping farmers with the necessary ecological and economic investments to ensure sustainable optimum cocoa production.

The United Nations Framework Convention on Climate Change (UNFCCC) requirements as stipulated in the Warsaw Framework for REDD+ recognizes that safeguards are a key part of REDD+ implementation and links the Cancun safeguards to results-based payment. This requires that countries implementing REDD+ should demonstrate how they have addressed and respected safeguards through the implementation of their REDD+ interventions. One of UNFCCC key priorities is ensuring that social and environmental safeguards are adhered to, throughout the REDD+ process. In addition, since the Carbon Fund via the World Bank will be purchasing the ERs generated from the GCRFP, environmental and social risks associated with the GCRFP activities would be mitigated and addressed using the World Bank safeguards policies and procedures. To comply with the World Bank's safeguards requirements, Ghana has carried out a Strategic Environmental and Social Assessment (SESA) to better understand the environmental and social concerns of the programme, and to better define the necessary mitigation mechanisms and safeguards compliance issues associated with activities to be implemented in the GCRFP. Specifically, it details the risks and opportunities, and identifies the World Bank Safeguards policies triggered. The SESA report resulted in an ESMF to guide the implementation of the proposed ER programme. The National REDD+ Secretariat (NRS) of the Forestry Commission is responsible for ensuring that mitigation measures and recommendations provided in the ESMF applicable to the ER Programme area are implemented.

Table 1: World Bank Operational Procedures triggered by the GCRFP

World Bank Safeguard Policy	Potential to be Triggered under REDD+ in Ghana
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OP 4.01: Environmental Assessment	GCFRP will engage IN activities that use forest resources in the HIAs and potentially impact other environmental areas. These activities may have environmental impacts on a limited scale, but a safeguards screening checklist has been prepared to screen activities under the programme and ESMPs subsequently prepared to guide in addressing or mitigating potential impacts.
OP 4.04: Natural Habitats	Some of the HIAs contain critical ecosystems. GCFRP will enhance the quality of the management of these critical ecosystems and reduce risks associated with cocoa and other agroforestry practices. The ESMP provides guidance on avoiding or mitigating impacts on natural habitats.
OP 4.36: Forest	Forest policy and management are a primary focus of this project, in addition to trees in the agroforestry landscape. The screening done provides guidance on managing forest ecosystems and their associated resource as reflected in the ESMF.
OP 4.09: Pest Management	The project will not directly finance the use of pesticides but will promote integrated pest management (IPM) and climate-smart practices and resilient 'shade' cocoa. The project-specific Pest Management Plan has been prepared. The ESMF provides identification of IPM activities linked to the cocoa enhancement activities. In addition, key environmental and social issues and risks associated with chemical applications in cocoa have been analyzed in the ESMP.
OP 4.11: Physical Cultural Resources	The ESMF and Process Framework incorporate screening to ensure that the project would not have any negative impact on sacred sites. Screening of sites for pilot activities will include specific screening under the ESMF.
OP 4.12: Involuntary Resettlement	No involuntary resettlement is expected. However, as part of plans for ensuring that forests are protected and well managed there will be efforts to reduce encroachment due to expansion of cultivated areas. These restrictions of access will be negotiated with farmers. Inputs and incentives will be offered to increase agricultural productivity within the historical boundaries of admitted farms. Process Framework will be used to guide and ensure participatory processes during implementation.

This Safeguards Implementation and Monitoring Report has been developed to demonstrate how environmental and social safeguards requirements of the World Bank were adhered to throughout the implementation of activities/interventions in the Juaboso-Bia HIA.

2.0 GENERAL DESCRIPTION OF JUABOSO - BIA HIA

2.1 Basic Administration

The Juaboso district shares borders with Bia West and Asunafo North Municipal Districts to the north, Asunafo South and Sefwi Wiawso Districts to the east, Bodi District to the south, and Cote d'Ivoire to the west. The district capital, Juaboso, is located 360 km to the north-west of the Sekondi-Takoradi Metropolis, the Regional Capital. The four area councils are, Kofikrom-Proso Area Council, Asempaneye Area Council, Benchema-Nkatiaso Area Council and Boinzan Area Council.

Traditional administration in the district is under the Sefwi Wiawso Traditional Council. Chiefs, Queen Mothers and Elders who are part of the traditional council are visible in traditional communities. The district has one of the seven divisional chiefs under the Sefwi Wiawso Paramountcy, namely, the Chief of Boinzan (Krontihene).

The Bia West District was carved out of the Bia District in 2012 and has Essam-Debiso as its administrative capital. The district shares boundaries with the Bia East District to the north and east, Côte d'Ivoire to the west, and Juaboso District to the south. The district capital, Essam-Debiso is located 420km to the northwest of Sekondi-Takoradi and 250km from Kumasi.

The entire Bia West District falls under the jurisdiction of the Sefwi Wiawso Traditional Area with its overlord (Omanhene) residing at Sefwi Wiawso. The district has divisional and sub chiefs in the major and minor communities respectively.

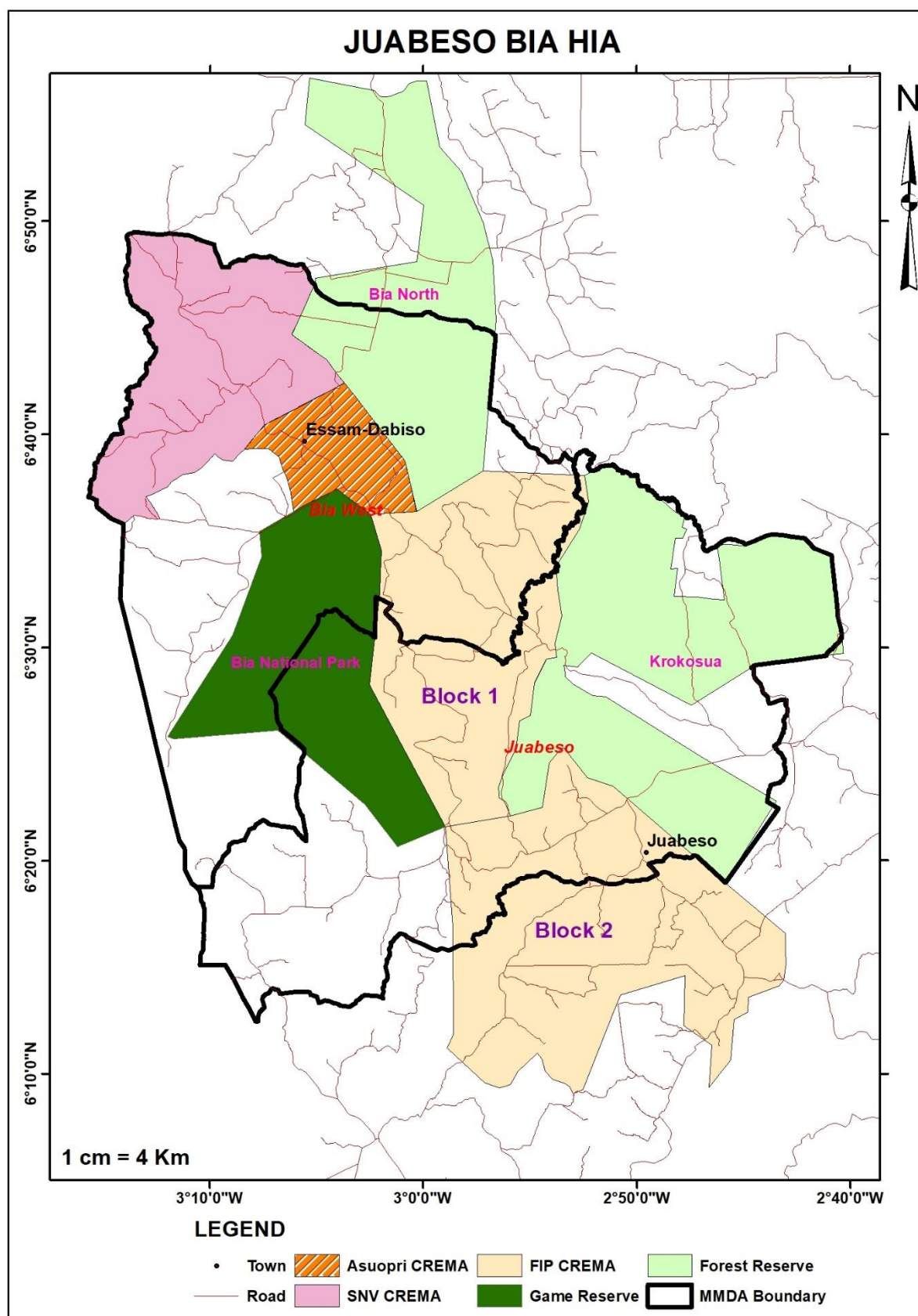


Figure 1: Map of Juaboso - Bia HIA

2.2 Socio-economic, geographic and environmental profile

Demographics:

The landscape encompasses the Juaboso and Bia West Districts, which together cover 265,717 ha (136,990 ha for Juaboso and 128,727 ha for Bia West), and had a total combined population of 147,374 people (just under 33,695 households) according to the 2010 census. This represented approximately 7.6 percent of the population of the Western Region. Men slightly outnumber women in the two districts, and the population is youthful. Rural habitation predominates, with only about one quarter of people living in urban areas in Bia West and ten percent in Juaboso. Literacy is relatively high at approximately 68 percent in both districts, though more males are reported as being literate than females. Over three quarters of the population (77%) is economically active, with the vast majority engaged in agriculture. The entire landscape falls under the Sefwi Wiawso Paramountcy and Traditional Council. The major ethnic groups are the Sefwi, followed by Bonos, Ashantis, people of Northern origins, and Fantes.

Climatic conditions:

The main river in Juaboso is the River Sayere. It is a hilly landscape, with elevations that can reach 300-390 meters above sea level (MASL). The vegetation falls within the moist semi-deciduous forest zone, and the district typically experiences two rainfall peaks (maxima) in May-June and September-October, with a dry season from November-March.

The majority of the Bia District is located within the moist evergreen forest zone, and typically experiences two main wet and dry seasons. The wet season is between April and October and the dry season is between November and March. The district is endowed with a number of rivers and streams, including the Bia River. In addition to cocoa farming and other crops, the relief and drainage of the river systems favours the development of fish farming and the cultivation of wetland rice, sugarcane and dry season vegetables. The Bia West District is endowed with a combination of phyllite, schist, tuff and greywacke which contain the mineral bearing rocks. There are also granite rocks and deposits of minerals like gold have been discovered in Yawmatwa, Oseikojokrom and Essam Debiso¹. Table 2 summarizes the socioeconomic and environmental conditions within the landscape.

¹ Ghana Statistical Services, (2014). 2010 Population & Housing Census District Analytical Report: Bia West District. Accra, Ghana.

Table 2: Summary of the socioeconomic and environmental profile of Juaboso and Bia West districts

Indicator	Juaboso District	Bia West District
Population, sex, structure and composition	58,435 in 2010 population and housing census; 50.9 % males and 49.1% females; 90.7% rural dwellers; population estimated to be 86,574 in 2016.	88,939 in 2010 population and housing census; 51.4% males and 48.6% females; 73.4% live in rural areas; population estimated to be 99,678 in 2016.
Household size and composition	12, 866 households; 5 persons per household dominated by children (44.4%)	19,809 households; 4.5 persons per household also dominated by children (46.7%)
Literacy and education	68.6% of population aged 11 and above are literate; 75.0% of males and 61.9% of females are literate.	67.2% of population 11years and above are literate; 72.8% males and 61.2% females are literate
Economic activity	83.1% of population aged 15 and above economically active; 1.2% of economically active population is unemployed; 52.4% of economically inactive population are students.	76.9% of population aged 15 and older economically active; 3.6% of economically active population is unemployed; 55.6% of economically inactive population are students.
Occupation	76.2% are engaged as skilled agricultural, forestry and fishery workers; 8.5% in service and sales; 5.7% in craft and related trade; 5.1% as managers, professionals and technicians; 97.2% of households involved in crop farming.	74.7% are engaged as skilled agricultural, forestry and fishery workers; 9% in service and sales; 6.5% in craft and related trade; 1.1% as managers, professionals and technicians; over 90% of households involved in crop farming.

Information Communication Technology	46.5% of population above 12 use mobile phones; 2.5% of total households have desktop/laptop computers.	42.9% of population above 12 use mobile phones; 1.8% of total households have desktop/laptop computers
Housing	Mud brick/earth is main constructing material (73.6%) for outer walls; metal sheets are predominantly used for roofing; one room constitutes highest percentage (51.1%) of sleeping rooms.	Mud brick/earth is main constructing material (77.9%) for outer walls; metal sheets are predominantly used for roofing; one room constitutes highest percentage (48.9%) of sleeping rooms.
Utilities and household facilities	Electricity (39.6%), flashlight/torch (49.2%) and kerosene lamp (9.6%) are main lighting sources; wood is main source of cooking fuel (77.4%); four water sources including wells, river stream, boreholes and protected wells.	Electricity (33.8%), flashlight/torch (53.2%) and kerosene lamp (11.7%) are main lighting sources; wood is main source of cooking fuel (77.9%); four water sources including wells, river stream, boreholes and protected wells.
Waste management	61.1% of toilet facility is pit latrine; 7% of population have no toilet facility; dumping of solid and liquid waste in open space dominates.	69% of toilet facility is pit latrine; 10% of population have no toilet facility; dumping of solid and liquid waste in open space is widespread.

Source: 2010 Population & Housing Census District Analytical Reports: Juaboso District and Bia West District.

2.3 Traditional structures and land tenure

From a traditional governance standpoint, the project landscape and all of the communities fall under the traditional administration of the Sefwi Wiawso Traditional Council. Katakya Nana Kwasi Bumangamah II is the Sefwi Wiawso Paramount Chief, and he is supported by seven

divisional chiefs. These include: Bonzain, Asempanaye, Bechemaa, Bodi, Mafia, Akontombra, and Amoaya. Four of the divisional chiefs reside over lands within the project landscape. They include Boinzan (Krontihene, Nana Yaw Ntaadu II), Asempanaye (Nana Kwao Asante Badiatu II), Mafia (Nana Assaw Panyin II), and Benchemaa. Though they preside over the landscape, each of these divisional chiefs have several sub-chief and communities under their subjection. Boinzan covers the biggest land area in the HIA landscape as its jurisdiction stretches to the border with Côte d'Ivoire.

In terms of land tenure, the Juaboso-Bia landscape is quite distinct from other areas of the cocoa growing zone in that in the majority of the communities, Stool Lands predominate and are rented to tenants on 50-year leases, regardless of their status be it local or migrant. After Stool Land, Family Land is the other main type of land holding, but it is much less common. Whether lease-hold or family land, however, lands can be transferred through inheritance or as a gift, and both types are frequently managed under share-cropping arrangements, including the sharing of half the crop (Abunu) or dividing it into three parts (Abusa).

2.4 Socio-cultural values & beliefs

From a cultural standpoint, all of the communities in the landscape celebrate the Elluo Festival, which happens around February each year. It centres on the production and harvest of new yams and is one of the most important cultural festivals for the Sefwi people. Many of the communities also mentioned the traditional Bragoro puberty rites, which culminate in a ceremony to promote girls into womanhood.

All of the communities maintain a solid respect for the land god, Asaase Yaa, and beliefs and reverence for river gods, which occupy the many rivers and streams that permeate the landscape, is quite strong and may represent the strongest link between traditional values and the concepts of sustainability and conservation. Beliefs linked to the forest and to the protection of sacred groves, on the other hand, appears to be less common but does exist in some communities.

Across the landscape, Thursdays are for Asaase Yaa, which means that no farming can happen. If people fail to observe this taboo day, then it is believed that they will meet “unpleasant creatures” and might lose their life. Other taboo days, like Wednesdays in some communities, are aligned with river gods and prohibit some people from approaching or crossing the river, particularly women of certain ages or when going through their menses.

Communities also share a suite of taboos focused on products from the oil palm tree (*Elaeis guineensis*), including days when palm brooms cannot be used, palm bunches cannot be carried into the community, and palm nut soup cannot be prepared or eaten. Some communities also prohibit the rearing of goats, dogs and ducks. Overall, the knowledge of and belief in traditions and taboos is still strong across the communities, though the strength of taboos appears to be waning as some taboos are no longer followed or actively enforced. As in other areas of Ghana, disrespect for taboos is widely attributed with calamity, terrors, death and other negative events.

Despite the fact that the landscape recalls a long and interesting settlement history with strong cocoa and forest-livelihood traditions (gold, bush meat, rubber, etc.), negative views of the future of the landscape and its resources (forest and water), and of unsustainable cocoa systems prevail. While this is very worrying, there is a deep desire for real change and a strong need for landscape-scale solutions to help the various communities and cocoa farmers become more resilient in the face of impending socio-environmental changes.

2.5 Livelihoods & markets

Agriculture is the main source of livelihood and cocoa is the dominant crop grown across the landscape, but people also plant other tree-crops such as oil palm and coffee. After cocoa, production of annual food crops like plantain, yams, cassava, cocoyam, and maize are the most common livelihood activities. Farming of vegetables, including tomatoes, pepper, cabbage, garden eggs, okra, and onions was the third most common agricultural activity.

Women's income tends to come from farming (cocoa, oil palm, maize, plantain), followed by trading in food crops and vegetables, working as a labourer in cocoa farms, working as a seamstress, or food vending. Men's main agricultural activities and sources of income are tree-crop farming (cocoa, oil palm, coffee) and food crop farming (plantain, oil palm, cassava, rice), followed by vegetable production. Men also work as farm labourers, carpenters, masons, and in other artisanal jobs. Other income making activity include working as part of a chainsaw gang or with small-scale mining.

Some of the important markets in the landscape are found at Juaboso, Bonsu Nkwanta, Asawinso, Elluokrom, Kofikrom/Proso, Adoafua, and Elluokrom. In addition to agricultural products, harvesting of NTFPs is also a significant livelihood activity for some people, more frequently women and people in smaller communities located closer to the forest. Some of

the most common NTFPs collected in the area include: Prekese (*Tetrapleura tetroptera*), followed by Kola nut (*Cola nitida*), Seriweesa (*Piper guineenses*, Ashanti pepper) Fumweesa (grains of paradise, *Aframomum melegueta*) and mushrooms.

2.5.1 Cocoa agronomy & farming practices

According to the Cocoa Research Institute of Ghana (CRIG), the area sits upon desirable cocoa growing soils, predominantly forest ochrosols, and climate conditions were, until recently, most appropriate². However, due to the effects of climate change (namely rising temperatures, reductions in rainfall, and changes in rainfall patterns), it is predicted that the cocoa landscape will have to build-in greater “systematic resilience” or “systematic adaptation” to support future production³.

On average, farmers in the area cultivate 2-4 cocoa farms⁴, with the average farm covering approximately 2.7 acres (1.2 ha)⁵. A recent assessment suggests that the majority of farmers (50 percent of male farmers and 43 percent of female farmers) have a total of 5-15 acres (2.3-6.8 ha) under cocoa; though 45 percent of female farmers are reported to have less than 5 acres of cocoa. As part of this study, most farmers reported that their farms contain hybrid cocoa or older Amazonian varieties, with the majority of farms being between 11-30 years old, and a quarter of farms are over 30 years⁶. The adoption of recommended farming practices and use of agro-chemical inputs appears to vary. Approximately one third of farmers in the area say that they have neither adopted “good agricultural practices” (GAP) nor applied inputs, while one thirds report to be using GAP practices without inputs, and one third of farmers say that they do practice GAP and apply fertilizer and pesticides⁷. The biggest challenge for farmers with respect to following recommended management practices is access to cocoa extension personnel, trainings, and appropriate material and inputs.

²Anim-Kwapong, G.J. and E.B. Frimpong, 2008. Climate Change on Cocoa Production. In *Ghana Climate Change Impacts, Vulnerability and Adaptation Assessments*, Environmental Protection Agency, pp.263-314.

³ Laederach (2016)

⁴ Hainmueller (2011); Asante (2016)

⁵ Hainmueller (2011)

⁶ Asante (2016)

⁷ Hainmueller (2011); Asante (2016)

Reports on average yields for the area vary, ranging from 389 kg/ha⁸ to 700-800 kg/ha⁹. Estimates of cocoa bean purchases within the landscape show that since 2000, cocoa production has steadily increased from just over 60,000 tonnes to more than 220,000 tons in 2010/2011. But since this landmark season, production has declined, with the lowest production occurring during the seasons that fell within the 2015 *El Nino* event, as shown in Figure 3. In 2016/2017, cocoa production in the area appears to have rebounded to just over 158,000 tonnes. Of major concern, however, is that global cocoa prices have declined significantly in the past two years. Though Cocoa Board has maintained a high producer price for farmers (despite losses), a downward adjustment can be expected in the near future, which would affect cocoa farmers' incomes.

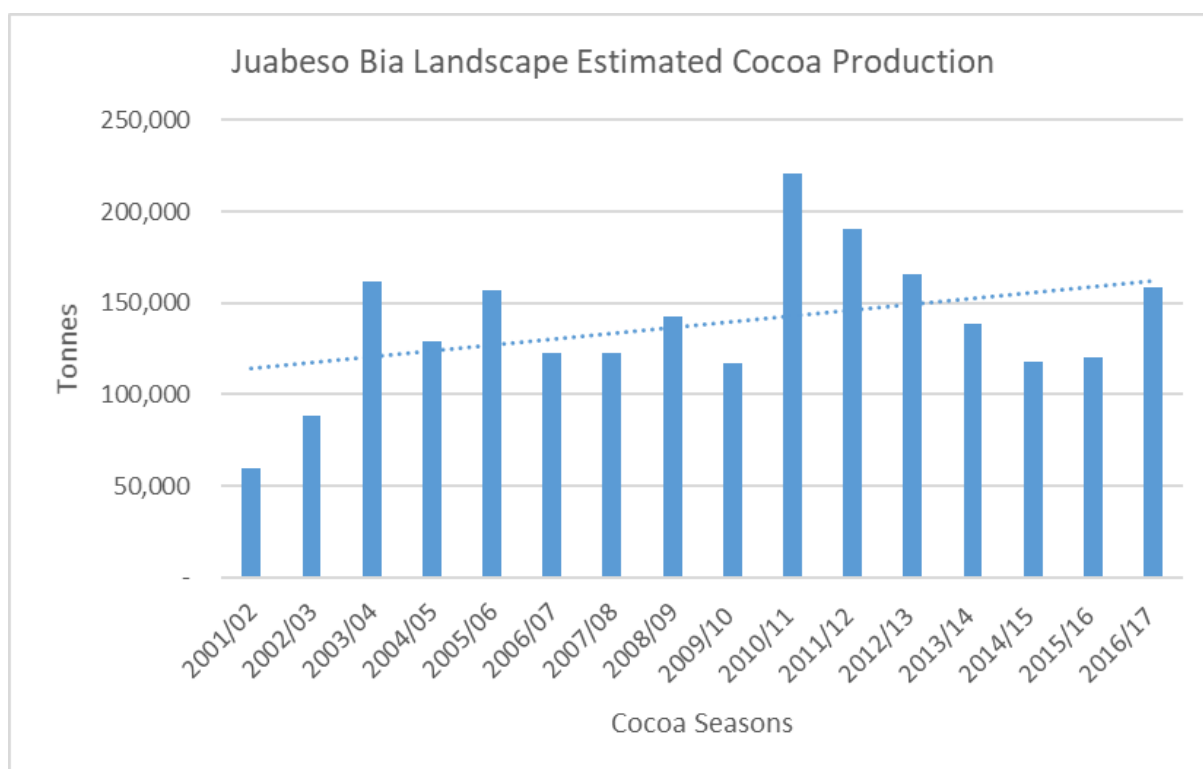


Figure 2: Juaboso-Bia HIA Landscape Cocoa Production Estimates Based Upon COCOBOD District Purchases Data

Source: Vision and Critical Pathway at HIA Level with Particular Reference to Juaboso-Bia HIA, 2018

⁸Hainmueller, M.J., M.J. Hiscox, and M. Tampe, 2011. Baseline survey: Preliminary report-Sustainable development for cocoa farmers in Ghana. MIT and Harvard University, Cambridge, MA

⁹ Asare et al.

2.6 Forests, biodiversity, & threats

The Juaboso-Bia HIA landscapes includes Bia National Park, as well as three degraded but intact forest reserves (Table 4), and three highly degraded forest reserves that have largely been converted to cocoa.

The Bia National Park and Bia Resource Reserve constitute a twin conservation area. It was founded in 1935 in the transitional zone between the moist-evergreen and moist semi-deciduous forest types and covers a total area of 31,401 ha (314 km²). Though it is managed as a single unit, with a strict conservation objective, by the Wildlife Division of the Forestry Commission, it was later divided to include both the Bia Resource Reserve and the Bia National Park. Sixty-two species of mammals have been recorded in the area. These include 10 primates amongst which are the Black and White Colobus, the Olive Colobus, the Red Colobus and chimpanzees. The forest elephant and the highly threatened bongo are also present. Over 160 species of birds have been recorded; they include the internationally endangered white-breasted guinea fowl.

The majority of Krokosua Hills Forest Reserve is located within Juaboso District. It was established in 1935 and covers approximately 481km². The north western part of the reserve is designated as a globally significant biodiversity area (GSBA) and harbours important and endangered primate species, including the Mona Monkey, Spot-Nosed Monkey, Black and White Colobus, White Mangabey, and Chimpanzee. Teleki (1989) asserted that an estimated 300 to 500 chimpanzees were once found in the forest, but these populations are highly reduced today. This forest has been heavily logged in the past and has suffered extensive encroachment from farming activities and illegal chainsaw operations. There is also a high incidence of hunting taking place.

Table 3: Details on Forest Reserves & National Parks in Juaboso-Bia West Landscape

Forest Reserve / National Park	Political District	Total Area (ha)	Notes on condition and activities
Bia National Park	Juaboso & Bia West	31,401.44	

Bia Tributaries North Forest Reserve	Bia West*	36,700 (17,815 exists in the HIA)	
Bia Tawya Forest Reserve	Juaboso	65,000	Highly degraded, non-forest, cocoa farms, under concession agreement
Bonsam Bepo Forest Reserve*	Juaboso*	55 ha in HIA	Majority of FR located in different districts.
Krokosua Hills Forest Reserve	Juaboso	46,845 ha in the HIA	Total of 38 admitted farms, covering 2,579.7 ha with an 88.8 km perimeter. FIP enrichment planting.
Manzan Forest Reserve	Bia West	30,500	Highly degraded, non-forest, cocoa farms, under concession agreement
Sukusuku	Bia West	20,000 (approx.)	Highly degraded, non-forest, cocoa farms, unclear if under concession

The original flora and fauna of the landscape was very diverse and complex in nature¹⁰. However, following legal or political reservation and decades of cocoa farming expansion, on and off-reserve logging and hunting, the off-reserve area has been entirely transformed into a cocoa landscape, and many of the forest reserves are entirely degraded. For example, Sukusuku Forest Reserve, Manzan Forest Reserve, and Bia Tawya Forest Reserve are classified as *Non-Forest* (Condition 6)¹¹, but at least two of the three still fall under timber concessionary agreements. Bia Tributaries North Forest Reserve, Krokosua Hills Forest Reserve, and Bonsam Bepo Forest Reserve still retain some forest, but are now moderately to highly degraded. The

¹⁰ IUCN, 2010. Parks and nature reserves of Ghana.

¹¹ Hawthorne and Abu-Juam, 1995. Forest Protection in Ghana: With particular reference to vegetation...

national park, though very well protected has become an island within the broader cocoa landscape.

2.7 Activities/Interventions in Juaboso – Bia HIA

2.7.1 The Partnership for Productivity Protection and Resilience in Cocoa Landscapes (3PRCL)

This was the premier pilot project for the GCFRP which was implemented by Touton SA in collaboration with relevant stakeholders including the FC, Cocobod, some NGOs and Community members. The forests earmarked for this project was the Bia National Park and the Krokosua Forest Reserve with total areas of 140,000ha in the Western North Region of Ghana. The project implemented series of activities that contributes to the practice of climate smart cocoa production among farmers. These activities included:

- 1) piloting a landscape governance framework for securing and protecting the forest in collaboration with communities;
- 2) provide farm-level support to cocoa farmers to increase productivity in an environmentally sustainable manner without forest encroachment and
- 3) develop incentive mechanisms for communities and cocoa farmers essential to the success of the project.

The project has been able to attract additional private sector investment within the landscape in order to scale-up successful intervention and replicate in other cocoa landscapes in Ghana (350,000ha Kakum Forest in Ghana). Specific forest restoration activities implemented are summarized below.

2.7.2 Restoration Activities

Restoration consists of activities that lead to tree planting in on-reserves and off-reserve areas. Under the emission reduction programme three main restoration activities are recognised in the HIA namely: Modified Taungya System (MTS), Enrichment Planting and Trees on Farm (ToF).

2.7.2.1 Modified Taungya System (MTS)

This is a system of agroforestry practice where farmers from fringe communities of Degraded Forest Reserves are allocated degraded areas on reserve to undertake plantation development. In this system, farmers provide labour for the site preparation, pegging, planting and tending of the plantation. The Forestry Commission provides logistics (including; pegs, tree seedlings to plant and some other farming tools as well as protective clothing) and technical support to the farmers. Farmers are allowed to grow food crops along with the tree seedlings and harvest the crops for themselves whiles tending the tree seedlings for three to four years when tree canopy closes and crop production becomes impossible under the shade. A Benefit Sharing Plan has been instituted for the MTS with a proportion of 40%: 40%: 15%: 5% to Farmers, Forestry Commission, Community and Traditional Authorities respectively.

The selection of a community or farmer group for the MTS were based on the following criteria among others:

- I. Proximity to the planting site: Since the plantation establishment is labour intensive especially from the beginning, i.e., site preparation, etc., selection of communities or farmer group is based on their proximity and thus those fringing the Forest Reserves are selected. Another reason is that communities are responsible for ensuring that the plantation and the Forest Reserve as a whole is protected from wildfire, illegality, etc. and so communities fringing the reserve are mostly selected.
- II. Willingness to participate: As per the Benefit Sharing Plan, proponents are responsible for their individual roles, thus it requires a willing farmer or a community that understand and are willing to invest and wait for the returns in a long term. Some farmers would prefer to be paid for their labour and forfeit future returns.
- III. Previous experience: With the implementation of MTS in Ghana nearing two decades, the FC has had a myriad interactions and engagements with communities fringing Forest Reserves and have historical memory of committed communities based on their past performance. Thus, the selection criteria of farmers also include past community performance in MTS establishment including their ability to protect previous plantation stands established.

- IV. Ability to work on the farm: Selection of farmers are also based on their age and health conditions. Strong adults and youth are preferred regardless of the gender.

2.7.2.2 Enrichment Planting

Enrichment planting was undertaken in a fairly degraded forest with the aim of increasing tree cover by planting tree seedlings within the forest. This plantation model has introduced valuable species to degraded forests without the elimination of valuable individuals already present. In Juaboso-Bia HIA, the Juaboso Forest District manages Enrichment Planting activities. In Enrichment Planting, strips of 5-6-meter width are cut through the degraded portions of the compartment along which tree seedlings are planted and nurtured to increase tree density. This work is done under the supervision of Forestry Commission.

2.7.2.3 Trees on farms (ToF)

This system of carbon stock enhancement focuses mainly on cocoa farms in off-reserve areas that are unshaded or not fully shaded according to the right regime. Farmers are supported and have incorporated trees in their farms to ensure sustainable yield whilst at the same time contributing to climate change mitigation. By incorporating trees on their farms, they contribute to carbon stock enhancement, which serves as a carbon sink.

In executing this model, COCOBOD and private sector cocoa companies support ToF implementation since it falls directly into their remit although under strong coordination and partnership with the Forestry Commission. Farmers benefit from agricultural extension services as well as supervision and logistical support. In this HIA, Juaboso Forest District, Adjoafua COCOBOD District, and Cargill are leading ToF.

2.7.3 Climate- Smart Cocoa

Climate-Smart Cocoa (CSC) consists of farm-level activities that lead to increased resilience, carbon sequestration and general improvement in the livelihood of farmers. At this, a number of REDD+ partners in the HIA including COCOBOD and the private sector cocoa companies undertake climate-smart related activities. The Ghana Cocoa Board generally term their version of CSC as Productivity Enhancement Programme (PEP). COCOBOD since 2017 has rolled out the PEPs to shore up cocoa production in the country and consolidate its position as the leading producer of premium quality cocoa beans in the world. The objective of the

PEPs is to roll out a set of measures that will improve productivity per hectare and increase cocoa production levels well above 1 million metric tonnes per year (versus an average of 800,000 tonnes per year over the last ten years). The PEPs mainly entail measures to sustainably increase plant fertility; develop irrigation systems; rehabilitate aged and disease-infected farms; increase warehouse capacity; and create an integrated farmer database. Some of the activities under PEP include the following:

1. Cocoa Rehabilitation Programme
2. Cocoa Diseases and Pest Control Programme (CODAPEC)
3. Cocoa HiTech (Fertilizer) Programme
4. Free Hybrid Cocoa Seedling Distribution
5. Artificial Hand Pollination
6. Mass Cocoa Pruning
7. Cocoa Management System (CMS)
8. Irrigation

1. Cocoa Rehabilitation Programme

Under this programme, COCOBOD bears the full cost of the two-year rehabilitation process which involves the cutting of cocoa trees affected by the Cocoa Swollen and Virus Disease (CSSVD), treating whole farms and replanting them with disease-tolerant, early bearing, and high yielding cocoa hybrid cocoa seedlings as well as complementary plantain suckers to provide temporary shade for the young cocoa seedlings and recommended desirable shade tree species to provide permanent shade for the newly established cocoa.

2. Cocoa Disease and Pests Control (CODAPEC)

COCOBOD introduced the CODAPEC programme (Mass Spraying) in 2001/2002 to control black pod disease and mirids (capsids) to prevent their effects on cocoa production. The programme comes at no cost to the farmer. Only mapped farms in good condition are considered under this exercise. COCOBOD takes full responsibility of carting chemicals to the regions and districts for onward distribution to farmers through various task forces in districts and communities. The chemicals are allocated to farmers to arrange with supervisors of spraying gangs to plan spraying schedules to spray their farms. There are 2 components involved:

- Capsid control
 - i. A 7-member spraying gang (supervisor inclusive) ensures two (2) rounds of insecticides application in April/May and September/October respectively.
 - ii. Cocoa farmers are then expected to complement the first two (2) rounds with additional two (2) rounds in June and December within a cropping year.
- Black pod Control
 - i. The first three (3) rounds of fungicides application spraying are carried out between 3-4 weeks' intervals by COCOBOD in June, July and August/October.
 - ii. Cocoa farmers are encouraged to work closely with the gang to identify which periods within the intervals to complement with additional three (3) rounds application of the fungicides.

3. Cocoa HiTech Programme

Management of Ghana Cocoa Board (COCOBOD) re-introduced the Subsidized Fertilizer Programme following evidence of widespread theft, nepotism, favoritism diversion and smuggling which characterized the then 'Free Fertilizer Programme' some years ago. The aim of the fertilizer distribution was to restore soil nutrients depletion to enable a smooth process during cocoa production. The Subsidized Programme, which makes use of the private sector in the distribution processes, seeks to ensure availability, equity, and transparency. The introduction of this new scheme, with active private sector participation, has also helped to create jobs to boost economic growth in the country. Generally, the Cocoa HiTech Programme has a number of benefits including:

- cutting off the needless politicization, nepotism and theft that hitherto characterized the distribution of fertilizers.
- stimulating an industry that is one of Ghana's top earners of foreign exchange and accounts for about 7 percent of gross domestic product.
- eliminating market distortions as well as steps to map cocoa farms and soil, improving sector management, upgrading ports and storage facilities and rehabilitating ageing trees.
- enhancing access of the ordinary cocoa farmer to the right fertilizer which will help stimulate productivity and increase livelihood.

- promoting a subsidized programme, which makes use of the private sector in the distribution processes, ensures availability, equity, and transparency.

The mode of distribution of the farm inputs is done through the following processes:

- Farmer based Cooperatives are formed, in order to facilitate equitable distribution of fertilizers. Each farmer must belong to a community farmer based cooperative.
- Cooperatives then must apply for the subsidized fertilizers at COCOBOD. Farmers can therefore apply through these approved farmer-based cooperatives.
- Farmers are given a one-year moratorium for the payment of the subsidized fertilizers.

4. Free Hybrid Cocoa Seedling Distribution program

Every year, Ghana Cocoa Board (COCOBOD) through the Seed Production Division (SPD) raises disease-tolerant hybrid cocoa seedlings for distribution to farmers free of charge. The initiative is aimed at increasing cocoa production and incomes of cocoa farmers.

Distribution of the seedlings to farmers is mostly done from May – July every year to enable farmers plant them. The mode of distribution takes the following process:

- The seedlings are raised by the Seed Production Division (SPD) at over 380 nursery sites established in communities across the cocoa regions.
- The Cocoa Health and Extension Division (CHED) distributes the seedlings using farmer data.

5. Artificial Hand Pollination Programme

Cocoa Artificial Hand Pollination started in 2017 against the background that cocoa is naturally pollinated by insects called midges, but with only an average of 10-20% of flowers being pollinated, whilst about 80-90% is aborted. The hand pollination exercise was originally restricted to seed-gardens but has now been extended to farms to boost yield. The selection criteria of cocoa farms for hand-pollination include hybrid farms; farms that are between 8-20 years; farms free from Cocoa Swollen-Shoot Virus Disease (CSSVD); and accessibility. In addition, farmers must be willing to maintain their farms by brushing regularly, pruning, controlling pests and diseases, as well as the willingness and preparedness to apply the required amount of fertiliser to help achieve the desired results of increased productivity.

The artificial hand pollination exercise has been undertaken in some farms and is still ongoing at a steady rate within the Asunafo-Asutifi landscape.

- The processes involved are detailed below: A farm earmarked for pollination must be pruned two months before it is pollinated
- Transfer of pollen grains is aided by forceps and containers
- Application of fertilizers is essential to support pod setting and development

6. Mass Cocoa Pruning Programme

A strategy to prune all productive cocoa across all cocoa growing regions and districts. To this end COCOBOD has supplied 100,000 motorized pruners to various farmer cooperatives to encourage pruning and weeding/slashing as pruning is the master key that unlocks flowering in cocoa to aid flowering and pod setting. It also helps to reduce the incidence of pests and diseases that affects cocoa farms.

7. Cocoa Management System (CMS)

Popularly known as Cocoa farmer census is a program under which all cocoa farmers are enumerated with their data captured including useful sociodemographic characteristics. Their farm sizes and other farm characteristics are also captured. This data will eventually be the platform upon which essential services like cocoa farmers pension scheme would be rolled out for farmers by COCOBOD

8. Irrigation

Due to climate change and its devastating effects COCOBOD has embarked on an aggressive irrigation programme to bring irrigation to the farm gate of the ordinary cocoa farmer as a climate change mitigating and coping strategy. To this end a lot of boreholes have been sunk and solar powered to irrigate some clusters of farms in the various district. Plans are far advanced to dam some big rivers in the cocoa districts for irrigation purposes.

2.7.4 Wildlife Conservation and Protection

The Wildlife Division of the Forestry Commission has a mission to ensure conservation, sustainable management and development of Ghana's wildlife resources for socio-economic benefit to all segments of society. Specially, the Division has adopted the following strategies:

- Protect and develop Ghana's permanent estate of wildlife-Protected Areas (PAs).
- Promote management and development of wildlife outside wildlife-Protected Areas.
- Develop Eco- tourism potentials of the PAs.
- Promote the development of wildlife - based enterprises.
- Develop linkages with other agencies and NGOs whose activities impact wildlife.
- Assist local communities to develop and manage own reserves
- Foster closer collaboration with communities closer to PAs through the promotion of community resource management areas (CREMA).
- Promote public awareness and education on wildlife management issues.

In line with the above, in the Juaboso – Bia HIA, the Wildlife Division at the district level embarks on a number of activities including community education and sensitization, as well as patrolling and monitoring of forest reserves for biodiversity protection and conservation.

2.8 Some key project outputs in the Asunafo-Asutifi HIA

- I. Development of the Juaboso-Bia landscape governance structure and systems leading to MoU & Partnership formation.
- II. Draft Management and Investment Plan for the HIA
- III. Developed National Climate Smart Cocoa standard with government of Ghana, Civil Society and Cocoa Companies.
- IV. Designed Landscape level Monitoring, Reporting and Verification systems that align with the Ghana Cocoa Forest REDD+ Program methodology.

The outcomes of the project include measurable reductions in deforestation, enhanced community resilience against climate change, significant increases in the majority of farmers' yields and incomes, and the marketing of deforestation-free cocoa beans.

3.0 INSTITUTIONAL SETUP FOR IMPLEMENTING GCFRP ACTIVITIES

NRS has put in place an inclusive and participatory approach for the implementation of all activities. In a broader sense, the main institutions implementing the REDD+ and have interest in environmental and social management include:

- Ministry of Lands and Natural Resources (MLNR);
- Ministry of Food and Agriculture (MOFA);
- Ministry of Environment, Science, Technology and Innovation (MESTI)
- Forestry Commission (FC): - National REDD+ Secretariat (NRS)/Climate Change Directorate (CCD), Forestry Services Division (FSD), Resource Management Support Centre (RMSC);
- Ghana Cocoa Board;
- Metropolitan, Municipal and District Assemblies (MMDAs);
- Environmental Protection Agency (EPA);
- World Bank and other donors.
- Traditional Authorities
- Cocoa Research Institute of Ghana (CRIG)
- Some Civil Society Organizations (CSOs) / Non-Governmental Organizations (NGOs)
- Some Private Companies and their representatives in-country
- Community members and farmer groups

Table 4: Organizations/institutions and Partner agencies involved in the programme implementation

NAME OF ORGANIZATION/PARTNERS	CORE CAPACITY AND ROLE
Forestry Commission of Ghana	Forestry Commission (FC) is the government institution responsible for the sustainable management of Ghana's forest and wildlife resources. Forestry Commission and COCOBOD set the national framework and developed an enabling cocoa policy and strategy around environmental sustainability for this project. The Climate Change Directorate of the FC was established in 2007 with a mandate to manage forestry-sector initiatives related to climate change adaptation and mitigation, including REDD+. It hosts the National REDD+

NAME OF ORGANIZATION/PARTNERS	CORE CAPACITY AND ROLE
	Secretariat, which is responsible for coordinating Ghana's REDD+ process. The sector ministry for the FC is the Ministry of Lands and Natural Resources (MLNR). In partnership with Ghana's Cocoa Board, the FC is responsible for this programme, including its design, management, and implementation.
Ministry of Lands and Natural Resources (MLNR)	MLNR is the sector Ministry to which the Forestry Commission reports. It is also responsible for coordinating and implementing Ghana's Forest Investment Programme (FIP). The Minister of the MLNR chairs the National REDD+ Working Group (NRWG) which is an intersectoral body that provide oversight, Coordination and Management of the GCFRP.
Ghana Cocoa Board (COCOBOD)	Ghana Cocoa Board (Cocobod) is a co-proponent of the GCFRP with the Forestry Commission and together they co-lead the programme implementation. Cocobod is the government institution responsible for the regulation and management of the cocoa sector. Cocobod serve as co-chair, with the Forestry Commission on the GCFRP Joint Coordination Committee to provide strategic coordination and management for implementation of the programme
Ministry of Environment, Science and Technology (MESTI)	MESTI is the sector ministry with responsibility to formulate, develop, implement, monitor and evaluate environmental policies in Ghana, including the National Climate Change Policy. MESTI has a seat on the NRWG and is a key partner on all aspects of REDD+.
Ministry of Food and Agriculture (MOFA)	MOFA is represented on National REDD+ Working Group (NRWG) and is responsible for ensuring that extension services and interventions related to food and cash crops including oil palm and citrus align with the goals of Ghana's Cocoa Forest REDD+ Programme.
Environmental Protection Agency (EPA)	EPA is the National Focal Point for United Nations Convention on Climate Change (UNFCCC) and is responsible for all National Communication to the UNFCCC. EPA ensures that the programme's accounting is reflected in the national accounting. It also hosts Ghana's Climate Change Data Hub, which supports elements of data management and registry.

NAME OF ORGANIZATION/PARTNERS	CORE CAPACITY AND ROLE
Forestry Research Institute of Ghana (FORIG)	FORIG is a research institute under the Council for Scientific and Industrial Research (CSIR) conducting research on forests and forest products for social, economic and environmental benefits of society. FORIG advises the Joint Coordinating Committee (JCC) and provide technical guidance on the implementation of field activities and development of appropriate systems for the success of the programme.
Cocoa Research Institute of Ghana (CRIG)	CRIG is a subsidiary of Cocobod established as a centre of excellence for developing sustainable, cost effective, socially and environmentally acceptable technologies for the cocoa industry. CRIG is responsible for all cocoa research that provides information and advice on matters relating to the production of cocoa and other mandate crops
National House of Chiefs	The National House of Chiefs is a body of elected representatives from Ghana's Regional Houses of Chiefs that is recognized by the Constitution. It is charged to advice on issues related to culture and chieftaincy, and works towards the codification of customary law. The national house of chiefs works with the programme to liaise with Paramount chiefs that have jurisdiction over landscapes within the programme area. They play critical role in the implementation of the Grievance Redress Mechanism and will also provide guidance on issues related to benefit sharing.
Touton	Touton is a cocoa bean trading company that works with the largest licensed buying company in the country; Produce Buying Company (PBC). Touton has started to implement the first comprehensive CSC programme, in line with this programme, for cocoa farms in Ghana. The programme builds on Touton's initiative, which covers two main HIAs. Touton is building the models and structures to provide incentives and extension services for the farmers within the landscape. Touton is providing training, setting up community business resource centres, and providing low-cost service to farmers. Touton supports intensification on farms, and incentivize farmers to adopt climate smart practices, with increased productivity, which invariably leads to positive

NAME OF ORGANIZATION/PARTNERS	CORE CAPACITY AND ROLE
	economic returns. Financial incentive mechanisms such as revolving funds from the Rural Service Centres will further be developed and strengthened by Touton for long term sustainability. Touton is motivated to invest and actively take up intervention initiatives within the landscape in order to secure its long-term supply chain for sustainable cocoa.
World Cocoa Foundation (WCF)	WCF promotes a sustainable cocoa economy through economic, social and environmental development in cocoa-growing communities. It is organizing an industry commitment to end deforestation and forest degradation. The initiative will develop in consultation with the relevant cocoa producing country governments, farmers and farmer organizations, civil society organizations, development partners, and other stakeholders, measures to end deforestation and forest degradation, while improving the livelihoods of smallholder farmers working in the cocoa supply chain.
Produce Buying Company (PBC)	PBC is one of the biggest licensed cocoa buying companies (LBCs) in Ghana, and has the greatest geographical presence, being present in every village/society.
Nature Conservation Research Centre (NCRC)	<p>NCRC is a continental leader in REDD+ and Climate Smart Agriculture, and has played major role to date on both issues in Ghana. It also has extensive expertise in implementing Community Resource Management Areas (CREMAs). NCRC is supporting the design of the landscape management governance structure at the district and regional levels. NCRC collaborates with relevant stakeholders to align the climate smart approach with the Emission Reduction Program of Ghana and design and implement a financially sustainable incentive mechanism for farmers that could be accrued from the REDD+ project in Ghana. They support data collection and support the national carbon accounting system.</p> <p>NCRC is a leading indigenous conservation NGO in Ghana, with years of experience in building community-based natural resource governance mechanisms and serving as one of the originators of the CREMA mechanisms.</p>

NAME OF ORGANIZATION/PARTNERS	CORE CAPACITY AND ROLE
SNV Netherlands Organization (SNV)	<p>SNV lead the development of a Country Approach to Safeguards (CAS), a system that provided linkages of REDD+ Safeguards to Ghana's Policies and Measures and established Ghana's compliance to Addressing REDD+ Safeguards. SNV also developed a system for testing models for developing "low emission development plans" in districts within the GCFRP landscape. The project also involved the piloting of participatory forest and agroforestry practices and developing business models for the rehabilitation of old cocoa farms within the landscape. More than 80% of the cocoa farms are over 30yrs old and need to be rehabilitated, to achieve the necessary yield increase and productivity. SNV is also provided support in undertaking the following outputs of the program:</p> <ul style="list-style-type: none"> • building participatory consultation platforms with multi-stakeholders at the community level with early warning systems; conducting stakeholder mapping; • putting in place REDD+ Feedback and Grievance Redress Mechanism on the ground; • leading in the implementation of the development and testing of multi-functional land use planning tools; • and testing of deforestation monitoring tools and addressing all land and governance issues within the landscape. <p>SNV's approach supports local cocoa livelihoods and incomes to improve resilience towards climate change and enhance eco-system adaptation.</p>
Agro Eco	<p>Agro Eco is an independent advisory organisation based in the Netherlands and advises the private sector, NGOs, governments and international organisations in the development of niche markets for quality products. They provide support for farmer supplier group organisation, conversion planning, technical assistance, research, preparation of grower group certification, quality programmes, market studies and linkages between exporters and importers to advance truly sustainable Agriculture and environment.</p>

NAME OF ORGANIZATION/PARTNERS	CORE CAPACITY AND ROLE
	Agro Eco is providing training and extension services to the cocoa farmers in the landscape. They track the adoption of climate smart cocoa principles, and provide training to trainers on key criteria. They also support Farmer Based Organization development, pilot and scale up deforestation-free cocoa in the landscape.
Tropenbos	TBG in Ghana works towards the sustainable management and restoration of the GCFRP landscape through inclusive decision making and sustainable incentives involving local communities, smallholder cocoa farmers, the government at all levels and the private sector.
Solidaridad	Solidaridad is an international civil society organization with over 50 years of experience in developing solutions to make communities more resilient. They promote sustainable production, inclusivity and agricultural service provision for small and medium enterprises. They also work in market integration for smallholders, food security and nutrition, climate-responsiveness, and community development, in collaboration with farmers, miners, workers and local communities.
Proforest	<p>Proforest is a unique, non-profit group that support companies, governments, civil society and other organisations to work towards the responsible production and sourcing of agricultural and forest commodities. They support companies throughout supply chains to have positive social and environmental outcomes in the places where commodities are produced.</p> <ul style="list-style-type: none"> • Through consultancy work, they help companies work with their suppliers to take action on sustainability by changing the way commodities are produced and sourced • Supporting collaboration between companies and other stakeholders, including peer companies, governments and civil society • Developing innovative new methods, tools and guidance to build capacity among companies at all stages of the supply chain

NAME OF ORGANIZATION/PARTNERS	CORE CAPACITY AND ROLE
	and manufacturers, as well as among practitioners and government officials
P4F	P4F supports partnerships that deliver on commitments for deforestation-free commodities, reduce the pressure on forests, and improve livelihoods. They provide grant finance and technical assistance to propose alternatives to business as usual in the land use sector. They support the private sector in partnerships with the public sector and people – the communities that depend on forests – that can deliver on deforestation-free commitments and improve livelihoods.
IDH (CFI)	IDH, The Sustainable Trade Initiative is an organization (Foundation) that works with businesses, financiers, governments and civil society to realize sustainable trade in global value chains. They believe that action-driven coalitions will drive impact on the Sustainable Development Goals and create value for all. They work in multiple sectors and landscapes with over 600 companies, CSOs, financial institutions, producer organizations and governments towards sustainable production and trade. They develop and apply innovative, business driven approaches to create new jobs, sustainable industries and new sustainable markets to have large scale positive impact on climate change, deforestation, gender, living wages and living incomes, which will help reaching the Sustainable Development Goals by 2030
Tropical Forests Alliance (TFA)	TFA is a global public-private partnership dedicated to collaborative action to realize sustainable rural development and better growth opportunities based on reduced deforestation and sustainable land use management in tropical forest countries. TFA works with partners from public, private and civil society actors, indigenous peoples, communities and international organizations catalysing high-impact partnerships to reduce commodity driven deforestation and ensuring a forest-positive future.
HMB	The HIA encapsulates all the designated Sub-HIAs and therefore connects all HIA communities as though a single harmonized landscape-wide governance

NAME OF ORGANIZATION/PARTNERS	CORE CAPACITY AND ROLE
	and/or jurisdictional entity. Therefore, HMB is the apex decision-making body structure of the HIA governance structure and responsible for guiding and directing all HIA management decisions towards a common vision in the collective good of Sub-HIAs, Zones/CREMAs, CRMC and communities.

3.1 Coordination of Interventions/Activities at the HIA Level

While NRS directs and coordinates implementation, the actual implementation of priority activities in each HIA rely on a consortium of stakeholders (HIA Implementation Consortium Partners) who live, work, or have investments within the landscape, and have an interest in the area. The HIA landscape is managed by an HIA Governance Body made up of local land-users, landowners and traditional authorities who organize themselves into a government recognized Natural Resource Management (NRM) structure, like that of the CREMA (i.e., modified CREMA), which accords them the right to manage their natural resources for their benefit.

The Consortium and the HIA Governance Body put in place how best to coordinate all activities related to the programme in the HIA. The NRS and the HIA Consortium carry on a participatory process to build the HIA governance and implementation structure at each location. Following successful negotiation of HIA initiation, the programme supports the requisite steps to establish management boards, prepare HIA constitutions, and hold regular HIA governance meetings. Key decisions of the HIA Governance Board are to determine how best to make the transition to a climate-smart, no deforestation, sustainable cocoa production system in line with the development of a standard. Key activities involve landscape planning, zoning land use practices, approving CSC practices to be adopted by farmers in the HIA, financial planning and management structures, and reaching agreements with the HIA CSC Consortium. Appropriate levels of communications with all stakeholders are achieved through durbars, local FM radio announcements and other media.

3.2 Integration of Stakeholders in the Implementation of Interventions/Activities through the HIA Governance Structure

The HIA is designed to work in collaboration with a formal Consortium of key stakeholders, including private sector cocoa companies, NGOs and government agencies, through an established HIA Implementation Committee with representatives from both the HIA Management Board and the Consortium on this committee.

The landscape is divided into a series of sub-landscape HIAs (Sub-HIAs) which together cover the area of the whole HIA. Each sub-HIA will provide localized leadership and governance within defined boundaries which reflect divisional or sub-chiefs jurisdictions and/or appropriate environmental/geographic boundaries. Key aspects of creating or supporting Sub-HIAs are determining the boundaries, the zoning of conservation areas and development areas, as well as the creation of sub-HIA and HIA bye-laws and then a Management Plan. At the landscape level, all of the Sub-HIAs have representatives on an umbrella body—the HIA Landscape Management Board. This Board has a formal relationship with the Consortium and is advised by the highest level of Patrons from the Traditional Council.

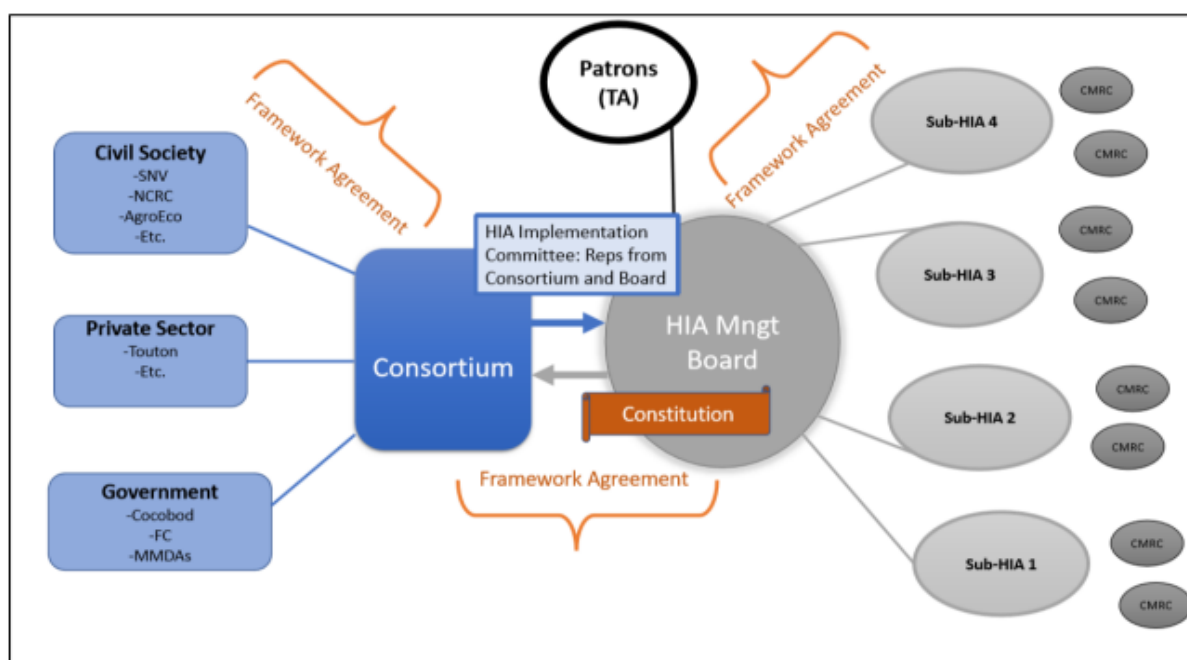


Figure 3: Collaboration within the HIA

The organization of communities for active REDD+ implementation is done at various levels (tiers) to ensure openness, inclusiveness, as well as participatory and transparent process. At the various levels (Community, CREMA/Zone, Sub-HIA and HIA), community-led leadership (Functional Units) is constituted to provide leadership. The Functional Units are the Community Resources Management Committees that provide leadership at the community

level, CREMA Executive Committee that provide leadership at the CREMA level, Sub-HIA Executive Committee that provide leadership at the Sub-HIA level and HMB that provide overarching leadership at the HIA level.

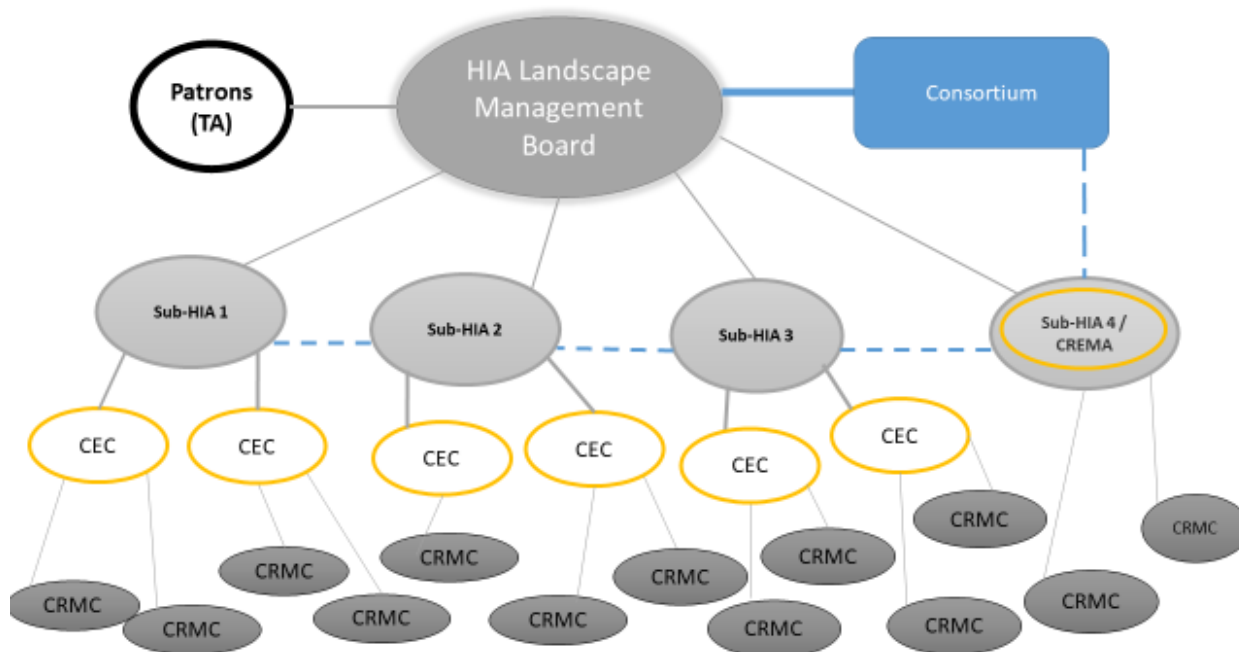


Figure 4: Tiers of the governance structure within the HIA

3.3 HIA functional units

3.3.1 Community Resources Management Committee (CRMC)

The Community Resources Management Committee (CRMC) is the basic unit of the HIA governance structure yet most crucial in that the strength of the entire structure depends on the quality of persons forming the CRMC who direct and mobilise farmers for action at the community level. Within each constituent community of the HIA, the CRMC has a representation of all identifiable interest groups. This structure is built on existing community governance and decision-making structures, and is tasked with the implementation and/or enforcement of CREMA, SUB HIA and HIA management decision within the respective communities.

3.3.2 Community Resources Management Area (CREMA)

Community Resources Management Area (CREMA) or Zone is the next phase of the HIA governance structure designed to achieve a landscape-wide governance structure. CREMA is

defined as a geographically defined area that includes one or more communities that have agreed to manage natural resource in a sustainable manner guided by constitution and enacted by-laws. In the CREMA/Zone formation, several CRMC communities are clustered together based on commonality of traditional boundaries, proximity, cultural or traditional ties. The term zone is conveniently used to denote the cluttered area/group that is worked on to achieve a CREMA status. This implies that areas designated as zones do not have bylaws but rather have rules and regulations to guide their operations owing to the relatively longer time and rigorous process involved in obtaining bylaws. At the Zonal level, elections are conducted to elect Zonal/CREMA Executives, known as the CREMA Executives, that have oversight responsibility over the CRMCs.

3.3.3 Sub-Hotspot Intervention Area (SUB-HIA)

In the HIA governance structure, the Sub-HIA is the third tier that encapsulates the CREMA and the adjoining Non-CREMA Area (NCA). In other words, several CREMAs and NCA subsume under a given Sub-HIA. The tier covers an expanse area same as, or normally larger than a CREMA area. It is managed by a Sub-HIA Executive Committee (SHEC) with equitable representation of all its constituent groupings and is responsible for decisions of collective interest. Similar to the formation of the CREMA, several zones are grouped together to form the Sub-HIAs based on political-administrative district boundaries, sizes of their communities and their population. Each sub-HIA has a seven-member SHEC who are elected from the respective CREMAs and NCAs constituting that particular sub-HIA. The Juaboso-Bia HIA has six Sub-HIAs: Juaboso-Dakwakrom Sub-HIA, Kokrosue Hills Sub-HIA, Sukusuku-Debi Sub-HIA, Asuobia Sub-HIA, Asuopiri Sub-HIA, and Yawmatwa-Manzan Sub-HIA. Each sub-HIA is entitled to 1-2 patrons who are drawn from the traditional authorities or influential community members (Sub-Chiefs). They serve as advisers to the sub-HIA and are the final arbiters in traditional matters arising from activities within the sub-HIA. Patrons also act in making peace and unity in order to advance development within the sub-HIA.

3.3.4 Hotspot Intervention Area Management Board (HMB)

The HIA encapsulates all the designated Sub-HIAs and therefore connects all HIA communities as though a single harmonized landscape-wide governance and/or jurisdictional entity.

Therefore, HMB is the apex decision-making body structure of the HIA governance structure and is responsible for guiding and directing all HIA management decisions toward a common vision for the collective good of Sub-HIAs, Zones/CREMAs, CRMC and communities. The HMB was set up by a conscious consideration of creating space for a balanced representation of individuals from the Sub-HIA level to be well represented on the HMB. The selection of HMB representatives are subjected to a robust, competitive electoral process involving nominations, vetting, manifesto reading, and voting by a secret ballot.

The HMB, together with the HIA functional Units including the CRMCS, CECs, SHECs, are expected to play important roles at the landscape level including but not limited to the following:

- ❖ Commits to implement 'CREMA-type' landscape planning and management processes
- ❖ Commits to building local governance institutions to manage the cocoa landscape
- ❖ Commits to supporting farmers in the adoption of climate-smart cocoa practices, with attention to gender and youth
- ❖ Commits to participate in the identification of cocoa farms in the landscape including on-reserve
- ❖ Commits to participate in GCFRP activities within the landscape
- ❖ To educate communities on the importance of conservation of the natural and cultural resources and to stem further habitat degradation.

4.0 STAKEHOLDER ANALYSIS

4.1 Stakeholder Identification and Mapping

Stakeholder mapping provides adequate understanding of the position and relevance of each stakeholder when evaluated by the same key criteria and compared to each other and also helps in visualizing the often-complex interplay of issues and relationship. Key stakeholders identified included the traditional authorities, local governance institutions, forestry offices, agriculture development departments, cocoa companies, licensed buying companies (LBCs), farmer groups, civil society organizations (CSOs) and related sectors. These were categorized into five (5) major groups: (i) public sector agencies, (ii) private sector, (iii) traditional authority, (iv) Civil Society Organizations/Non-governmental Organizations and (v) community-based actors such as farmer associations and agro-commodity producers. A stakeholder mapping analysis was done using Mendelow's Stakeholder Mapping Matrix (1991), otherwise called the power-interest matrix to identify stakeholders conflicting elements and determine their potential role, power, and influence in the landscape as far as the implementation of GCFRP activities in the HIA are concerned.

Table 5: Stakeholder Matrix Model Explained with Implication on Programme Implementation

No .	Category of Matrix	Explanation and Implication	Stakeholders in the HIA
1.	Low Interest and Low Power (LL) – Minimal Effort	<ul style="list-style-type: none"> • They are more likely to accept what they are told and follow instructions. • Can be largely ignored when considering project planning. • Ethically, it is considered that ignoring them may awaken their interest. • Monitor (Minimum Effort) 	<ul style="list-style-type: none"> • Lands Commission • Office of the Administrator of Stool lands (OASL)
2.	High Interest and Low Power (HL)	<ul style="list-style-type: none"> • Should be duly considered during implementation phase. • Keep informed and not underestimated. 	<ul style="list-style-type: none"> • Municipal and District Assemblies (MDAs) • Cocoa Forest Initiative Secretariat • Civil Society Organizations

		<ul style="list-style-type: none"> • Can lobby others to join forces to exert pressure 	<ul style="list-style-type: none"> • Donor Partners
3.	Low Interest and High Power (LH) – Keep Satisfied	<ul style="list-style-type: none"> • Keep satisfied and remains dormant. • If they become more interested, they can easily become key players. 	<ul style="list-style-type: none"> • Traditional Authority
4.	High Interest and High Power (HH) – Key Players/Participation	<ul style="list-style-type: none"> • Have high influence on programme implementation. • Could inhibit the achievement of project objectives. • Manage closely 	<ul style="list-style-type: none"> • Forestry Commission • National REDD+ Secretariat • Ghana Cocoa Board • Ministry of Lands and Natural Resources • Ministry of Food and Agriculture • Private sector companies • Farmers and Farm-based Organization

The tool identified the National REDD+ Secretariat of the Forestry Commission, COCOBOD and the private sector (cocoa companies) as the three most important stakeholders as far as the implementation of the GCFRP is concerned. The tool also identified the traditional authority as stakeholder with a lot of influence that must be engaged always. Important stakeholder such as the local government, MoFA, CSO, CBOs, development agencies, Farmer-based organizations, are potential key implementation partners and these must be engaged actively for the successful implementation of the programme.

4.1.1 Stakeholders in the landscape

A number of stakeholders within the HIA has been identified with their influence matrix developed in table 3. They are drawn from both the public and private sector comprising of sub-national (district) stakeholders and local (community) level stakeholders. Stakeholders with the high (H) and medium (M) influence may be very important to be roped in to support

the HIMP activities, whilst those with low (L) influence may also be empowered to be able to contribute.

Table 6: Sub-National Stakeholder Influence Matrix

STAKEHOLDER	BIA WEST			JUABOSO		
	HIGH	MEDIUM	LOW	HIGH	MEDIUM	LOW
Public Sector Stakeholders (Government)						
District Assembly						
Forest Services Division						
Cocoa Health and Extension Division						
District Magistrate Court						
Game and Wildlife Division						
District Department of Agriculture						
District Security Committee			•			
District National Disaster Organization						
National Fire Service						
Private Sector Stakeholders						
Cocoa Buying Companies		•				
Rainforest Alliance		•				
Conservation Foundation	•	•				•
Timber Processing Companies	•	•				•
Mining Companies	•	•				•
Chainsaw Operators	•	•				•
Food and Agriculture Organization	•	•		•		•
United Nations Development Programme	•					•
World Vision	•					•
Traditional Authorities		•				•

Source: Assessment of Drivers of Deforestation and Forest Degradation in the Bia West-Juaboso Landscape, Ghana, 2017

4.2 Public Consultations

Public consultations placed centrally to safeguards implementation of activities/interventions at both national and sub-national levels. Public consultations were organised through meetings, community engagements, trainings and workshops. A summary of public consultations that took place in the Juaboso-Bia HIA are detailed below:

Box 1: Public Consultation 1

Roundtable discussions on draft BSP for the GCFRP

As part of finalizing and validating the BSP for the GCFRP, roundtable discussions on the draft BSP were held on Friday 19th January, 2018 at the FC Auditorium, and Friday, 2nd March 2018 at the same venue. This round of discussions resulted in the finalization of the draft BSP towards National Validation.

Box 2: Public Consultation 2

Engagement and Sensitization of Safeguards Focal Persons

Between the periods 7th, 8th & 22nd February 2018, Safeguards Focal Persons (SFP) were sensitized and trained on key global, donor and national level safeguards requirements for REDD+ implementation. The SFPs were drawn from the Regional, District and Park offices of FSD and WD. 71 SFPs were convened and trained on the requisite safeguards requirements for REDD+ implementation at Anita Hotel, Kumasi. Opinions and recommendations were also solicited from participants with regards to how best to implement REDD+ activities.

Box 3: Public Consultation 3

Multi-stakeholder meeting on the implementation of the GCFRP

Subsequent to the signing of the joint framework for action on cocoa and forest initiative between the Government of Ghana and Private Sector actors in the cocoa industry on 17th November 2017 in Bonn (Germany), a multi-stakeholder meeting was held on the implementation of the GCFRP on Wednesday, 28th February 2018 at the Forestry Commission Board Room. The discussions centred on private sector initiatives within the Cocoa Forest Mosaic Landscape under the GCFRP. Stakeholders were requested to deliver

a five (5) minute presentation on their initiatives in the landscape highlighting the location, objectives, key actions and the expected output.

Box 4: Public Consultation 4

Engagement of community members and other stakeholders

NRS engaged community members and other stakeholders in 10 districts within the 6 HIAs to sensitize them on REDD+ Safeguards in collaboration with CSOs within the landscapes. The opinions and recommendations of these stakeholders were also solicited. These engagements occurred in 10 forest districts across all the six Hotpot Intervention Areas (HIAs) Identified for the GCFRP. The districts are Sefwi Wiawso, Cape Coast (Kakum National Park Area), Kade, Bechem, Juaso, Goaso, Nkawie, Ho, Begoro and Juaboso. Participants were 850 consisting of 580 males (about 70%) and 270 females (representing about 30%). These landscape activities were done in active collaboration with some Civil Society Organizations in Ghana namely Civic Response, International Union for Conservation of Nature (IUCN) and HATOF Foundation.

Box 5: Public Consultation 5

Engagement on SIS and FGRM for REDD+ regional and district safeguards focal persons

The Climate Change Department (CCD) organized a two-day training workshop on the functions of Ghana's REDD+ SIS and FGRM at the Forestry Commission Training Centre (FCTC) in Kumasi from 19th - 20th June, 2018 for regional and district safeguards focal persons within the High Forest Zone of the GCFRP. The selected 71 Safeguards Focal Persons (SFPs) were trained on the functions of Ghana's REDD+ SIS and FGRM. Feedback and recommendations were solicited from the SFPs on where and how to improve the SIS and FGRM.

Box 6: Public Consultation 6

Engagement on Safeguards and monitoring exercise

To ensure a successful REDD+ implementation, there was the need to monitor and evaluate activities undertaken during the readiness phase and seek suggestions to effectively implement the REDD+ programme. A field team visited seven Forest/Wildlife districts

which were; Kakum, Begoro, Kade, Sefwi-Wiawso, Juabeso-Bia, Nkawie, and Juaso. The objective of the field visit was to get feedback from stakeholders on the effectiveness of the safeguards capacity building workshop held in 2018 to achieve effective REDD+ safeguards implementation. Another objective was to go through pre-screening exercise of sub-projects under the GCFRP with Safeguards Focal Persons (SFPs) to identify potential environmental impact. The field visit commenced on 4th of March and ended on 15th March, 2019.

Box 7: Public Consultation 7

Stakeholder Engagement on Safeguards Implementation

32 Safeguards Focal Persons across the GCFRP operational area including SFP from the Sefwi Wiawso - Bibiani HIA were engaged on safeguards implementation in 2019. The engagement was to share experiences and perspectives on how SFP could deliver on safeguards mandates.

Box 8: Public Consultation 8

Consultative workshops to inform on tree tenure and benefit sharing plan for REDD+

7 consultative workshops conducted in Kakum, Begoro, Kade, Sefwi-Wiawso, Juaboso-Bia, Nkawie and Juaso.

Box 9: Public Consultation 9

REDD+ Awareness Creation and Sensitization of Stakeholders

Over 15 Awareness Creation and Sensitization events were undertaken including meetings with Executive Management Team (EMT), GCFRP Launch, Safeguards workshops, TV and Radio shows etc.

Box 10: Public Consultation 10

National stakeholder engagement meetings for the GCFRP

A two days national GCFRP stakeholders meeting was held on the premises of the Forestry Commission from 2nd – 3rd November, 2020. This meeting was specifically to sensitize stakeholders on the agreed percentage and commensurate benefits due them according to

the BSP, explain the modalities of receiving payments, Upfront and Actual, update stakeholders on the rationale for the UAP and the utilization thereof, and discuss the GCFRP implementation planning and progress in context of meeting first monitoring report requirements.

Box 11: Public Consultation 11

Stakeholder engagement on alternative livelihood opportunities for local actors involved in GCFRP implementation

As part of the negotiated Upfront Advance Payment (UAP) of the Emission Reductions Payment Agreement (ERPA) between the International Bank for Reconstruction and Development (World Bank) and Government of Ghana, an activity outlined in the workplan was assessment of viable alternative livelihood options for landscape actors within the Ghana Cocoa Forest REDD+ Programme (GCFRP) area. A stakeholder engagement was conducted from 15th-18th December, 2020 in four (4) HIAs (Kakum, Sefwi Wiawso-Bibiani, Asunafo-Asutifi and Juaboso-Bia) with landscape actors on the selected livelihood support options and discussed conditions and criteria for selection of beneficiaries under the GCFRP results based programme.

Box 12: Public Consultation 12

Sub-national stakeholder engagement meetings -updates and discussions for enhancing GCFRP implementation

On the account of the finalized Benefit Sharing Plan (BSP) arrangements and upon the receipt of the Upfront Advance Payment (UAP) from the World Bank, the NRS deemed it fit to engage the stakeholders working within three of the HIAs, namely, Kakum, Wiawso-Bibiani and Juaboso-Bia HIAs. To this effect, stakeholders were sensitized on the BSP for the Ghana Cocoa Forest REDD+ Programme and updated on the Upfront Advance Payment (UAP). The meeting also provided equal opportunity to discuss implementation plan for the GCFRP and to build concerted-based actions for the way forward. This engagement took place from 19th – 27th November, 2020

Box 13: Public Consultation 13

CFI Landscape level supervision

As part of activities in setting up a functional Monitoring and Evaluation System for the Cocoa and Forest Initiative including data collection and reporting, a second round of landscape supervision was undertaken to follow up on data collection and receive feedback on challenges encountered in three (3) HIAs (Asunafo-Asutifi, Juaboso-Bia, and Sefwi Wiawso-Bibiani) from 18th – 29th January, 2021.

Box 14: Public Consultation 14

Engagements on Alternative Livelihood Options for the Ghana Cocoa Forest REDD+**Programme within four HIAs**

A second round of landscape engagements was undertaken from April 06 – 15, 2021 to present and consolidate the options of livelihood support for community beneficiaries within four Hotspot Intervention Areas namely; Juaboso-Bia, Sefwi Wiawso, Asunafo-Asutifi and Kakum. The discussion focused on the consolidated feedback from the first round of engagements which was undertaken from December 15-18, 2020 to prioritize selected livelihood options for implementation.

Box 15: Public Consultation 15

Engagement of landscape actors on farmer registration and REDD+ Safeguards

The Climate Change Directorate on April 19-23, 2021, embarked on Sub-National level stakeholder engagements with relevant stakeholders across four Hotspot Intervention Areas (HIAs): Kakum, Goaso, Juaboso and Sefwi Wiawso-Bibiani.

This was done to engender continual awareness creation and capacity development of local actors on the GCFRP, BSP as well as to solicit inputs from the stakeholders on farmer registration process.

5.0 INSTITUTIONAL SETUP AND RESPONSIBILITY FOR ENVIRONMENTAL AND SOCIAL SAFEGUARDS REPORTING

5.1 Implementing institutions

NRS has put in place a robust institutional arrangement for the implementation, monitoring and reporting of safeguards in close collaboration with EPA, the national Safeguards Working Group as well as partner organizations supporting the implementation of ER activities.

At the national level, Environment and social safeguards staff are recruited as part of the national level Project Management Unit (PMU). The PMU Safeguard Specialists are responsible for operationalizing all safeguards aspects of the GCFRP and overseeing and organizing all activities related to safeguards trainings, monitoring, and reporting within the program area. This team receives all of the safeguard's information and data from the Regional/district levels Safeguards Focal Points in order to review and further analyse the data as required, provide final verification, and where questions or gaps arise, worked with the Regional/district levels focal points to make corrections and improvements.

The national level PMU safeguards specialists play a key role in ensuring safeguards compliance and are further responsible for

- Coordination of environmental and social safeguards across the HIAs
- Provision of Leadership across the regional and district levels for the implementation of safeguards
- Providing guidance and project level info and tools on safeguards for all stakeholders
- Managing the environmental and social safeguard experts at ER program areas
- Responsible for coordinating all safeguard activities with donors, implementing agencies and other potential investors
- Oversee all environmental and social safeguard training and capacity building

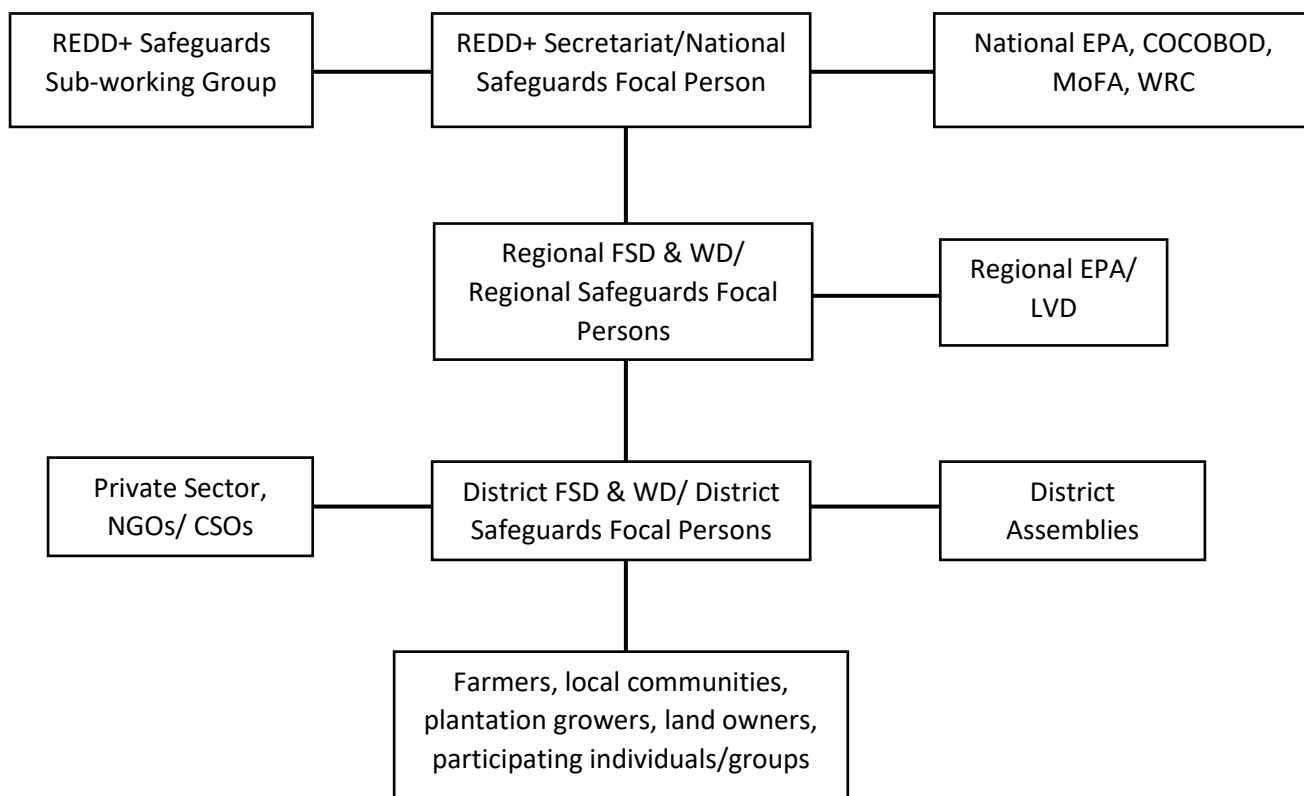
At the regional and districts levels

- **Regional/district levels Environmental and Social Focal Points are in place.** They work closely with the national level NRS Environmental and Social Safeguards (ESS) Focal Point to ensure that all environmental and social

safeguards issues are incorporated into Bid and specifications documents for all sub project types.

- Ensure that safeguards issues are included as part of the training at District level and contractors invited to participate.
- Draft safeguards report based on collated documents and reports from district activities as part of usual regional reporting on the project.
- Be the first point of contact for the district in case of any challenging issues on project-related safeguards - land, environmental, safety and health and draw the FC ESS Focal Point's attention in case of lack of resolution
- Collaborate with relevant authorities (chiefs and elders) and other community members and facilitate the implementation of subprojects and implementation of any other safeguards related activity.
- Perform any other related activities that may be assigned by the NRS ESS Focal Point to whom s/he will report.

Below is the diagram illustrating safeguards implementation:



5.2 Collaborating Institutions

NRS supervises on-ground safeguards implementation including screening and monitoring of interventions/activities captured under the Ghana Cocoa Forest REDD+ Programme. This exercise is usually done collaboratively between NRS and other key partners such as the Environmental Protection Agency (EPA) and the HIA Management Board (HMB). The EPA being the statutory regulator of the environment provide technical and extension support to complement the effort of NRS. The EPA undertake training and sensitization programmes focusing safe handling of agro-chemicals, safety issues, and protection of natural resources including forest, biodiversity and water protection. The EPA link up with key institutions like the District Assemblies and the Department of Agriculture (under the Ministry of Food and Agriculture) in providing these services.

Also, the Ghana Cocoa Board being one of the proponents of GCFRP undertake measures to safeguards adherence through Climate Smart Cocoa, training on safe use of agro-chemicals, compost application, training on approved/recommended agrochemicals, and on-farm biodiversity conservation. The private sector cocoa companies similarly undertake such activities as part of their commitment to safeguards implementation. The Civil Society Organizations (NGOs) /Non-Governmental Organization (NGOs), on the other hand, promote the uptake of safeguards implementation among farmers at the community level. The CSOs/NGOs regularly interface with farmers/ farmer groups on a number capacity building activities on safe compliance. All these are done in collaboration with the Regional/District level Safeguards Focal Points.

These important contributions from the GCFRP partners result to many positive outputs including yield improvement leading to hunger and poverty alleviation, biodiversity improvement and forest protection, to mention a few.

5.3 Safeguards Information System (SIS)

As part of requirements from the UNFCCC for receiving results-based payment under REDD+, countries are expected to provide information on how they are addressing and respecting safeguards. In addition, the UNFCCC requirements also require that information on the implementation of the safeguards associated with REDD+ activities at sub-national and site

levels are collected and provided as evidence that the safeguards have been addressed and respected in practice. This would include demonstrating that safeguards measures, processes / procedures have been applied as well as monitoring the impacts of REDD+.

Although there are no official guidelines, Parties to the UNFCCC have agreed on some broad guidance on the characteristics of a SIS. It should:

- provide transparent and consistent information that is accessible by all relevant stakeholders and updated on a regular basis;
- be transparent and flexible to allow for improvements over time;
- provide information on how all the safeguards referred to in Appendix I to decision 1/CP.16 are being addressed and respected;
- be country-driven and implemented at the national level; and
- build upon existing systems, as appropriate.

Reliable safeguards information is important not only for achieving REDD+ in a sustainable manner but can serve possible broader sustainable development and other national policy, goals (as well as other international reporting obligations). For Ghana, which has multiple reporting commitments linked to relevant agencies/initiatives (e.g., Cancun, FCPF Carbon Fund, Green Climate Fund, national and other safeguards) an SIS that is able to provide information to all of them, is a cost-effective approach. A comprehensive review of policies/laws/ regulations has been undertaken as part of the development of the SIS (safeguards information needs of the SIS), specific indicators and criteria were developed to serve as a basis for implementing and monitoring safeguards (Policies, Criteria and Indicators (PCIs)).

In the case of the Cancun safeguards, Ghana has determined 'what type' of information is needed to demonstrate whether they are being addressed and respected. This has been done in accordance with Ghana's clarification of the Cancun safeguards. It is worth noting that the clarification specifies how the general principles outlined in the Cancun safeguards translate into specific principles and objectives that are to be followed and promoted in the context of the implementation of REDD+ interventions in Ghana, and which are anchored in the

country's policies, laws and regulations (PLRs). The clarification, interpretation or description was an essential step in the design of an effective safeguard governance framework for REDD+ for two reasons:

- It is one of the foundations of the Safeguard Information System (SIS) as it is key to determining the types of information that are to be gathered by the SIS; and
- It is central to the preparation of the summary of information, as it helps to determine the information that should be provided to the UNFCCC to demonstrate how the safeguards are being addressed and respected.

Ghana's approach to the development of safeguards Principles, Criteria and Indicators (PCIs) within the country's context involved the identification of key elements from existing mandatory and voluntary safeguards standards/frameworks such as the UNFCCC (Cancun) Safeguards and World Bank Operational Policies, that relate to the rights of local communities; inclusive participation of all relevant stakeholders; equitable sharing of benefits and risks; gender mainstreaming; Free, Prior and Informed Consent (FPIC); enhancement of biological diversity and ecosystem services, and other key issues that affect social and environmental performance of REDD+ programmes and/or projects.

An initial identification/drafting of PCIs was carried out by a technical team through a step-wise approach, after which the draft PCIs were subjected to stakeholder consultations at the local and national levels for feedback and finalization. The safeguard information needs of the SIS is outlined in the framework document of the SIS.

In line with this, a web-based REDD+ Safeguards Information System (SIS) has been developed to provide transparent and consistent information that is accessible by all relevant stakeholders. The web-based SIS platform provides information on how REDD+ Social and Environmental safeguards are being addressed and respected throughout implementation of the REDD+ programme. The web platform was developed after a series of engagements by stakeholders. The web platform was developed by the ICT department of FC with financial support from SNV Netherlands Development Organization under the project "Operationalizing national safeguards for results-based payment from REDD+" with funding from the German Government. The SIS web address is www.reddsis.fcghana.org. This SIS was

launched officially on 21st December, 2020. The FC has demonstrated its dedication to boosting accountability, improving livelihoods and enhancing ecosystem resilience. The launch positioned Ghana again for positive and ambitious climate mitigation and adaptation action.

Through this participatory process it was determined that Ghana's SIS will report on the information:

- a) Cancun safeguards;
- b) ESMF process, policy, and outcome indicators on risks, opportunities and how they are being addressed from the project to national levels;
- c) GCFRP benefit sharing;
- d) Co-benefits;
- e) FGRM: Indicators on grievance redress (conflicts and resolutions);
- f) Additional indicators that will be determined to support effective implementation, as required.

The functions of the SIS are closely linked to the institutional arrangements, as the functions may be carried out by a single, or multiple agencies/institutions. Core functions considered by Ghana are:

- **Collection:** process of collecting raw data through information systems and sources.
- **Compilation:** process of acquiring requested information from the relevant systems and sources.
- **Aggregation:** process of aggregating, into a central repository/database, the information provided by the relevant sources and systems for the purpose of analysis.
- **Analysis:** process of undertaking a qualitative assessment of the information in order to determine to what extent the safeguards are being addressed and respected.
- **Dissemination of information:** process of disseminating, both internally (national level) and externally (international reporting) through appropriate means (e.g., website, reports, meetings with relevant stakeholders, etc.)

The SIS is populated with information that covers all the activities being carried out by NRS and all proponents of the GCFRP. Stakeholders are continuously educated on how to access

and navigate the SIS web platform. The web platform provides information on the Climate Change Directorate (NRS), its functions and mandate as well as the purpose of the SIS.

The information on the web platform has been categorized per HIA under the consultations section, with GCFRP area wide (National and Sub-national) reports and documents uploaded to the library page (publications and documents). Information that is HIA specific is uploaded and updated under the respective HIA as and when necessary. This includes data on the governance structure set up, the REDD+ activities undertaken and feedback from stakeholders. Information on the institutional arrangements under the GCFRP is also provided.

The programmes page has been populated with information on the various activities been carried out in the HIA, by which proponent of the programme and the timeframe. The FGRM page provides stakeholders with information on what FGRM is and its modalities. The page also has feedback in the form of videos from project proponents as well as various means of contact and reporting of feedback and grievances like hotlines and forms.

A SIS mobile application is been developed by the ICT department of FC with support from SNV. This mobile app is intended to be used for project screening and monitoring, providing information on GCFRP activities as well as FGRM reception and reporting.

6.0 COMPLIANCE WITH ENVIRONMENTAL AND SOCIAL SAFEGUARDS IMPLEMENTATION

A key activity under this programme is to clearly indicate the potential environmental and social issues and concerns, both positive and negative, to be elicited by the programme. Thus, the potential impacts/risks of project/activities on various components of the environment and society in the HIA were identified and mitigation measures provided.

6.1 Approach to safeguards screening

The Environmental and Social Management Framework (ESMF) developed for the programme outlined potential impacts/risks on various components of the environment and society and provided appropriate measures. This subsequently led to the development of the Environmental and Social Management Plan (ESMP) and Environmental and Social Safeguards (E&S) screening checklist. The NRS with support from the World Bank developed the Safeguards screening checklist to screen activities under the GCFRP. All activities/interventions under the GCFRP are screened against the checklist to identify any potential risks and the appropriate mitigation measures provided. This screening takes into account both social and environmental risks within the context of the programme.

The key project activities that were screened and provided mitigation against identified risks comprise the following:

Component One: Forest Restoration

- Modified Taungya System (MTS)
- Enrichment Planting
- Trees on farm (ToF)

Component Two: Climate smart cocoa

- Cocoa Rehabilitation
- Cocoa Intensification

Component Three: Additional livelihoods Activities/Interventions

- Train and promote economically viable and environmentally sound on-farm income diversification options:
 - Vegetable farming
 - Bee-keeping
 - Animal husbandry

6.2 Approach to the Safeguards Monitoring

Monitoring was done to ensure / verify ESS compliance under these activities. Compliance with ESS implementation is done in two parts, namely:

- a) Addressing Safeguards: that is, confirming existence of National legislative instruments, policies and measures on REDD+ Safeguards. Addressing REDD+ Safeguards could also involve National Policy Reforms that aims at reducing/mitigating social, environmental or economic risks from REDD+ programs/project implementation.
- b) Respecting Safeguards: relating to activities undertaken to ensure that program activities triggering/ relating to safeguards requirements are being adhered to, including screening of program/project activities and outputs for risks and pre-determining measures to forestall/mitigate the risks.

6.3 Safeguards compliance to legislature and policy reform

The GCFRP is implementing an integrated set of activities (land use, policy reform on tree tenure, climate smart cocoa, community-based livelihoods, etc.) aimed at empowering local farming communities by amplifying their voice and agency in the planning, implementation, and monitoring of program activities. This program is building on the long tradition of social forestry in Ghana whereby CREMA has long since being established for the management of natural resources. To enhance greater inclusion and active participation, the HIA consortium has signed contracts (Addendum to the Framework Agreement) with each farmer or via farmer groupings or associations and has begun the registration of all committed cocoa farmers. Furthermore, a Farmers Contract is signed between the farmer, the HIA Governance Board and the licensed buying company consortium for future purchase. All registered cocoa farmers receive a photo ID card, an executed contract and regular training. Each HIA CSC

Consortium has put together a farmer engagement package that gives farmers access to the agronomic, economic and knowledge resources to be able to achieve and maintain substantial yield increases. The engagement package includes farmer's access to:

- hybrid cocoa seeds, seedlings, or other types of planting material that are recommended under the CSC Good-Practice Guidelines;
- fertilizer (organic or inorganic) and pest/disease management products so that they can reduce losses and increase productivity on farm;
- technical extension and training opportunities to enable them to understand and follow the CSC Good-Practice Guidelines, improve their practices, and increase yields;
- professionalization services or business training opportunities so that interested farmers can realize and maximize benefits from yield increases through improved record keeping and financial literacy, enhanced professional capacity, and more detailed planning of their farm management (Farmer Business School (FBS));
- credit facilities to support their farming practices and management decisions, and to an insurance product that will reduce the considerable risk of losses associated with changing rainfall patterns and temperatures;
- shade tree planting material and promotion of assisted natural regeneration and maintaining mature shade trees.

6.4 Tree tenure

Tree tenure is understood to refer to the bundle of rights over tree and tree products, each of which may be held by different people at different times. These rights include the right to own, inherit, dispose, use and exclude others from using trees and tree products. The concept of benefit-sharing refers to specific forms of responsibility to direct returns from the exploitation of natural resources, be they monetary or non-monetary, to various actors in the activity and the local communities, in recognition of their rights, roles and responsibilities in the activity.

The various national afforestation programs invest huge capital in creating forest estates with government, private sector and community partnerships. However, most analyses of the underlying challenges to achieving legality in the management of off-reserve forest resources in Ghana and sustainable forest management in general conclude that 'existing tree tenure

regimes is largely regarded as a disincentive to sustainable forest management' and inadequacies in the legislation and/or misinterpretations of the very complex texts relating to tree tenure and benefit sharing are at the root of the problem. Some major safeguards implications of this includes:

- Tree tenure arrangements for naturally occurring forest trees outside forest reserves where the farmers are not entitled to economically benefit from the revenue that accrue from harvesting the trees. This is a great disincentive to encouraging shaded cocoa farming systems and in broader agro-forestry systems.

6.4.1 Mitigation measures

Under the Forestry Component of the Natural Resources and Environmental Governance Technical Assistance (NREG TA), the Ministry of Lands and Natural Resources (MLNR) engaged the services of a firm to help design options for tree tenure regimes with accompanying benefit sharing mechanisms in Ghana in consultation with the FC and a wide range of stakeholders. The result of this work is expected to contribute significantly to Ghana's drive at halting deforestation, enhancing its forest estate and promoting good forest governance

The major tree management regimes considered in this exercise are based on four main categories of arrangements viz: Naturally occurring trees on- reserve; Naturally occurring trees off- reserve; Planted trees on-reserve; and Planted trees off- reserve. Tree tenure reform and fair benefit sharing reforms are anticipated in forest and wildlife policy and this study is part of the effort by the MLNR to give currency to the policy intentions. Current tree tenure and benefit sharing are, however inadequate, based on statutory legislation and/or customary laws.

Based on synthesis of the views of various stakeholders and their preferred options for tenure and benefit sharing reform, recommendations have been made on the optimal reform options for the various tree management regimes identified. Recommended reforms, which are essential to the overall success of the programme identified through the assessment of Policies, Laws and Regulations (PLRs) and their relation to safeguards requirements include:

- Passage of the Wildlife Resources Management Bill which will support effective implementation of the new Forest and Wildlife Policy (2012).
- Policy reform on tree tenure
- Policy reform on cocoa farm inputs
- Policies to address carbon transaction rights and benefit-sharing arrangements

While efforts are still underway to put in place land-use management plan and tree tenure policy reform, the Feedback and Grievance Redress Mechanism (FGRM) that has been operationalized under the programme addresses issues related to these as much as possible. Another related safeguards issue identified within the GCFRP Landscape is the absence of a comprehensive national land-use plan for the country. Though the Land Use and Spatial Planning Act 2016 provides a general framework for the development of land use plans, the Act does not specifically address forested areas or agricultural lands as the focus is skewed towards urban and peri-urban planning.

As a form of mitigation, the Forest Reserve Areas are being protected against encroachment by expansionist agriculture as well as against illegal harvesting of trees. The Forestry Commission has trained personnel to patrol the forest reserve areas. In Off-Reserve areas, extension services being provided by Agric and Cocobod extension officers are intensified and advocacy for intensification is being made as well as capacity building in Climate Smart Cocoa practices are being done to reduce further deforestation outside forest reserves for agricultural purposes. These extension services as well as protection of forest is serving as a short to medium term measure whilst engagement with the Ministry of Lands and Natural Resources and the Land Use and Spatial Planning Department to elaborate clear Land Use Plan for Forest Areas.

6.6 Tree registration

As agroforestry practices are being introduced to cocoa communities, trees from different species are planted on farms. Registering these trees is critical as it give farmers tree ownership and benefit financially from any revenue generated from their sale. Also registering planted trees provides farmers rights of alienation such that, should their registered cocoa tree get destroyed during the felling of economic shade trees, they will receive compensation from the timber merchant. To mitigate this action, Ghana's MLNR,

along with FC, created a tree registration form to facilitate tree registration process. Then cocoa and chocolate companies undertook a first-of-its-kind initiative step to digitize this form into an innovative mobile application – with capability to work both on and offline. With the many sensitizations and capacity building on forest restoration, protection of existing trees and incorporating trees on farms, a major risk is the non-registration of most farmer planted trees. This in parts reduce farmer confidence and trust in the rights and benefits from tree tenure being promised. Thus, expeditious actions towards national validation and rolling out of tree registration modalities is crucial to the attainment of expected outcome.

6.7 REDD+ Gender mainstreaming

Gender considerations are essential to REDD+. Gender sensitive initiatives have the potential to become a conservation, poverty reduction and climate mitigation strategy. Thus REDD+ projects are designed and implemented with a gender-sensitive perspective to be efficient and effective in decreasing the gender gap. FC partnered with the International Union for the Conservation of Nature (IUCN), to develop a roadmap that would guide the design and implementation of a gender-sensitive REDD+ strategy in Ghana, which recognizes and protects the rights and interests of women and other vulnerable groups. The National REDD+ Gender Sub-Working Group (GSWG) was established as a multi-stakeholder gender advocacy group to spearhead the gender mainstreaming process and provide technical support in the review of REDD+ documents and processes to ensure gender sensitivity, as well as capacity building at the grassroots level. The GSWG was convened and subsequently trained in Accra, on Climate Change, REDD+ and its status in Ghana, the links between gender, REDD+ and safeguard issues and the importance of mainstreaming gender considerations into the REDD+.

The GSWG also liaises with decentralized institutions such as the district offices of key Government Agencies, District Assemblies, Traditional Authorities, Local Communities and Civil Society Organizations to implement actions at the sub-national level. The members of the GSWG who include representatives from different Ministries, Departments and Agencies (MDAs), Traditional Authorities, Local Communities, Academia, Private Sector and NGO/Civil

Society Organizations also developed an operational plan and budget for the implementation of actions in the Gender and REDD+ Road Map.

In all activities undertaken by NRS, it is ensured there is at least 40% women representation. These include meetings, workshops, trainings and even constitution of committee members. The various structures that make up the HIA governance structure also ensure gender equity through free and fair processes. Per the Gender Action Plan:

- Training materials on sustainable management of forests and REDD+ are developed to be accessible to women.
- Training programmes (workshops, consultative meetings) on gender and REDD+ issues for implementing partners working on REDD+ issues are organised as part of sensitisation and education.
- NRS has identified and documented good practices and actions in other forest management / conservation initiatives that have fully and effectively integrated women and gender considerations.
- The capacity of local women in project areas are built to actively participate in REDD+ activities.
- Equal access and control are given to women and men in relation to tools, equipment, technology and resources needed to engage in REDD+ activities.
- NRS identified potential risks of REDD+ implementation on rights and livelihoods (with particular attention to land and natural resource use; full and effective consultation and participation; fair access to information, education to enable decision-making and consent; and equitable distribution of benefits).
- Local women are informed of their rights, safeguards and their capacity built to use FGRM or protocols systems if safeguards are violated.

6.7 Uptake of Safeguards in REDD+ Programmes/Activities at the HIA Level

Generally, the mix of projects/interventions being implemented in the Asunafo-Asutifi HIA have contributed to many transformational positive impacts with minimal risks/impacts. This attests to the fact that stakeholders have taken safeguards adherence extremely seriously following the capacity building/training on safeguards in project implementation.

Additionally, community members interacted with during the monitoring exercise attested to the numerous trainings / capacity building opportunities they have received from various stakeholders on a number of topics. The topics include climate-smart cocoa, farmer business school, safe handling of agro-chemicals, proper disposal of agrochemicals, compost/organic fertilizer application, buffer zone protection, wildlife and forest protection, to mention a few. Again, it came to light that there has been deep involvement of local traditional systems and decision-making processes throughout REDD+ related activities fostering many impacts including community ownership and acceptance of the Ghana emission reduction programme. The rights and knowledge of local communities were observed to have been strictly respected including taboos and totems, experience/knowledge in cocoa farming and traditional conflict resolution mechanisms. It worthwhile to share that gender has been progressively integrated and mainstreamed in project implementation by the project proponents.

Furthermore, the non-carbon component of the emission reduction programme has been much emphasized. Greater number of communities have been supplied with farm inputs such as cocoa and shade tree seedlings free of charge to enhance contributions towards emission reductions and yield enhancement.

The adherence of the safeguard in the REDD+ implementation the HIA has helped to maximize both environmental and social benefits with some examples below:

- improved vegetative or tree cover in the project communities
- improved environmental integrity of the project landscape
- Lead to livelihood improvement of beneficiary communities
- improved resilience to climate change
- Encourage knowledge sharing among beneficiaries and communities
- Increased livelihood and economic activities of beneficiary communities
- Enhanced health standards
- Good time management for productive activities
- Reduced conflicts and enhance peaceful co-existence amongst community members
- Accelerated development of communities

- Improved income for farmers

Table 7: Results of monitoring of activities in the HIA

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
Modified Taungya System	Generation of smoke from burning of biomass (debris and logs) during land preparation	4.01 Environmental Assessment 4.04 Habitats 4.36 Forests	<ul style="list-style-type: none"> Biomass generated was used as firewood and also as pegs Minimized burning of biomass as much as possible Workers were required to wear suitable Personal Protective Equipment (PPE) as appropriate A grievance mechanism was established to ensure any complaints/comments regarding the Project is received and responded to in a timely manner, providing solutions and taking corrective measures as appropriate 	<ul style="list-style-type: none"> Site observation Records of PPEs provided FGRM operationalized 	
	Exposure of workers/communities to smoke generated during land preparation		<ul style="list-style-type: none"> Minimized burning of biomass as much as possible Fire was used only in situations where this was effective and least environmentally damaging Workers were required to wear suitable Personal Protective Equipment (PPE) as appropriate 	<ul style="list-style-type: none"> Site observation Records of PPEs provided FGRM operationalized 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
			<ul style="list-style-type: none"> A grievance mechanism was established to ensure any complaints/comments regarding the Project is received and responded to in a timely manner, providing solutions and taking corrective measures as appropriate 		
	Reverse gains from carbon sequestration – adding carbon into the atmosphere		<ul style="list-style-type: none"> Minimized burning of biomass as much as possible Fire was used only in situations where this was effective and least environmentally damaging 	<ul style="list-style-type: none"> Site observation 	
	Lead to modification of natural habitat		<ul style="list-style-type: none"> Environmentally sensitive sites and unnecessary exposure or access to sensitive habitats were avoided Sensitive sites with high erosion risk were identified and were not cultivated. Vegetation of such areas was maintained to help control erosion as well as to ensure soil stability Planting was designed to include both exotic and indigenous plants in the right proportions and positions 	<ul style="list-style-type: none"> Site observation Training report 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
			<ul style="list-style-type: none"> Organic farming practices (planting nitrogen-fixing species, agroforestry practices, composting, application of organic fertilizers) were implemented and this helped minimize the use of inorganic fertilizers and herbicides that are major contributors to soil and surface water quality deterioration Labour-intensive approach using simple farm tools like hoes and cutlasses was employed. 		
	Have effect on flora and fauna		<ul style="list-style-type: none"> Environmentally sensitive sites and unnecessary exposure or access to sensitive habitats were avoided Planting was designed to include both exotic and indigenous plants in the right proportions and positions Organic farming practices (planting nitrogen-fixing species, agroforestry practices, composting, application of organic fertilizers) were implemented and this helped minimize the use of inorganic 	<ul style="list-style-type: none"> Site observation Training report 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
			<p>fertilizers and herbicides that are major contributors to soil and surface water quality deterioration</p> <ul style="list-style-type: none"> Measures to correct low soil pH were implemented as much as possible: <ul style="list-style-type: none"> Farmers were assisted to avoid the use of acidifying nitrogen-based fertilizers where soil pH was low Efficient fertilizer use considers the prescribed dosage, period or timing and intervals of application, and release properties Labour-intensive approach using simple farm tools like hoes and cutlasses was employed. 		
	Accelerate erosion by water		<ul style="list-style-type: none"> Sensitive sites with high erosion risk were identified and were not cultivated. Vegetation of such areas was maintained to help control erosion as well as to ensure soil stability Implementation of standard erosion and sediment control best management practices 	<ul style="list-style-type: none"> Site observation 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
	Planting single tree species		<ul style="list-style-type: none"> Planting was designed to include variety of both exotic and indigenous plants in the right proportions and positions Planned and strategized the procurement of diversified seedlings 	<ul style="list-style-type: none"> Site observation Records of seedlings supplied 	
	Alterations in local natural water cycles/ hydrology		<ul style="list-style-type: none"> Promotion of buffer zones along the local streams to ensure their integrity and protection of other aquatic life forms. The buffer reserves serve as natural filters for surface runoff from the planting areas. The reserves also play a major role in protecting the banks of the waterways from channel erosion. Implementation of standard erosion and sediment control best management practices ensured throughout the project cycle. 	<ul style="list-style-type: none"> Site observation 	
	Potentially pollute/contaminate water bodies (herbicides, pesticides,		<ul style="list-style-type: none"> The use of agrochemicals including inorganic fertilizers, weedicides and pesticides was reduced as much as possible. Where possible, mechanical weed 	<ul style="list-style-type: none"> Site observation Number of farmers trained Training report 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
	insecticides, weedicides, ash, dust)		<p>control was considered instead of the use of weedicides.</p> <ul style="list-style-type: none"> • Promotion of buffer zones along the local streams to ensure their integrity and protection of other aquatic life forms. The buffer reserves serve as natural filters for surface runoff from the planting areas. The reserves also play a major role in protecting the banks of the waterways from channel erosion. • Farmers trained and provided with tools to create buffer of no-spray zones in farms with close proximity to water body(s) • Farmers whose farms located along water bodies were provided with technical assistance to leave a vegetation cover as a buffer zone along the water bodies. • Implementation of standard erosion and sediment control best management practices 		

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
			<ul style="list-style-type: none"> Organic farming practices (planting nitrogen-fixing species, agroforestry practices, composting, application of organic fertilizers) were implemented and this helped minimize the use of inorganic fertilizers and herbicides that are major contributors to soil and surface water quality deterioration 		
	Poor site selection		<ul style="list-style-type: none"> Ensured good site selection taking into consideration condition score, natural regeneration potential and basal area 	<ul style="list-style-type: none"> Site observation 	
	Improper disposal of chemical containers		<ul style="list-style-type: none"> The use of agrochemicals including inorganic fertilizers, weedicides and pesticides was reduced as much as possible. Where possible, mechanical weed control was considered instead of the use of weedicides Complied with the requirements of applicable waste management regulations for the management of all waste generated as a result of the project activities 	<ul style="list-style-type: none"> Training report Awareness creation materials displayed List of approved and unapproved agrochemicals shared 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
			<ul style="list-style-type: none"> Education and sensitization on the proper disposal of hazardous waste and material 		
	Improper disposal of polybags		<ul style="list-style-type: none"> Education and sensitization on the proper disposal of polybags 	<ul style="list-style-type: none"> Training report 	
	Land allocation conflicts		<ul style="list-style-type: none"> Forest Management plan was prepared for all sites to also reflect community expectations Technical assistance offered in land allocation A grievance mechanism was established to ensure any complaints/comments regarding the Project is received and responded to in a timely manner, providing solutions and taking corrective measures as appropriate 	<ul style="list-style-type: none"> Forest Management plan FGRM operationalized On-site verification with farmers 	
	Engagement of local communities in its development process		<ul style="list-style-type: none"> Research and stakeholder consultations were done to identify best practices and guide implementation in partnership with traditional authorities. Forest Management plan was prepared for all sites to also reflect community expectations 	<ul style="list-style-type: none"> Engagement report Forest Management plan 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
			<ul style="list-style-type: none"> Equal opportunity was given to all abled bodied persons who wanted to participate 		
	Poor records of primary supply and contract workers		<ul style="list-style-type: none"> Proper records of workers are kept and updated as appropriate 	<ul style="list-style-type: none"> Records of workers 	
	Unfair allocation of more lands to families/persons/groups		<ul style="list-style-type: none"> Equal opportunity was given to all abled bodied persons who wanted to participate A grievance mechanism was established to ensure any complaints/comments regarding the Project is received and responded to in a timely manner, providing solutions and taking corrective measures as appropriate 	<ul style="list-style-type: none"> On-site verification with farmers Field report FGRM operationalized 	
	Failure to honour MTS benefit arrangement		<ul style="list-style-type: none"> Ensured the payment of MTS beneficiaries with the right percentages 	<ul style="list-style-type: none"> Records of MTS payments 	
	Low percentage of women accessing lands		<ul style="list-style-type: none"> Equal opportunity was given to all women who wanted to participate 	<ul style="list-style-type: none"> Records of farmers 	
	Unavailability and no/limited use of		<ul style="list-style-type: none"> Workers were required to wear suitable Personal Protective Equipment (PPE) as appropriate. 	<ul style="list-style-type: none"> Records of PPE supply 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
	personal protective equipment		<ul style="list-style-type: none"> Education and sensitization was done on the need for and proper usage of PPEs 	<ul style="list-style-type: none"> Training report 	
	Limited awareness creation programs on health and safety including chemical handling.		<ul style="list-style-type: none"> Design and implementation of awareness creation programs to educate persons on protecting workers' health and safety including paying attention to chemical handling was done Workers were required to wear suitable Personal Protective Equipment (PPE) as appropriate. 	<ul style="list-style-type: none"> Training report On-site verification with farmers 	
Enrichment Planting	Improper disposal of polybags	4.01 Environmental Assessment	<ul style="list-style-type: none"> Education and sensitization on the proper disposal of polybags Waste bins were provided 	<ul style="list-style-type: none"> Training report 	
	Poor records keeping of primary supply workers	4.04 Habitats	<ul style="list-style-type: none"> Employment and other opportunities were given to local communities as much as possible. 	<ul style="list-style-type: none"> Records of workers 	
	Poor records keeping of contract workers	4.36 Forests	<ul style="list-style-type: none"> Proper records of workers are kept and updated as appropriate 		
	Unavailability and no/limited use of		<ul style="list-style-type: none"> Workers were required to wear suitable Personal Protective Equipment (PPE) as appropriate. 	<ul style="list-style-type: none"> Records of PPE supply Training report 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
	personal protective equipment		<ul style="list-style-type: none"> Education and sensitization were done on the need for and proper usage of PPEs 		
	Limited awareness creation programs on health and safety		<ul style="list-style-type: none"> Design and implementation of awareness creation programs to educate persons on protecting workers' health and safety including paying attention to chemical handling was done Workers were required to wear suitable Personal Protective Equipment (PPE) as appropriate. 	<ul style="list-style-type: none"> Training report On-site verification with farmers 	
	Delay in payment of contract workers		<ul style="list-style-type: none"> Ensured workers were paid on time 	<ul style="list-style-type: none"> Records of payments 	
Trees on Farms	Disturbance of flora and fauna	4.01 Environmental Assessment 4.04 Habitats	<ul style="list-style-type: none"> Environmentally sensitive sites and unnecessary exposure or access to sensitive habitats were avoided Planting was designed to include both exotic and indigenous plants in the right proportions and positions Organic farming practices were implemented and this helped minimize the use of inorganic fertilizers and 	<ul style="list-style-type: none"> Site observation Training report 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
		4.09 Pest Management 4.36 Forests	<p>herbicides that are major contributors to soil and surface water quality deterioration</p> <ul style="list-style-type: none"> Labour-intensive approach using simple farm tools like hoes and cutlasses was employed. 		
	Planting single tree species		<ul style="list-style-type: none"> Planting was designed to include variety of both exotic and indigenous plants in the right proportions and positions Planned and strategized the procurement of desirable and diversified seedlings 	<ul style="list-style-type: none"> Site observation Records of seedlings supplied 	
	Planting/ keeping shade tree with undesirable characteristics e.g. Disease prone shade trees, host of pest and diseases, easily broken branches etc.				
	Planting inadvisable shade tree species e.g. invasive species				

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
	Planting more trees than required leading to over-shadowing of cocoa farms.		<ul style="list-style-type: none"> Farms were mapped to determine farm sizes and site/area specific conditions to avoid over supply of seedlings Thinning out was done to adjust the number of trees on the farms 		
	Limited understanding on shade tree management.		<ul style="list-style-type: none"> Education/ adequate trainings were provided to farmers 	<ul style="list-style-type: none"> Training report 	
	Destruction from harvesting of timber resources on farm		<ul style="list-style-type: none"> A grievance mechanism was established to ensure any complaints/comments regarding the Project is received and responded to in a timely manner, providing solutions and taking corrective measures as appropriate Appropriate sanctions were applied on offenders including fines and jail sentences 	<ul style="list-style-type: none"> FGRM operationalized Reports 	
	Failure to register farmers		<ul style="list-style-type: none"> Records of farmers are kept 	<ul style="list-style-type: none"> Records of farmers 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
	Limited awareness creation on health and safety including tools and equipment handling		<ul style="list-style-type: none"> Design and implementation of awareness creation programs to educate persons on protecting workers' health and safety including paying attention to chemical and equipment handling was done Workers were required to wear suitable Personal Protective Equipment (PPE) as appropriate 	<ul style="list-style-type: none"> Training report On-site verification with farmers 	
	Unavailability and no/limited use of personal protective equipment		<ul style="list-style-type: none"> Workers were required to wear suitable Personal Protective Equipment (PPE) as appropriate. Education and sensitization were done on the need for and proper usage of PPEs 	<ul style="list-style-type: none"> Records of PPE supply Training report 	
Climate Smart Cocoa	Exposure of local folks (farmers) to chemicals during and after application of agrochemical on cocoa farmers.	4.01 Environmental Assessment 4.04 Habitats	<ul style="list-style-type: none"> Workers were required to wear suitable Personal Protective Equipment (PPE) as appropriate. Education and sensitization were done on the need for and proper usage of PPEs The use of agrochemicals including inorganic fertilizers, weedicides and pesticides was reduced as much as possible. Where possible, mechanical weed 	<ul style="list-style-type: none"> Records of PPE supply Training report 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
		4.09 Pest Management	control was considered instead of the use of weedicides.		
	Generation of fumes during cutting down of diseased or over-aged cocoa trees.	4.36 Forests	<ul style="list-style-type: none"> Minimized burning of biomass as much as possible Fire was used only in situations where this was effective and least environmentally damaging The use of agrochemicals including inorganic fertilizers, weedicides and pesticides was reduced as much as possible. Where possible, mechanical weed control was considered instead of the use of weedicides. 	<ul style="list-style-type: none"> Site observation Records of PPEs provided Training report 	
	Disturbance of flora and fauna		<ul style="list-style-type: none"> Environmentally sensitive sites and unnecessary exposure or access to sensitive habitats were avoided Planting was designed to include both exotic and indigenous plants in the right proportions and positions Organic farming practices (planting nitrogen-fixing species, agroforestry practices, composting, application of organic fertilizers) were implemented 	<ul style="list-style-type: none"> Site observation Training report 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
			<p>and this helped minimize the use of inorganic fertilizers and herbicides that are major contributors to soil and surface water quality deterioration</p> <ul style="list-style-type: none"> Labour-intensive approach using simple farm tools like hoes and cutlasses was employed. 		
	Land clearing and vegetation loss at rehab farms		<ul style="list-style-type: none"> Organic farming practices (planting nitrogen-fixing species, agroforestry practices, composting, application of organic fertilizers) were implemented and this helped minimize the use of inorganic fertilizers and herbicides that are major contributors to soil and surface water quality deterioration Labour-intensive approach using simple farm tools like hoes and cutlasses was employed. Felled trees and cleared under- brushes were chipped and formed into windrows and allowed to decompose and/or used as pegs for planting 	<ul style="list-style-type: none"> Site observation Training report 	
	May accelerate erosion by water		<ul style="list-style-type: none"> Sensitive sites with high erosion risk were identified and were not cultivated. Vegetation of such areas was 	<ul style="list-style-type: none"> Site observation Training report 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
			<p>maintained to help control erosion as well as to ensure soil stability</p> <ul style="list-style-type: none"> Implementation of standard erosion and sediment control best management practices 		
	Potentially pollute/contaminate water bodies with (herbicides, pesticides, insecticides, weedicides, ash, dust)		<ul style="list-style-type: none"> The use of agrochemicals including inorganic fertilizers, weedicides and pesticides was reduced as much as possible. Where possible, mechanical weed control was considered instead of the use of weedicides. Promotion of buffer zones along the local streams to ensure their integrity and protection of other aquatic life forms. The buffer reserves serve as natural filters for surface runoff from the planting areas. The reserves also play a major role in protecting the banks of the waterways from channel erosion. Farmers trained and provided with tools to create buffer of no-spray zones in farms with close proximity to water body(s) 	<ul style="list-style-type: none"> Site observation Training report 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
			<ul style="list-style-type: none"> Farmers whose farms located along water bodies were provided with technical assistance to leave a vegetation cover as a buffer zone along the water bodies. Implementation of standard erosion and sediment control best management practices Organic farming practices (planting nitrogen-fixing species, agroforestry practices, composting, application of organic fertilizers) were implemented and this helped minimize the use of inorganic fertilizers and herbicides that are major contributors to soil and surface water quality deterioration 		
	Involve the harvesting of timber resources		<ul style="list-style-type: none"> A grievance mechanism was established to ensure any complaints/comments regarding the Project is received and responded to in a timely manner, providing solutions and taking corrective measures as appropriate 	<ul style="list-style-type: none"> FGRM operationalized Reports 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
			<ul style="list-style-type: none"> Appropriate sanctions were applied on offenders including fines and jail sentences 		
	Cultivating cocoa without adherence to the buffer zone policy		<ul style="list-style-type: none"> Farmers trained and provided with tools to create buffer of no-spray zones in farms with close proximity to water body(s) Farmers whose farms located along water bodies were provided with technical assistance to leave a vegetation cover as a buffer zone along the water bodies. Technical officers and farm inspectors sampled and visited farms to check compliance 	<ul style="list-style-type: none"> Training report Site observation 	
	Increase in pests and disease due to too much shade and undesirable shade trees		<ul style="list-style-type: none"> Producers (farmers) trained on pruning techniques to reduce unnecessary shade Producers (farmers) trained to control pest using the Integrated Pest Management (IPM) techniques to use only approved crop protection products for all other crops fields. 	<ul style="list-style-type: none"> Site observation Training report 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
	Involve the use of unapproved/ not recommended agrochemicals (weedicides, pesticides, insecticides etc.)		<ul style="list-style-type: none"> Raised awareness on the list of approved agro-inputs and the list shared/pasted at vantage points for public viewing 	<ul style="list-style-type: none"> Training report List of approved and unapproved agrochemicals shared 	
	Over-use of agro-inputs such as fertilizers and agro-chemicals.		<ul style="list-style-type: none"> The use of agrochemicals including inorganic fertilizers, weedicides and pesticides was reduced as much as possible. Where possible, mechanical weed control was considered instead of the use of weedicides. Education and sensitization was done on the proper use and dosage of agro-inputs 	<ul style="list-style-type: none"> Training report List of approved and unapproved agrochemicals shared 	
	Use of fire during land preparation		<ul style="list-style-type: none"> Fire was used only in situations where this was effective and least environmentally damaging Workers were required to wear suitable Personal Protective Equipment (PPE) as appropriate. 	<ul style="list-style-type: none"> Site observation Records of PPEs provided 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
	Limited and/or untimely supply of cocoa seedlings		<ul style="list-style-type: none"> Seedlings were supplied on time to meet onset of reliable rainfall Seedlings were sourced within close proximity/catchment area 	<ul style="list-style-type: none"> Records of seedlings supply 	
	Establishing new farms cocoa farms within forest reserves.		<ul style="list-style-type: none"> Admitted farmers that expanded beyond allowed limits were made to return to the permitted areas only District Assembly by-laws used to support the conservation of dedicated forests and to sanction encroachment Farmers trained and encouraged to involve in alternative livelihood programs to prevent the risk of expansion in to protected areas. 	<ul style="list-style-type: none"> Engagement/training Reports Records of admitted farms DA by-laws 	
	Generation of hazardous waste such as aboricides, herbicides, weedicides, and pesticides.		<ul style="list-style-type: none"> Mass sprayers who spray agro-chemicals for farmers have been cautioned and educated on proper disposal of chemical containers after use 	<ul style="list-style-type: none"> Training report Awareness creation materials displayed 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
	Lead to the transportation of hazardous chemicals (aboricides, herbicides, weedicides, and pesticides)		<ul style="list-style-type: none"> Famers have been encouraged to report hazardous activities of neighbors to through the FGRM for correction remedy Training on safe chemical application was given Trained farmers on how to wear PPEs and the essence of PPEs. 	<ul style="list-style-type: none"> List of approved and unapproved agrochemicals shared FGRM operationalized 	
	Improper disposal of hazardous waste				
	Poor storage of hazardous chemicals				
	Recycle of hazardous chemicals				
	Improper or poor records keeping of direct workers		<ul style="list-style-type: none"> Employment and other opportunities were given to local communities as much as possible. Proper records of workers are kept and updated as appropriate 	<ul style="list-style-type: none"> Records of workers 	
	Improper or poor records keeping of contracted workers				

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
	Improper or poor records of primary supply workers				
	Potentially could cause or aggravate land-use conflicts		<ul style="list-style-type: none"> • A grievance mechanism was established to ensure any complaints/comments regarding the Project is received and responded to in a timely manner, providing solutions and taking corrective measures as appropriate • Stakeholder consultations done to identify best practices and guide implementation in partnership with traditional authorities • Forest Management plan prepared for all sites to also reflect community expectations • Admitted farmers that expanded beyond allowed limits were made to return to the permitted areas only 	<ul style="list-style-type: none"> • FGRM operationalized • Forest Management plan • Engagement/training Reports • Records of admitted farms • DA by-laws 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
			<ul style="list-style-type: none"> District Assembly by-laws used to support the conservation of dedicated forests and to sanction encroachment 		
	Unavailability and no/limited use of personal protective equipment		<ul style="list-style-type: none"> Workers were required to wear suitable Personal Protective Equipment (PPE) as appropriate. Education and sensitization was done on the need for and proper usage of PPEs 	<ul style="list-style-type: none"> Training report 	
	Limited awareness creation of programs on health and safety including chemical handling		<ul style="list-style-type: none"> Design and implementation of awareness creation programs to educate persons on protecting workers' health and safety including paying attention to chemical handling was done Workers were required to wear suitable Personal Protective Equipment (PPE) as appropriate 	<ul style="list-style-type: none"> Training report On-site verification with farmers 	
Incentive creation and income diversification (livelihood)	Generation of smoke from burning of biomass (debris and logs) during land	4.01 Environmental Assessment 4.04 Habitats	<ul style="list-style-type: none"> Most biomass generated was used as firewood and also as pegs Minimized burning of biomass as much as possible Workers were required to wear suitable Personal Protective Equipment (PPE) as appropriate 	<ul style="list-style-type: none"> Site observation Records of PPEs provided Training report 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
improvement activities)	preparation for vegetable farming	4.09 Pest Management 4.36 Forests	<ul style="list-style-type: none"> A grievance mechanism was established to ensure any complaints/comments regarding the Project is received and responded to in a timely manner, providing solutions and taking corrective measures as appropriate 	<ul style="list-style-type: none"> FGRM operationalized 	
	Exposure of workers/communities to smoke generated during land preparation for vegetable farming		<ul style="list-style-type: none"> Minimized burning of biomass as much as possible Fire was used only in situations where this was effective and least environmentally damaging Workers were required to wear suitable Personal Protective Equipment (PPE) as appropriate A grievance mechanism was established to ensure any complaints/comments regarding the Project is received and responded to in a timely manner, providing solutions and taking corrective measures as appropriate 	<ul style="list-style-type: none"> Site observation Records of PPEs provided Training report FGRM operationalized 	
	Potentially pollute/contaminate water bodies		<ul style="list-style-type: none"> The use of agrochemicals including inorganic fertilizers, weedicides and pesticides was reduced as much as possible. Where possible, mechanical weed 	<ul style="list-style-type: none"> Site observation Training report 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
	(herbicides, pesticides, insecticides, weedicides, ash etc.)		<p>control was considered instead of the use of weedicides.</p> <ul style="list-style-type: none"> Promotion of buffer zones along the local streams to ensure their integrity and protection of other aquatic life forms. The buffer reserves serve as natural filters for surface runoff from the planting areas. The reserves also play a major role in protecting the banks of the waterways from channel erosion. Farmers trained and provided with tools to create buffer of no-spray zones in farms with close proximity to water body(s) Farmers whose farms located along water bodies were provided with technical assistance to leave a vegetation cover as a buffer zone along the water bodies. Implementation of standard erosion and sediment control best management practices 		

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
			<ul style="list-style-type: none"> Organic farming practices (planting nitrogen-fixing species, agroforestry practices, composting, application of organic fertilizers) were implemented and this helped minimize the use of inorganic fertilizers and herbicides that are major contributors to soil and surface water quality deterioration 		
	Potentially could be located within buffer zones or water bodies		<ul style="list-style-type: none"> Promotion of buffer zones along the local streams to ensure their integrity and protection of other aquatic life forms. The buffer reserves serve as natural filters for surface runoff from the planting areas. The reserves also play a major role in protecting the banks of the waterways from channel erosion. Farmers trained and provided with tools to create buffer of no-spray zones in farms with close proximity to water body(s) Farmers whose farms located along water bodies were provided with technical assistance to leave a 	<ul style="list-style-type: none"> Site observation Training report 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
			vegetation cover as a buffer zone along the water bodies. <ul style="list-style-type: none"> Technical officers and farm inspectors sampled and visited farms to check compliance 		
	Use of fire during land preparation		<ul style="list-style-type: none"> Fire was used only in situations where this was effective and least environmentally damaging Most biomass generated was used as firewood and also as pegs Minimized burning of biomass as much as possible Workers were required to wear suitable Personal Protective Equipment (PPE) as appropriate A grievance mechanism was established to ensure any complaints/comments regarding the Project is received and responded to in a timely manner, providing solutions and taking corrective measures as appropriate 	<ul style="list-style-type: none"> Site observation Records of PPEs provided Training report FGRM operationalized 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
	Over-use of agro-inputs such fertilizers and agro-chemicals		<ul style="list-style-type: none"> The use of agrochemicals including inorganic fertilizers, weedicides and pesticides was reduced as much as possible. Where possible, mechanical weed control was considered instead of the use of weedicides. Education and sensitization was done on the proper use and dosage of agro-inputs 	<ul style="list-style-type: none"> Training report List of approved and unapproved agrochemicals shared 	
	Limited and/or untimely supply of cocoa seedlings		<ul style="list-style-type: none"> Seedlings were supplied on time to meet onset of reliable rainfall Seedlings were sourced within close proximity/catchment area 	<ul style="list-style-type: none"> Records of seedlings supply 	
	Lead to the transportation of hazardous chemicals (herbicides, weedicides, and pesticides)		<ul style="list-style-type: none"> Mass sprayers who spray agro chemicals for farmers have been cautioned and educated on proper disposal of chemical containers after use Farmers have been encouraged to report hazardous activities of neighbours to through the FGRM for correction remedy 	<ul style="list-style-type: none"> Training report Awareness creation materials displayed List of approved and unapproved 	
	Generation of hazardous waste such				

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
	as herbicides, weedicides, and pesticides.		<ul style="list-style-type: none"> • Training on safe chemical application was given • Trained farmers on how to wear PPEs and the essence of PPEs. 	agrochemicals shared <ul style="list-style-type: none"> • FGRM operationalized 	
	Improper disposal of hazardous waste				
	Improper storage of hazardous waste				
	Improper or poor records keeping of workers		<ul style="list-style-type: none"> • Employment and other opportunities were given to local communities as much as possible. • Proper records of workers are kept and updated as appropriate 	<ul style="list-style-type: none"> • Records of workers 	
	Potentially could cause or aggravate land-use conflicts		<ul style="list-style-type: none"> • A grievance mechanism was established to ensure any complaints/comments regarding the Project is received and responded to in a timely manner, providing solutions and taking corrective measures as appropriate 	<ul style="list-style-type: none"> • FGRM operationalized • Forest Management plan • Engagement/training Reports 	

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
			<ul style="list-style-type: none"> Stakeholder consultations done to identify best practices and guide implementation in partnership with traditional authorities Forest Management plan was prepared for all sites to also reflect community expectations District Assembly byelaws used to support the conservation of dedicated forests and to sanction encroachment Admitted farmers that expanded beyond allowed limits and were made to return to the permitted areas only 	<ul style="list-style-type: none"> Records of admitted farms DA by-laws 	
	Low percentage of women in livelihood improvement activities		<ul style="list-style-type: none"> Employment and other opportunities were given to local communities as much as possible. Equal opportunity was given to all abled bodied persons who wanted to participate 	<ul style="list-style-type: none"> Records of farmers 	
	Prioritization of a few demographic in terms of labour				

ACTIVITY	RISKS	OP TRIGGERED	MITIGATION MEASURES	INDICATOR/ MEANS OF VERIFICATION	COMMENTS
	Unfair selection of beneficiaries				
	Limited awareness creation of programs on health and safety issues		<ul style="list-style-type: none"> • Design and implementation of awareness creation programs to educate persons on protecting workers' health and safety including paying attention to chemical and equipment handling was done • Workers were required to wear suitable Personal Protective Equipment (PPE) as appropriate 	<ul style="list-style-type: none"> • Training report • On-site verification with farmers 	

NB: With regards to Personal Protective Equipment (PPE), stakeholders are entreated to protect themselves as much as possible even in the absence of industrial grade PPE. That is, clothing that covers every inch of the body like PPE would (long sleeved shirts, jeans, boots/footwear, mask).

7.0 OPERATIONALISATION OF FEEDBACK AND GRIEVANCE REDRESS MECHANISM (FGRM)

Feedback and Grievance Redress Mechanism (FGRM) is generally designed to be the “first line” of receipt and response to stakeholder feedback and/or concerns from implementation of GCFRP activities. This mechanism provides an enabling environment and structures for stakeholders to provide feedback and also access support for conflict resolution resulting from the program activities. Not all complaints/ conflicts are handled through the FGRM. Complaints of acts of criminal nature or grievances that allege corruption, coercion, or major and systematic violations of rights and/or policies are normally referred to organizational accountability mechanisms or administrative or judicial bodies for formal investigation, rather than to FGRMs for collaborative problem solving.

Broadly, the FGRM is operationalized in four steps.

Parties seeking to have any REDD+ dispute resolved would file their complaint with the safeguards focal person (SFP) at the district office (FSD) including the offices at the MMDAs within the ER program area where it will be received, and processed before it is communicated through the regional safeguards focal person to the National FGRM coordinator to ensure transparency and the effective exercise of oversight responsibility.

1. If the parties are unable or unwilling to resolve their dispute through negotiation, fact-finding or inquiry a mediator chosen with the consent of both parties would be assigned to assist the Parties to reach a settlement.
2. Where the mediation is successful, the terms of the settlement shall be recorded in writing, signed by the mediator and the parties to the dispute and lodged at the FGRM registry. The terms of the settlement will be binding on all parties.
3. If the mediation is unsuccessful, the Parties will be required to submit their dispute for compulsory arbitration, by a panel of 5 arbitrators, selected from a national roster of experts.
4. The awards of the arbitration panel will be binding on the Parties and can only be appealed to the Court of Appeal. All questions of law would be referred to the High Court.

Support is provided by private sector, NGOs/CSOs, and other stakeholders necessary for helping local actors submit their grievances.

NRS has made provisions for FGRM hotlines and stakeholders have been made aware of this through sensitization and awareness creation. While activities are being implemented within the Juaboso – Bia HIA, there have been no reports on grievances but feedback have been received and documented.

Some documented activities under the FGRM are presented in annex 2.

8.0 INSTITUTIONAL STRENGTHENING AND CAPACITY BUILDING

Capacity building is viewed as more than training. It is human resource development and includes the process of equipping individuals with the understanding, skills and access to information, knowledge for successful implementation of the proposed projects. It also involves organizational development, the elaboration of relevant management structures, processes and procedures, not only within organizations but also the management of relationships between the different organizations and sectors (public, private and community).

In every engagement with stakeholders, the opportunity is taken to continuously build their capacities on REDD+ topics and provide updates on activities within the HIA and GCFRP as a whole.

2018

- In 2018, the Climate Change Directorate organized landscape engagements for key stakeholders (Ministries, Departments and Agencies (MDAs) and Metropolitan, Municipal and District Assemblies (MMDAs), Traditional Authorities, Local communities etc) within 10 Forest & Wildlife districts to sensitize them and build their capacity on Climate Change issues, REDD+ mechanism, REDD+ Safeguards, and the REDD+ Feedback & Grievance Redress Mechanism (FGRM) etc.
- Between the periods 7th- 8th February and 20th- 21st February 2018, 60 Safeguards focal persons were sensitized and trained on key global, donor and national level safeguards requirements for REDD+ implementation. Prominent among them were the World Bank (WB) Operational Policies and the United Nations Framework Convention on Climate Change's (UNFCCC) Cancun Safeguards. The SFPs were also taken through project screening as part of national safeguards requirements under the Environmental Protection Agency (EPA) Act, 1994 (Act 490) and Environmental Assessment Regulations 1999, (LI 1652) to understand the classification of projects and sub-projects for Environmental Impact Assessment or otherwise. Overall, the training consisted of 45 males and 15 females.

- The Climate Change Department (CCD) organized a two-day training workshop on the functions of Ghana's REDD+ SIS and FGRM at the Forestry Commission Training Centre (FCTC) in Kumasi from 19th - 20th June, 2018 for regional and district safeguards focal persons within the High Forest Zone of the GCFRP. The selected 71 Safeguards Focal Persons (SFPs) were trained on the functions of Ghana's REDD+ SIS and FGRM. Feedback and recommendations were solicited from the SFPs on where and how to improve the SIS and FGRM.
- Upon Completion of their initial sensitization and training on REDD+ Safeguards, the SFPs according to the Environmental and Social Management Framework (ESMF) developed for REDD+ implementation, led landscape level engagement of MDAs and MMDAs identified in Ghana's ESMF for Safeguards Implementation. These engagements occurred in 10 forest districts across all the six Hotpot Intervention Areas (HIAs) Identified for the GCFRP. The landscape level safeguards engagement was to build the capacity of decentralized institutions on REDD+ and REDD+ Safeguards requirements including FGRM. The districts are; Sefwi Wiawso, Cape Coast (Kakum National Park Area), Kade, Bechem, Juaso, Goaso, Nkawie, Ho, Begoro and Juaboso. Participants were made up of 580 males (about 70%) and 270 females (representing about 30%). These landscape activities were in active collaboration with Civil Society Organisations in Ghana comprising Civic Response, International Union for Conservation of Nature (IUCN) and HATOF Foundation.

2019

- The Climate Change Directorate, and staff of Sefwi Wiawso and Kintampo Forest District officers were invited to undertake a capacity building workshop on the socio-economic benefits of forest and safeguards for non-state forest actors. This was an activity under the project "Strengthening the capacity of non-state actors to improve FLEGT-VPA and REDD+ processes in Western Africa". The project is implemented by Tropenbos Ghana and Nature and Development Foundation (NDF). The workshop took place at Sefwi Wiawso on the 6th November, 2019 and at Kintampo on 8th November 2019 respectively. A total number of 125 participants were invited to

participate in the workshops with 80 male representation and 45 female representation for the two landscapes

2020

- The National REDD+ Secretariat (NRS) of the Forestry Commission with support from the World Bank through the AccelREDD+ Project organized a refresher training from 3rd – 5th March 2020 for Regional and District Safeguards Focal Persons (SFPs) across the GCFRP area. The training focused on safeguards instruments respected in Ghana's Country Approach to Safeguards (Ghana's Environmental Regulations), Cancun, World Bank Operational Policies, African Development Bank Safeguards and other donor safeguards requirements. The rationale was to equip SFPs with the requisite skills and knowledge on Ghana's Country Approach to Safeguards (CAS). SFPs would then have the ability to develop safeguards action plans, monitor safeguards compliance, resolving and/or reporting programme related conflicts using the Feedback and Grievance Redress Mechanism (FGRM). A total of thirty-four (34) SFPs were trained (safeguards focal persons who are Forestry Commission's Assistant Regional, District and Park Managers) within the GCFRP area to ensure safeguards compliance at the regional and district levels.
- The "Rainforest Alliance (RA) – Olam Partnership for Forest and livelihood and Landscapes in Western Ghana" is one of the sub-projects under the Ghana Cocoa Forest REDD+ Programme (GCFRP) implemented within the Sefwi Wiawso landscape. A three (3) day capacity building workshop was organized to build stakeholders' capacities on REDD+ safeguards, gender, and the Feedback Grievance Redress Mechanism (FGRM) as part of the programme implementation. The workshop took place from 12-14 February, 2020 at Sefwi Wiawso. The method adopted for the training workshop was an interactive and participatory one. The workshop organized by RA and Olam and facilitated by two resource persons from the Climate Change Directorate (CCD) of the Forestry Commission. A total of twenty-eight (28) participants were present during the workshop as well as the field exercise. The workshop had 26 male representatives and 2 female representatives. The poor female representation

was attributed to an ongoing Ghana card registration that had majority of the females engaged in it.

- The NRS as part of activities for effective implementation of the Ghana Cocoa Forest REDD+ Programme (GCFRP) undertook a field visit to four (4) Hotspot Intervention Areas (HIAs) (Asunafo-Asutifi, Juaboso–Bia, Sefwi Wiawso-Bibiani, and Kakum) from September 22nd -29th, 2020. The objective of the field visit was to: give progress update on the Ghana Cocoa Forest REDD+ Programme (GCFRP) and discuss areas of continued support and engagement on implementation of planned activities; Meet with respective Regional and District Managers to discuss the expected roles and responsibilities of the FC and COCOBOD in the GCFRP implementation; Identify challenges that militate against effective GCFRP implementation and receive suggestions/recommendations; visit degraded landscape restoration sites and cocoa farms to observe progress of work and the effects on the GCFRP and cocoa farms; and update FC staff on REDD+ section of the new FSD reporting template.
- A two days national GCFRP stakeholders meeting was held at the Forestry Commission auditorium from 2nd – 3rd November, 2020. This meeting was specifically to sensitize stakeholders on the agreed percentage and commensurate benefits due them according to the BSP, explain the modalities of receiving payments, Upfront and Actual, update stakeholders on the rationale for the UAP and the utilization thereof, and discuss the GCFRP implementation planning and progress in context of meeting first monitoring report requirements. The first day's meeting was planned for the National REDD+ working group and various technical sub-working groups, whose members are drawn from representative institutions. The working groups are: National REDD+ Working Group, Safeguards, Gender, MRV, Policy & M&E Sub-Working Groups. The 2nd day had representatives from the Private sector, CSOs and NGOs. Other stakeholders from the FC have also been strategically included. There may be overlap of persons between days 1 and 2, especially for members of the GCFRP Implementation Committee. There was a total number of 63 participants.

- On the account of the finalized Benefit Sharing Plan (BSP) arrangements and upon the receipt of the Upfront Advance Payment (UAP) from the World Bank, the NRS deemed it fit to engage the stakeholders working within three of the HIAs, namely, Kakum, Wiawso-Bibiani and Juaboso-Bia HIAs. To this effect, stakeholders were sensitized on the BSP for the Ghana Cocoa Forest REDD+ Programme and updated on the Upfront Advance Payment (UAP). The meeting was held from 19th – 27th November, 2020. The meeting also provided equal opportunity to discuss implementation plan for the GCFRP and to build concerted-based actions for the way forward. The meeting therefore set out to sensitize stakeholders on the agreed percentage and commensurate benefits due them according to the BSP, explain the modalities of receiving payments, Upfront and Actual, update stakeholders on the rationale for the UAP and the utilization thereof and discuss the GCFRP implementation planning and progress in context of meeting first monitoring report requirements. Representatives from the Private sector, Landscape Governance Management Board (HIA & LMB), MMDAs, MTS group, youth groups, FC, COCOBOD, CSOs and NGOs and other stakeholders were invited.

2021

- As part of requirements from the United Nations Framework Convention on Climate Change (UNFCCC) for receiving results-based payment under REDD+, countries are expected to provide information on how they are addressing and respecting safeguards. In line with this and as part of 2nd quarter activities towards effective implementation of the GCFRP, the NRS safeguards team undertook safeguards monitoring in four (4) HIAs (ie., Kakum, Asunafo-Asutifi, Juaboso-Bia and Sefwi Wiawso-Bibiani). The monitoring exercise commenced from 11th-21st May, 2021. The monitoring exercise aimed to effectively monitor and report on safeguards compliance. Additionally, the monitoring exercise sought to identify ongoing projects that are in synergy with the objectives of the GCFRP and enhance capacity of stakeholders on safeguards.
- As part of 3rd quarter activities towards effective implementation of the GCFRP, the NRS safeguards team undertook safeguards monitoring in five (5) HIAs (ie., Kakum,

Asunafo-Asutifi, Juaboso-Bia, Ahafo Ano South, Atwima Mponua, Atwima Nwabiagya and Sefwi Wiawso-Bibiani). The monitoring exercise commenced from 16th August - 4th September, 2021. The monitoring exercise aimed to effectively monitor and report on safeguards compliance in the 5 HIAs. Additionally, the monitoring exercise sought to identify challenges to operationalizing the FGRM and enhance capacity of stakeholders on safeguards.

2022

- In a bid to build the capacities of REDD+ project implementers and proponents particularly institutions/organizations and local communities, the World Bank with funding support from the project dubbed Accelerating REDD+ (AccelREDD) organized a three-day capacity building workshop for relevant stakeholders to strengthen safeguards implementation in the Ghana Cocoa Forest REDD+ Programme. The workshop was held at the Forestry Commission Training Center (FCTC) at Akyawkrom in the Ashanti Region from 8th to 10th March 2022. The training brought together representatives from the Government (Forestry Commission, Ghana Cocoa Board, and the Environmental Protection Agency), Private sector (World Cocoa Foundation and Olam), Non-Governmental Organizations/ Civil Society Organizations (Proforest, Nature and Development Foundation and Tropenbos Ghana), and local actors including executives of HIA functional Units such as Hotspot Intervention Area Management Board (HMB), Sub-HIA Executive Committee (SHEC), CREMA Executive Committees (CEC) and Community Resource Management Committees (CRMC) who mainly represent local communities, Traditional Authorities and farmers. A number of training topics were discussed in a participatory manner to include overview of GCFRP, World Bank Safeguards Policies, GCFRP Benefit Sharing Plan, Ghana's Country Approach to Safeguards, Feedback Grievance Redress Mechanism (FGRM) and, the Role of the Environmental Protection Agency in safeguards implementation. Group exercises on GCFRP activities vis-à-vis the safeguards policies triggered generated useful discussions and understanding of how to use the safeguards instruments to address and mitigate adverse impacts and risks. In addition, discussions generated a number of questions that would be used to screen social and environmental risks associated with the activities, which resulted in revising the screening checklist. The

training was attended by 58 participants in total. Of these, 45 were males and 13 were females.

Table 8: List of some Institutional strengthening and capacity building events

S/N	Institution	Topics
1	National REDD+ Secretariat	<ol style="list-style-type: none"> 1. Training on safeguards for REDD+ Regional and District focal persons 2. REDD+ Safeguards Training- Forest district 3. Engagement of community members and other stakeholders on REDD+ safeguards 4. Training on SIS and FGRM for REDD+ regional and district safeguards focal persons 5. REDD+ safeguards landscape monitoring and training
2	Wildlife Division	<ol style="list-style-type: none"> 1. Engagement of communities on livelihood improvements 2. Sensitization and education of communities on environmental protection
3	Forest Services Division	<ol style="list-style-type: none"> 1. Engagement of fringe communities on fire management 2. Engagement of fringe communities on shade tree management 3. Engagement of communities on conflict resolution
4	Ghana Cocoa Board	<ol style="list-style-type: none"> 1. Training of farmers on safe chemical application 2. Training of farmers on compost preparation and compost application 3. Training of farmers on buffer zone protection 4. Training of farmers on good agronomical practices 5. Training of farmers on wildlife protection and conservation 6. Training of farmers on proper disposal and storage of chemical waste. 7. Engagement of farmers on shade tree management 8. Training of farmers on additional livelihoods

		9. Training of farmers on financial management and records keepings.
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DATE	ACTIVITY
20 th February, 2018	3PRCL multi-stakeholder consultative workshop
24 th - 25 th April, 2018	REDD+ Safeguards Training- Juaboso Forest District
13 th March, 2019	Safeguards monitoring exercise
21 st - 23 rd May, 2019	Safeguards Training Workshop for the 3PRCL
12 th – 13 th November, 2020	Stakeholder consultative meeting on the upfront advance payment for the GCFRP
19 th - 20 th November, 2020	Sub-national stakeholder engagement meetings -updates and discussions for enhancing GCFRP implementation
18 th – 29 th October, 2021	Community sensitization on operationalization FGRM and HIA governance structures
25 th – 29 th October, 2021 1 st – 5 th November, 2021	Sensitisation of forest fringe communities on climate smart cocoa practices
8 th to 10 th March, 2022	Ghana emission reductions training program, World Bank safeguards training

9.0 RECOMMENDATIONS AND NEXT STEPS

The proponents of GCFRP as well as implementing partners (from government, private sector and CSOs/NGOs) have exhibited strong dedication to sound environmental and social safeguards measures in the implementation of interventions/activities under GCFRP by demonstrating robust compliance to both national and the World Bank safeguards policies. By involving communities in methods that provide them with environmental and financial benefits, the programme has a strong potential to increase carbon stocks (achieve emissions reductions) in the High Forest Zones by reducing deforestation and forest degradation. Certain negative environmental and social effects (soils, water supplies, biodiversity, and some socioeconomic issues) that result from GCFRP implementation have been identified and mitigated against thereby maximizing the reputational, economic and social benefits of the programme

The recommended mitigation measures are sufficient to protect the environment and promote social growth.

Some recommendations to further enhance programme implementation were drawn based on monitoring of the safeguards implementation:

- There is a need to strengthen partnership and coordination with key stakeholders at the HIA level
- Regular and timely monitoring of activities/interventions undertaken by partners is encouraged
- Continuous stakeholder engagement with project proponents on safeguards implementation is recommended

ANNEXES**Annex 1: Lists of stakeholders consulted/engaged****Safeguards monitoring exercise**

NAME	ORGANIZATION/OCCUPATION	LOCATION	CONTACT
Mr. Tweneboah Koduah	Assistant District Manager, FSD	Juaboso-Bia	0248590510
Elliot Mensah	Conservation Alliance	Juaboso-Bia	0247789294
Mr. Seth Amoah	Farmer	Sui-Ano	0543277697
Nana Afum Ofori Panyin II	Chairman, CREMA	Bonsain	0244208828
Mr. Emmanuel Miah	District Officer, Fire Service	Juaboso-Bia	0205952114
DSP Isaac Kumi-Nipa	Divisional Police Commander	Juaboso-Bia	0241525107
Mr Richard Kofi Aduhene	Seedling producer	Juaboso-Bia	0246475426
Nana Adu Yaw II	Chief	Nkwanta	0240142533
Daakyehene	Chief	Nkwanta	0555306464
Mr Akandor	Farmer	Nkwanta	0248025957
Mr Richard Kofi Aduhene	Farmer	Nkwanta	0246475426
Mr Barnabas	Planning Officer	Juaboso-Bia	0541215688

Safeguards Training Workshop for the 3PRCL

Name	Organization	Email/ Contact
1. Anunu-Yeng Dorcas	NCRC	0200918099
1. Asante Joselyn	TBG	kotokoa94@yahoo.com
2. Michael Amponsah	Touton	m.amponsah@touton.com
3. Adanakum Helena	Touton	h.adanakum@touton.com
4. Boakye Twumasi-Ankra	TBG	twumank@yahoo.co.uk
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6. Prince Adu	Touton	p.adu@touton.com
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REDD+ Safeguards Training- Juaboso Forest District

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Assuah James	Watershed	Member
Saidu Abdulai	Watershed	Work gang leader
Tandoh John Lee	Watershed	Work gang leader
Amoah Seth	Watershed	Work gang leader
Thomes D. K. Nkuah	Seed	Leader
Enoch Gyamfi	Seed	Leader
Richard Aduhene	Enrichment Rep	Leader
Elliot Mensah Stephen	Conservation Allowance	Project coordinator
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Nana Aboyaa	Mantukwa	Chief
Seth Nkrumah	Farmer	Farmer
Gordan Gyasi	Farmer	Farmer

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Annex 2: Some feedback received from stakeholders (FGRM)

“When all communities within this region come together like this to fight against illegal tree logging, galamsey and the likes, we will not only win the war against deforestation and land degradation but will be able to increase our production of cocoa for Ghana our, motherland.”

- ***Nana Asante Bediatuo, Traditional leader, Sefwi Asempaneye***

“My name is Rita Nkansah. I live in Anwheafutu, a farming community in Juaboso District in the Western-North region of Ghana. I am 40 years old. I am a cocoa farmer and also, cultivates food crops such as plantain and cassava. I also grow vegetables like garden eggs, pepper, tomatoes and okra. Not long ago, Touton came to my community and mobilized all women farmers and formed a group called VSLA which we named “Mmaa Yedie” meaning Women’s well-being. We were trained on how to save in groups from the little income we generate from our farming business to support each member of the group.

After the group formation, Touton trained us on how to generate additional income aside the cocoa business which they called additional livelihood. We received training on vegetable production. When we started, I cultivated half an acre of garden eggs. I was able to sell the garden eggs and made GH¢300.00 (USD 56.26) as my profit. I also sold the cassava and plantain and made a profit of about GH¢ 300.00. Through this I had money to support my household. I sometimes give some of the produce as gifts to friends and family in the community. Through all these activities, I continued my farming work. This has really helped me and moving forward I want to expand my farm in the coming year so that I can get more money.

Furthermore, through the women group I was given a loan which also helped me to solve family problems. Now it has given me a lot of joy and have made me wise. I’m very happy about the intervention Touton brought to us.”

- ***Rita Nkansah. Anwheafutu***

“We are so happy to be engaged by the 3PRCL Project and Forestry Commission to help restore most of the forest in this neighbourhood. Deforestation is increasing in recent times and we hope this initiative will help curb it.”

- ***Kwesi Manu, Youth in TiCA project, Yawmatwa***

“I am going to have another income stream from my cocoa farm. I didn’t think about it in that way but thanks to the 3PRCL Project in the next few years whilst I am gaining money from selling my cocoa, I am also getting something from the trees I have planted.”

- ***Kweku Fosu, Farmer, Essam Community***

“I receive technical support to grow vegetables to support the needs of my family. I make over GHS 5000 from the sale of my produce, thanks to Touton. I see I have the potential to double my income if I am supported well. All I need is continual extension support and a flexible system that would enable me to access inputs to expand my business.”

- ***vegetable farmer at Elluokrom***

“I receive free cocoa seedlings from Touton and share them out to the farmers I do business with. This provides a trump card to outcompete and helps to secure loyal farmers and by extension helps to secure my business. Many thanks to Touton.”

- ***Purchasing clerk***

“I have invested in 1 ac of land in the FDP programme. My previous yield was 5 bags but thankfully I now harvest 8 bags of cocoa over the same piece of land”

- ***FDP Farmer***

“Touton offers unique services for farmers and has high vision for future generation.”

- ***FDP Farmer***

“It was very difficult for me to try anything that promised high hopes for my farm. I was stuck at harvesting 3 bags of cocoa with all my need to do for a very long time. Now I have increased my yields with the difficult decision of investing in FDP. FDP has paid.”

- ***FDP Farmer***

“I am FDP farmer at Kwasi Addaikrom, with a previous yield of 15 bags maximum. I now harvests over 100 bags of cocoa over the same piece of land because of FDP. FDP has changed my life and helped me to achieve my dreams. I am able to start construction of my house and settle my children school fees. FDP has helped to secure loyal famers as a Purchasing Clerk”


- **FDP Farmer**


“I committed one acre of my farm to try FDP and hoped to see positive changes. Indeed, I am surprised at what I have achieved through FDP; I am able to harvest 9 bags of cocoa. Hitherto, I could at most harvest 4 bags over the same piece of land. FDP is no scam”


- **FDP Farmer**


Annex 3: Public disclosure

Daily Graphic, Monday, January 21, 2019.


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 Ministry of Lands & Natural Resources


FORESTRY COMMISSION

PUBLIC DISCLOSURE NOTICE

DISCLOSURE OF REDD+ SAFEGUARDS INSTRUMENTS

The Forestry Commission (FC), through the partnership with the Forest Carbon Partnership Facility (FCPF) of the World Bank, has been implementing the Readiness phase of the Reducing Emissions from Deforestation and Forest Degradation (REDD+) mechanism since 2008. As an important output of the Readiness phase, a Strategic Environmental and Social Assessment (SESA) was conducted in 2014 with the full participation of all key stakeholders. The SESA was subsequently updated in 2016 with prominence on Ghana's premier Emission Reduction Programme (ERP) dubbed the Ghana Cocoa Forest REDD+ Programme (GCFRP).

The SESA focused on mainstreaming sustainable development principles into the REDD+ strategy options and the process triggered the following World Bank Safeguards Operational Policies (OPs): OP 4.01 (Environmental Assessment), OP 4.04 (Natural Habitats), OP 4.36 (Forest), OP 4.09 (Pest Management), OP 4.11 (Physical/Cultural Resources), and OP 4.12 (Involuntary Resettlement).

Subsequently, two main safeguards instruments were produced as mitigation measures for the triggered OPs.

- Environmental and Social Management Framework (ESMF)
- Resettlement Policy Framework (RPF)

The Environmental and Social Management Framework (ESMF) contributes to sustainable implementation of the REDD+ strategies by providing guidelines to mitigate all anticipated adverse impacts during the planning and implementation of the various subprojects under the strategic interventions.

The Resettlement Policy Framework (RPF) describes the process for screening subprojects, and for developing and approving resettlement actions plans, as needed. It also describes the principles that govern compensation for loss of affected properties and restoration of livelihoods.

These safeguards instruments have been developed to guide the full implementation of the REDD+ programme in Ghana with implementation beginning in 2019.


Further details relating to the Strategic Environmental and Social Assessment (SESA), Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF) and other REDD+ documents could be accessed via the Forestry Commission website <http://fcghana.org/nrs/index.php/reports-documents/category/2-safeguards>

For further enquiries or clarifications on this disclosure, kindly contact Forestry Commission:

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ISSUED BY
**THE CHIEF EXECUTIVE
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Figure 5: Disclosure of REDD+ safeguards instruments




Ministry of Lands &
Natural Resources

FORESTRY COMMISSION

PUBLIC DISCLOSURE NOTICE

DISCLOSURE OF FINAL BENEFIT SHARING PLAN (BSP) FOR THE GHANA COCOA FOREST REDD+ PROGRAMME (GCFRP)



Forestry Commission

Ghana led by the Forestry Commission (FC) in partnership with the Forest Carbon Partnership Facility (FCPF) of the World Bank implemented the Readiness phase of the Global Climate Change Mitigation Mechanism; Reducing Emissions from Deforestation and Forest Degradation (REDD+) since 2008.

After a decade of REDD+ Readiness Activities, Ghana has developed its premier Emission Reductions Program dubbed the Ghana Cocoa Forest REDD+ Program (GCFRP), which has been accepted into the Carbon Fund of the FCPF for potential results-based payments. The Forestry Commission (FC) and Ghana Cocoa Board (Cocobod) jointly coordinate this Programme with the support of private sector and local communities.

The goal of the GCFRP is to significantly reduce deforestation and forest degradation in the High Forest Zone by promoting restoration of degraded landscapes, enrichment planting in forest reserves, climate-smart cocoa production, landscape level land-use planning, strategic policy reforms, integrated coordination and monitoring, law enforcement as well as risk reduction efforts within priority Hotspot Intervention Area (HIA) landscapes.

Subsequently, an Emission Reductions Payment Agreement (ERPA) which establishes the conditions of sale and purchase of any Emission reductions (ERs) from the GCFRP was signed between the Government of Ghana (GoG) and the World Bank as a trustee for the Carbon Fund in June 2019 for a period of six years.

A key condition for signing the ERPA is for Ghana to finalise its Benefit Sharing Plan towards full execution of the programme and eventual receipt of payments against demonstrated ERs as a mandatory Safeguards tool.

This notice therefore is to inform the public that the BSP document, which has been designed and developed through extensive stakeholder consultations as an equitable benefit sharing mechanism intended to distribute ERs payments

transparently and accountably as articulated by the Programme Document is fully completed and endorsed by the Carbon Fund (CF). It describes the various beneficiaries, their eligibility, roles and responsibilities while specifying the scale and modalities for distribution. Additionally, the BSP describes the type of benefits to be transferred to beneficiaries, the timing of the distribution, and the conditions to be satisfied for the payment of the benefits. It also details the appropriate indicators for monitoring, measuring and verifying compliance with modalities for distributing benefits to beneficiaries.

The completion of the BSP represents a very significant milestone in the lifetime of the GCFRP and the Forestry Commission (FC) is appreciative of all national and sub-national stakeholder efforts for this achievement.

Further details relating to the Final BSP for the GCFRP could be accessed via the Forestry Commission website <http://fcghana.org/library.php> and http://reddsis.fcghana.org/admin/controller/publications/Final%20BSP_Ghana_%20March%202020.pdf

For further enquiries or clarifications on this disclosure, kindly contact us through the following email addresses and telephone numbers:

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Figure 6: Disclosure of BSP for GCFRP

Annex 4: Forest reserves condition scores and biodiversity assessment*Table 9: Description of Forest Condition score*

Score	Designation	Description
1	Excellent	Few signs (<2%) human disturbance, with good canopy and virgin or late secondary forest throughout
2	Good	Less than 10% heavily disturbed. Logging damage restricted or light and well dispersed. Fire damage none or peripheral
3	Slightly degraded	Obviously disturbed or degraded and usually patchy, but with good forest predominant; maximum 25% with serious scars and poor regeneration; maximum 50% slightly disturbed, with broken upper canopy
4	Mostly degraded	Obviously disturbed and patchy, with poor quality forest predominant; 25-50% with serious scars; maximum 75% disrupted canopy or forest slightly burned throughout
5	Very poor	Forest with coherent canopy < 25% or more with half the forest with serious scars and poor regeneration; or almost all heavily burned with conspicuous pioneer species throughout
6	No significant forest left	Almost all deforested with savanna, plantation, or farm; <2% good forest; or 2-5% very disturbed forest remaining; or 5-10% left in extremely poor condition

Table 10: Star rating system for plant species in Ghana

Star Rating	Description
Black	Highly significant in context of global biodiversity; rare globally and not widespread in Ghana
Gold	Significant in context of global biodiversity; fairly rare globally/nationally

Blue	Mainly of national biodiversity interest, e.g., globally widespread, nationally rare; or globally rare but of no concern in Ghana due to commonness
Scarlet	Common and widespread commercial species with potential seriously threatened by overexploitation
Red	Common and widespread commercial species; under significant pressure from exploitation
Pink	Common and widespread commercial species; not currently under significant pressure from overexploitation
Green	Species common and widespread in tropical Africa; no conservation concern
Others	Unknown, or non-forest species

Table 11: Ten most important tree species identified in forest ecosystems

Species	Frequency
<i>Celtis mildbraedii</i>	182
<i>Broussonetia papyrifera</i>	107
<i>Triplochiton scleroxylon</i>	106
<i>Nesogordonia papaverifera</i>	77
<i>Ricinodendron heudelotii</i>	69
<i>Calpocalyx brevibracteatus</i>	64
<i>Hymenostegia afzelii</i>	64
<i>Diospyros canaliculata</i>	53
<i>Sterculia rhinopetala</i>	47
<i>Discoglypsemna caloneura</i>	40

Table 12: Ten most important tree species identified on cocoa farms

Species	Frequency
<i>Morinda lucida</i>	77
<i>Persea americana</i>	57
<i>Citrus sinensis</i>	31

<i>Carica papaya</i>	20
<i>Terminalia superba</i>	18
<i>Milicia regia</i>	16
<i>Antiaris toxicaria</i>	15
<i>Ficus exasperata</i>	15
<i>Ficus vogeliana</i>	12
<i>Holarrhena floribunda</i>	12

Table 13: Red and Scarlet star rating of plant species recorded in cocoa farms

Species	Star rating
<i>Pycnanthus angolensis</i>	Red
<i>Albizia ferruginea</i>	Scarlet
<i>Antiaris toxicaria</i>	Scarlet
<i>Entandrophragma angolense</i>	Scarlet
<i>Khaya grandifoliola</i>	Scarlet
<i>Milicia excelsa</i>	Scarlet
<i>Milicia regia</i>	Scarlet
<i>Milicia regia</i>	Scarlet
<i>Pouteria aningeri</i>	Scarlet
<i>Pterygota macrocarpa</i>	Scarlet
<i>Triplochiton scleroxylon</i>	Scarlet

Table 14: Red and Scarlet star rating of plant species recorded in the cropland

Species	Star rating
<i>Afzelia bella</i>	Red
<i>Amphimas ptreapioides</i>	Red
<i>Ceiba pentandra</i>	Red
<i>Celtis zenkeri</i>	Red
<i>Daniellia ogea</i>	Red

<i>Distemonanthus benthamianus</i>	Red
<i>Pouteria altissima</i>	Red
<i>Pycnanthus angolensis</i>	Red
<i>Terminalia ivorensis</i>	Red
<i>Terminalia superba</i>	Red
<i>Albizia ferruginea</i>	Scarlet
<i>Antiaris toxicaria</i>	Scarlet
<i>Entandrophragma angolense</i>	Scarlet
<i>Entandrophragma candollei</i>	Scarlet
<i>Milicia excelsa</i>	Scarlet
<i>Milicia regia</i>	Scarlet
<i>Pterygota macrocarpa</i>	Scarlet
<i>Triplochiton scleroxylon</i>	Scarlet

Large Mammals of Bia Conservation Area

37 medium to large mammal species of 27 genera were confirmed in the three areas during the surveys. Bia ranked highest with 36 recorded species, followed by Ankasa (34 + 3 possibles) and Draw (23). Classification follows Kingdon (1997).

PRIMATES		ANKASA	DRAW	BIA
Apes				
Chimpanzee	<i>Pan troglodytes</i>			X
Monkeys				
Lowe's Monkey (Mona)	<i>Cercopithecus campbelli lowei</i>	X		X
Spot-nosed Monkey	<i>Cercopithecus petaurista</i>	X		X
Olive colobus	<i>Procolobus verus</i>	X		X
Western black & white colobus	<i>Colobus vellerosus</i>			X
White-naped mangabey	<i>Cercocebus atys lunulatus</i>	X		
Prosimians				
Bosman's Potto	<i>Perodicticus potto</i>	X	X	X
Demidoff's Galago	<i>Galagoides demidoff</i>	X	X	X
RODENTS				
Squirrels				
Striped Ground Squirrel	<i>Euxerus erythropus</i>	X	X	X
Rope Squirrel	<i>Funisciurus pyrropus</i>	X	X	X
African Giant Squirrel	<i>Protoxerus stangeri</i>	X		X
Anomalures				
Pel's Anomalure	<i>Anomalurus peli</i>	X	X	X
Porcupines				
Brush-tailed Porcupine	<i>Atherurus africanus</i>	X	X	X
Cane-rats				
Marsh Cane Rat	<i>Thryonomys swinderianus</i>	X	X	X
Pouched Rats				
Giant Rat	<i>Cricetomys gambensis</i>	X	X	X
CARNIVORES				
Mongoose				
Slender Mongoose	<i>Herpestes sanguinea</i>	X	X	X
Cusimanse	<i>Crossarchus obscurus</i>	X	X	X

Marsh Mongoose	<i>Atilax paludinosus</i>	X	X	X
Otters				
African Clawless Otter	<i>Aonyx capensis</i>	X		X
Genets and Civets				
Blotched Genet	<i>Genetta tigrina</i>	X	X	X
African Civet	<i>Civettictis civetta</i>	X	X	X
African Palm Civet	<i>Nandinia binotata</i>	X		X
Cats				
Leopard	<i>Panthera pardus</i>			X
SCALY ANT-EATERS				
Pangolins				
Long tailed pangolin	<i>Uromanis tetradactyla</i>	X		X
Tree Pangolin	<i>Phataginus tricuspis</i>	X	X	X
Giant Pangolin	<i>Smutsia gigantea</i>			X
UNGULATES				
Hyraxes				
Tree Hyrax	<i>Dendrohyrax dorsalis</i>	X	X	X
Proboscids				
Forest Elephant	<i>Loxodonta africana cyclotis</i>	X	X	X
Pigs				
Red River Hog	<i>Potamochoerus porcus</i>	X	X	X
Chevrotains				
Water Chevrotain	<i>Hyemoschus aquaticus</i>	X		X
Bovids				
Bushbuck	<i>Tragelaphus scriptus</i>	X	X	X
Bongo	<i>Tragelaphus euryceros</i>	X	X	X
Antelopes				
Maxwell's Duiker	<i>Cephalophus maxwelli</i>	X	X	X
Black Duiker	<i>Cephalophus niger</i>	X	X	X
Yellow-backed Duiker	<i>Cephalophus silvicultor</i>	X		X
Bay Duiker	<i>Cephalophus dorsalis</i>	X	X	X
Royal Antelope	<i>Neotragus pygmaeus</i>	X	X	X
TOTAL SPECIES	37	34	23	36

PRIMATES IN BIA AND OTHER AREAS

Species, subspecies		Ankasa Cons. Area	Bia Cons. Area	Cape Three Point FR	Krokosua Hills FR
Bosman's potto	<i>Perodicticus potto</i>	C	C	C	C
Demidoff's dwarf galago	<i>Galagoides demidovii</i>	C	C	C	C
Olive colobus	<i>Procolobus verus</i>	C	C	DD	C
Miss Waldron's red colobus	<i>Procolobus badius waldroni</i>	Abs	Abs	Abs	Abs
Western black-and-white colobus	<i>Colobus vellerosus</i>	P	C	P	C
Lowe's monkey (Mona)	<i>Cercopithecus campbelli lowei</i>	C	C	C	C
Spot-nosed monkey	<i>Cercopithecus petaurista petaurista</i>	C	C	P	C
Roloway monkey	<i>Cercopithecus diana roloway</i>	P	Abs	DD	DD
White-naped mangabey	<i>Cercocebus atys lunulatus</i>	C	Abs	C	DD
Western chimpanzee	<i>Pan troglodytes verus</i>	P	C	Abs	C
<p>C: Confirmed by direct sightings or acoustical clues;</p> <p>P: presence Possible according to indirect evidence or unconfirmed reports</p> <p>Abs: likely Absence supported by previous reports and surveys;</p> <p>DD: Data Deficient, due to low abundance and lesser survey effort, the species have not been detected but interviews and previous surveys indicate a possibility of presence.</p>					

Annex 5: List of approved and banned agro chemicals

TRADE NAME	ACTIVE INGREDIENT	PRE-HARVEST INTERVAL	RE-ENTRY INTERVAL	DOSAGE
AKATE MASTER	<i>BIFENTRIN</i>	21 DAYS	48 HRS	100 ML/ 11L of water
AKATE STAR 3 EC	<i>BIFENTRIN</i>	21 DAYS	48 HRS	20 ML/ 11L of water
ACTARA	<i>Thiamethoxam</i>	21 DAYS	48 HRS	17ML/11L of water
ACETA STAR	<i>Acetamiprid&Bifenthrin</i>	21 DAYS	48 HRS	120ML/11L of water

ACATI POWER	<i>Thiamethoxam</i>	21 DAYS	48 HRS	20ML/11L of water
PRIDAPOD	<i>IMIDACLOPRID</i>	21 DAYS	48 HRS	20ML/11L of water
VIPER SUPER	<i>INDOXACARB AND ACETAMIPRID</i>	21 DAYS	48 HRS	105ML/11L of water
GALIL 300	<i>IMIDACLOPRID AND BIFENTRIN</i>	21 DAYS	48 HRS	13ML/11L of water
AF CONFIDENCE	<i>CAPSAICIN</i>	21 DAYS	48 HRS	200ML/11L of water
SIVANTO	<i>FLUPYRADIFURONE</i>	21 DAYS	48 HRS	40ML/11L OF WATER
NORMAX 150	<i>ALPHA-CYPERMETHRIN</i> <i>TEFLUBENZURON</i>	21 DAYS	48 HRS	52 ML/11L WATER
BUFFALO SUPER	<i>ACETAPRIMID</i>	21 DAYS	48 HRS	98ML/11L WATER

THODAN SUPER	<i>LAMBDA CYHALOTHRIN+ACETAMIPRID</i>	21 DAYS	48 HRS	110ML/11L WATER
A1	<i>IMIDACLOPRID</i>	21 DAYS	48 HRS	20ML/11L WATER
CALLIFAN SUPER	<i>BIFENTHRIN+ACETAMIPRID</i>	21 DAYS	48 HRS	20ML/11L WATER
AKATE GLOBAL	<i>THIAMETHOXAM</i>	21 DAYS	48 HRS	20ML/11L WATER
RAGENT 200	<i>FIPRONIL</i>	21 DAYS	48 HRS	17ML/11L WATER

FUNGICIDES

TRADE NAME	ACTIVE INGREDIENT	PRE- HARVEST INTERVAL	RE-ENTRY INTERVAL	DOSAGE
<i>RidomilGold</i>	<i>CuprousOxide&Mefo noxam</i>	21 DAYS	24 HRS (1 DAY)	1 Sachet/ 16L of water
<i>Funguran-OH</i>	<i>CupricHydroxide</i>	21 DAYS	24 HRS (1 DAY)	1 Sachet/ 16L of water
<i>Metalm72WP</i>	<i>Metalxyl</i>	21 DAYS	12 HRS (0.5 DAY)	1 Sachet/ 16L of water
<i>Fungiki I 50WP</i>	<i>Metalxyl</i>	21 DAYS	12 HRS (0.5 DAY)	1 Sachet/ 16L of water
<i>Kocide2000</i>	<i>CupricHydroxide</i>	21 DAYS	24 HRS (1 DAY)	1 Sachet/ 16L of water
<i>CopperNordox75WG</i>	<i>CuprousOxide</i>	21 DAYS	24 HRS (1 DAY)	1 Sachet/ 16L of water

<i>Champion</i>	<i>CupricHydroxide</i>	21 DAYS	24 HRS (1 DAY)	1 Sachet/ 16L of water
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<i>SidalcoDefender</i>	<i>DicopperChloride trihydroxide,SC</i>	21 DAYS	24 HRS (1 DAY)	150ML/ 16L of water
Fantic	Benalaxyl M+Copper(I)Oxide	21 DAYS	24 HRS (1 DAY)	1 Sachet/ 16L of water
Forum R	homorph + 400 g/kg Co	21 DAYS	24 HRS (1 DAY)	1 Sachet/ 16L of water
Vamos 500SC	500 g/L Fluazinam	21 DAYS	24 HRS (1 DAY)	75ML/ 16L of water
Banjo Forte 400 SC	methomorph + 200 g/L	21 DAYS	24 HRS (1 DAY)	75ML/ 16L of water
Royal Cop 50WP	50% Copper (II) hydroxide	21 DAYS	24 HRS (1 DAY)	1 Sachet/ 16L of water
Delco 75WP	75 % Cupper (I) oxide	21 DAYS	24 HRS (1 DAY)	1 Sachet/ 16L of water

FERTILIZERS GRANULAR (ORGANIC)

TRADE NAME	ACTIVE INGREDIENTS	DOSAGE
Asaasewura	NPK 0-22- 18+9CaO+75+MgO	3 Bags/ acre
Cocofeed	NPK 0-30-20	3 Bags/ acre
Cocoa Master	NPK-1-21- 19+9CaO+65+6MgO	3 Bags/ acre

	+18	
Dua Pa	NPK 3-25-18- 7CaO+45+6MgO+0.3(B+Zn)	3 Bags/ acre
Ferta Agra Cacao Sup	NPK 3-21e20+10CaO+55+5Mg O+0.5(B+Zn)	3 Bags/ acre
So Aba Pa	NPK 4-22- 18+4CaO+45+5MgO +0.5B+0.2Zn	3 Bags/ acre
Adom Cocoa Fertilizer	NPK2-23- 18+8 CaO+6SO ₃ +6MGO +0.5ZN+0.5B	3 Bags/ acre
Adehye Cocoa Fertiliz	NPK2-23- 18+8 eCaO+6SO ₃ +6MGO +0.5ZN+0.5B	3 Bags/ acre
Sidalco	NPK 6:0:20 + Trace elements (Mg, Fe, Mn,Cu,Zn)	21 DAYS
Lithovit	Urea+Carbonates of Ca and Mg+Trace elements	21 DAYS

List of banned agro-chemicals

GAMALIN 20 (DDT)

UNTENT

COCOSTAT

KABAMALT

PARAQUATS

Banned pesticides

1. 2,4,5-T and Its salts and esters
2. Aldrin
3. Binapaeryt
4. Cantalo
5. Chlordane
- o Clordinciorn
7. Chlorobenzilate
8. Dichlorodiphenyitrachloroethane(DDT)
9. Dieldrin
10. Dinoseb and its calts and esters
11. Dinitro-orthocresol (DNOC) and its salts (such as ammonium salt, potassium salt and sodium salt)
12. Endria
13. HCH (aixed isomere)
14. Heptachlos
15. Hcxachlorobenxene
16. Parathion
17. Pentachlorophenol and its salts and esters
18. Toxaphene
19. Mirex
20. Methamidophos (Soluble liquid formulations of the substance that exceed 600 g active ingredient/l)
21. Methyl-parathion (emulsifiable concentrates (EC) with at or above 19.5% active ingredient and dusts at or above 1.5% active ingredient)


22. Monocrotophos (Soluble liquid formulations of the substance that exceed 600 g active ingredient/D

23. Parathion (all formulations - aerosols, dustable powder (DP), emulsifiable concentrate (EC), granules (CB) and wettable powders (WP) - of this substance are included, except capsule suspensions (CS))


24. Mosphamidon (Soluble liquid formulations of the substance that exceed 1000 g active ingredient/l)

Annex 6: Awareness materials from FC and stakeholders


HOW TO HANDLE A PANGOLIN OUTSIDE ITS NATURAL HABITAT




Curled up White-bellied Pangolin being carried using safe handling method




Active White-bellied Pangolin being carried using safe handling method




Plastic storage box with large airholes, suitable for temporarily keeping a Pangolin



A temporary holding container with leaf litter or newspaper to hold Pangolins



Drinking water bowl weighed down by rock to prevent it from tipping over



PANGOLIN RESCUE

CALL HELP LINES IMMEDIATELY

* HELP LINES TO CALL





A Rocha Ghana 024-815-8204	Pangolin-Gh 020-606-4911	Wildlife Division 024-318-1977
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* KEEP THE PANGOLIN SAFE

- Identify a suitable secure holding place to protect the Pangolin and transport it in, such as a wooden box with a secured lid or a pet crate (not cardboard as they will break through it)
- Fill the container with tree branches, dried leaves, or crushed up newspapers for the Pangolin to hide in
- Place the Pangolin in the container and remove any constraints. If the animal is not under any constraints, cover it with a blanket, towel, or shirt
- If you do not have a suitable container, the Pangolin can be kept in a room but make sure there is no way for it to escape (e.g. an open window) because they are excellent climbers

*HANDLE PANGOLINS PROPERLY

- Do not hold a Pangolin by the tail as it is highly distressing and can cause them harm
- Keep the number of people near the Pangolin to a minimum. Ensure that anyone near the animal is as quiet as possible to avoid stress
- Never unroll a curled Pangolin
- Pangolins can be held in a holding container for up to **48 hours**. However, it should be checked at least every 4 hours, and given the opportunity to have food (ants), water and exercise if it appears to be in distress




WASTE MANAGEMENT PLAN

<i>IDENTIFICATION OF MAIN SOURCE</i>	<i>POSSIBLE SOLUTION</i>	<i>PERSON RESPONSIBLE</i>	<i>TIMELINE</i>
AGROCHEMICAL CONTAINERS	TRIPLE WASH AND PERFORATE THEM AND RETURN THEM TO THE INPUT SUPPLIERS	FAs, AGRONOMISTS, FARMERS	JANUARY - DECEMBER
INORGANIC WASTE	COLLECT AND PUT THEM IN THE TRASH BINS OR VILLAGE WASTE DISPOSAL POINT	PURCHASING CLERKS	JANUARY - DECEMBER
ORGANIC WASTE	MAKE PIT FOR ORGANIC WASTES	PURCHASING CLERKS	JANUARY - DECEMBER
WASTE FROM COCOA HUSK	SPREAD THEM IN THE COCOA FARM TO SERVES AS MANURE	FARMERS	JANUARY - DECEMBER
ANIMAL WASTE	ANIMAL MANURE (FARM YARD MANURE)	FARMERS	JANUARY - DECEMBER

INVASIVE SPECIES

Invasive species

A plant or animal species or subspecies that is not native to a given place, and whose presence or introduction in that place causes or is likely to cause economic harm, environmental harm, or harm to human health. For this standard, invasive species are the ones referenced by IUCN/SSC Invasive Species Specialist Group (ISSG) as 100 of the World's Worst Invasive Alien Species.¹³ Crop or livestock species are not considered invasive species.

The following are some invasive species identified in our operational area.




Figure 1: *Cacopogonium mucunoide*




Figure 2: *Broussonetia papyrifera*
(Yorke/ megye m'ase)




Figure 3: *Cedrella odorata*
(Cedrella)




Figure 4: *Chromolaena odorata*
(Acheampong)




Figure 5: *Leucaena leucocephala*




Figure 5: *Eichhonia crasipes*

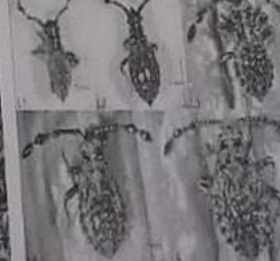
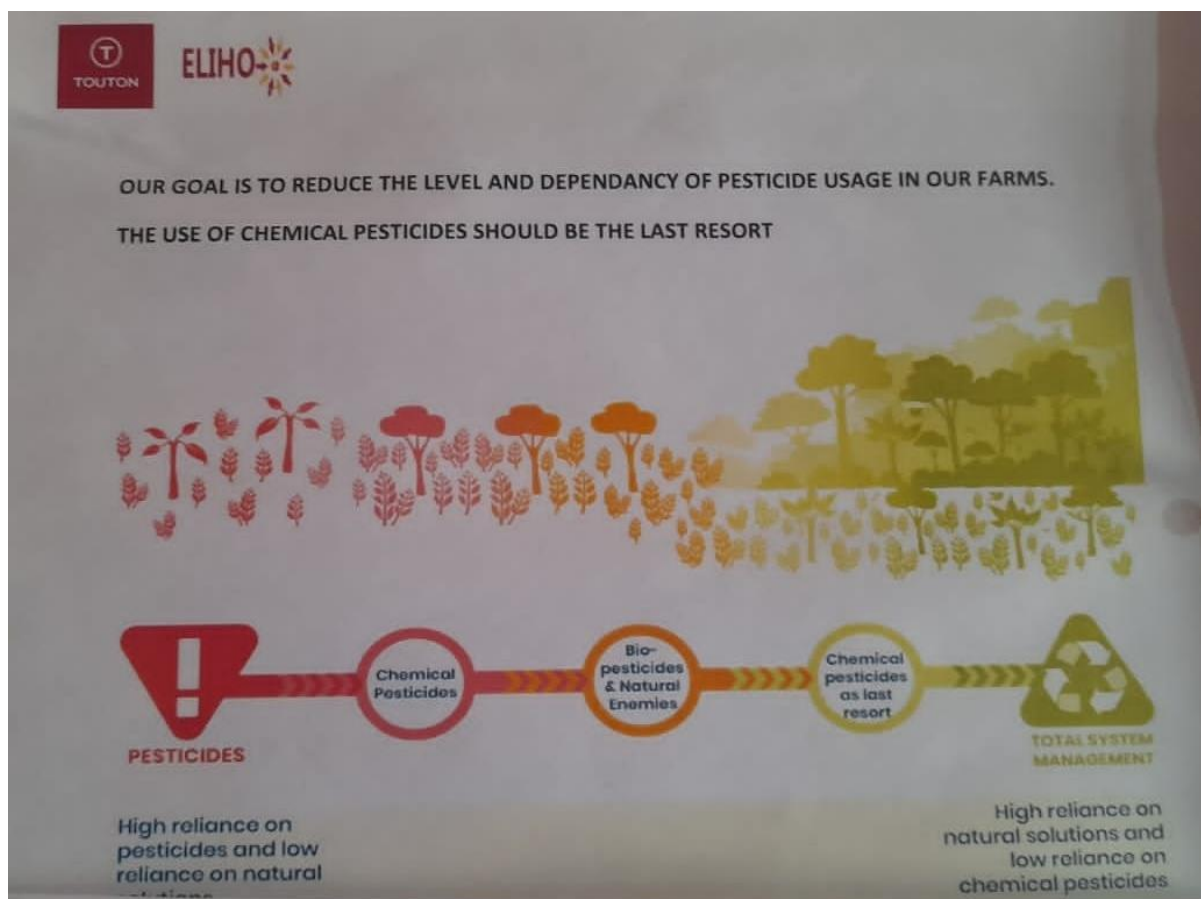


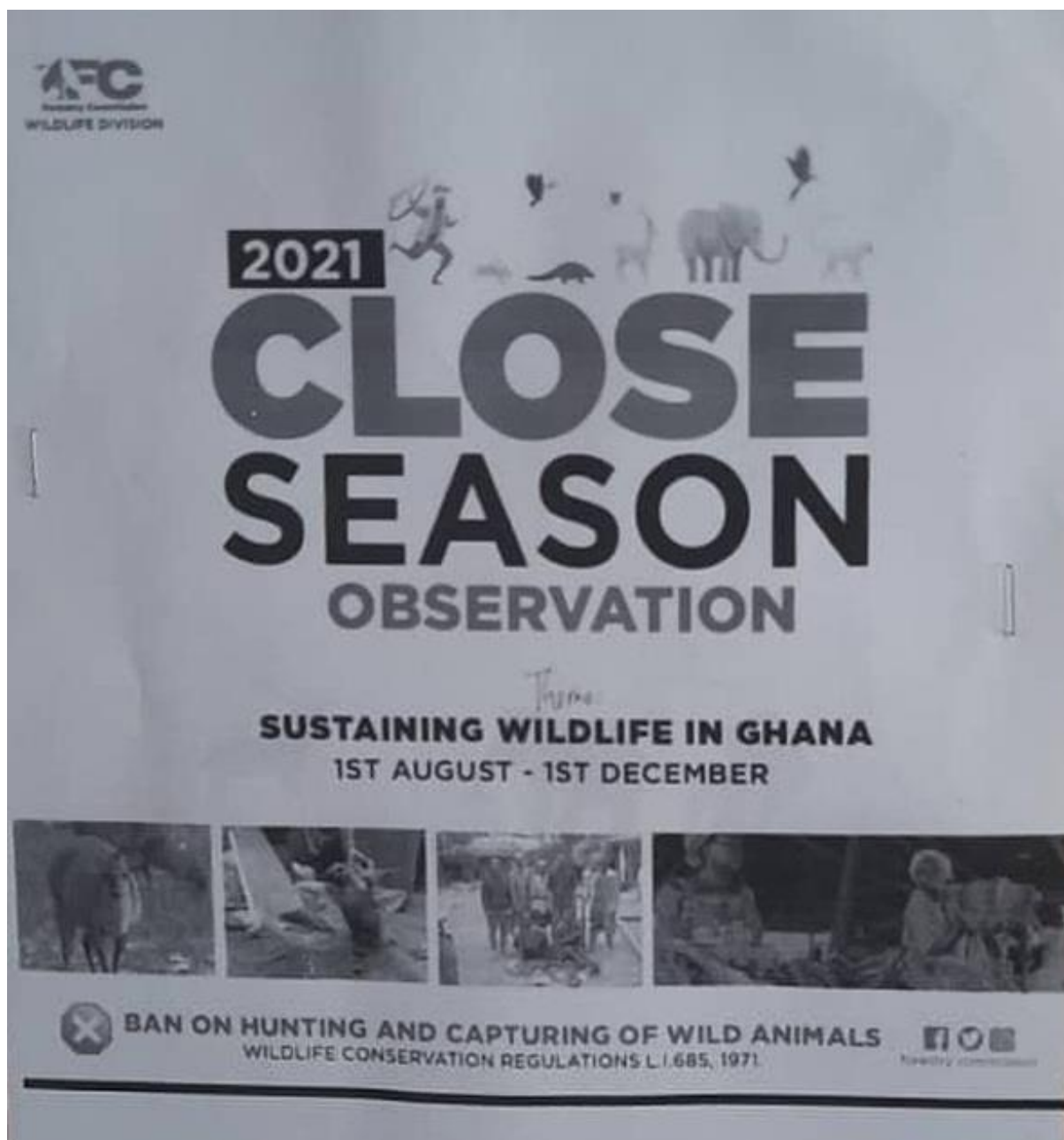
Figure 5: Capsid (Akate)





UNDESIRABLE FOREST TREES	
BOTANICAL NAME	TWI
<i>Piptafeniastrum excelsia</i>	Danhoma
<i>Myrianthus arboreus</i>	Anyankoma
<i>Locaniodiscus cupanoides</i>	Dwindwera
<i>Carapa Oprecera</i>	Kwakuo – bise (sabise)
<i>Ceiba pentandra</i>	Onyina
<i>Canthium glabriflorum</i>	Ntateadupon
<i>Cola gigantea</i>	Watapuo
<i>Adansonia digitata</i>	Odadee
<i>Cola chlamydantha</i>	Kra-bise , Asenkrobia
<i>Musagacecropoides</i>	Odwuma
<i>Combretodendron macrocarpum</i>	Esa
<i>Sterculia tragacantha</i>	Foto(Natural alternate host)

UNDESIRABLE FOREST TREES	
BOTANICAL NAME	LOCAL NAME
<i>Chlorophora excelsia</i>	Odum
<i>Albizia acaciaria</i>	Awimfoc Samina
<i>Entendrophragma angolense</i>	Adinam cedar
<i>Funtumia elastic</i>	Ofundum
<i>Alstonia oonei</i>	Nyame- dua
<i>Pychanthus angolensis</i>	Otie
<i>Terminalia superba</i>	Ofram ofram
<i>Terminalia ivorensis</i>	Emire





<div> <div> ELIHO Ghana Limited </div>  <div>  </div> </div>			
Nitrabor	N 15.4% NO ₃ 14.3% NH ₄ + 1.1% CaO 26% B 0.3%	3 Bags. Apply six week after applying Asaase Wura	Inorganic Foliar
Sidalco	NPK 20-2-4 (Seedlings)	1.2 l/ha/yr. Apply 100ml/ha/moth/ 10ml/ 15 litres	Inorganic Foliar
Sidalco	NPK 10-10-10	1.2 l/ha/yr. Apply 100ml/ha/month. 12times/season, 10ml/ 11 litres	Inorganic Foliar
Sidalco	NPK 6-0-20	1.2 l/ha/yr. Apply 100ml/ha/month. 12times/season. 10ml/ 11 litres	Inorganic Foliar
Crop Max	Vitamins (++) Enzymes (2%) Amino acids other Growth stimulants + micronutrients	3.5 Litres/ha. 175ml/ 20litres/ application 12 application/ season	Inorganic Foliar
So Abapa	N:P:K 4-22-18 + 4CaO + 4S + 5MgO + 0.5B ₂ O ₃ + 0.2Zn	375 kg/ha/year. Apply once in April/ May	Inorganic granular
NutriSmart	70% C-MW + 20% PR + 9 STARCH + 1% YEAST	125 kg/ha/year. Apply once in April/ May	Biological granular
Lithovit	0.05% P + 0.54% k + + 75.3% CaCO ₃ + TE	3 kg/ha Apply 500/ha/application 6 application/ Season starting in May	Organic granular
Cocoasette		600mls/ per acre/ 4 tanks spray	Inorganic Foliar

NOTE: READ LABELS OF PRODUCT BEFORE USE TO AVOID INCONVENIENCES IF CHANGES HAVE BEEN MADE BY THE PRODUCTS MANUFACTURERS AND UPDATE HAVE NOT BEEN EFFECTED HERE YET.

EVACUATION PLAN FOR EMERGENCIES

INJURIES/CUTS

In case of cuts or injuries, farmers should undertake the following;

1. Shout for help if someone is nearby or instead try to stop bleeding by contacting the PC for a first aid using the chemicals provided in the first aid box
2. When in farm try using the well-known herbs (e.g. locally known one called Acheampong) potent for stopping the bleeding.
3. The injured after getting first aid should be sent to the nearest health care center for treatment by medical personnel.

UNCONCIOUSNESS

1. Remove clothes of the affected individual
2. Place the head of the person sideways
3. Fan the individual using any material that can blow air on the skin
4. Resuscitate by applying the mouth to mouth method (i.e. blowing air through the mouth)
5. Rush the person to the nearest health care center after gaining consciousness or otherwise for treatment.
6. Always call 193 for an Ambulance.
7. When helping HIV/AIDS patients always use protective hand gloves.

FIRE EMERGENCY

Notify the local Fire Department by calling 191/0202017007

Leave the building using the designated escape routes.

- Assemble in the designated area (specify location):
- Remain outside until the competent authority (Designated Official or designee) announces that it is safe to re-enter.

Annex 7: Ghana REDD+ programme screening checklist for environmental and social issues

Project Information: Name and Contact Details:				
Project Name				
Location	Region/district/community (reserve/compartment)			
	HIA			
Person undertaking the screening	Name		Date of screening	
	Designation			
	Address (Email, Phone number)			
Reviewer	Name			
	Designation			
	Address (Email, Phone number)			

Subproject Details: Attach location map (longitude-latitude coordinates (GPS reading) if available):	
Type and scope of activity <i>What will be done, who will do it, what are the objectives and outcomes</i>	
Estimated Cost	
Proposed Date of Commencement of Work	
Expected Completion of Work	
Technical Drawing/Specifications Reviewed	

Physical Data:	
Subproject Site area in ha	
Extension of or changes to existing land use	
Any plans for construction, movement of earth, changes in land cover	

Site Characteristics		
Adjoining Land	South	
Uses or Land	North	
Cover	East	
	West	
Proximity to a natural habitat e.g., wetland, river/stream, wetlands, forest reserves, protected areas etc.		
Proximity to a residence or any community resource or facility		
Proximity to a road		
Are there outstanding land disputes within the area?		
What is the status of the landholding required by the project (customary, lease, community lands, etc.)?		
What is the land currently being used for? (e.g., agriculture, gardening, etc.)		
Is there activity In Forest Reserve?		
Is there activity adjacent to Forest Reserve?		

Risks identification							
If implemented, would the activity Potentially	Yes	No	If Yes, give a brief description	If Yes indicate the frequency of occurrence (likelihood)			
				Very Rarely	Rarely	Occasionally	Very Frequently
Air Quality and Noise							
Cause air pollution? <ul style="list-style-type: none"> • generation of dust • generation of smoke • generate fumes? • generate emissions • Create objectionable odor affecting people? 							
Expose workers or the community to substantial air pollution?							
Cause noise pollution							
Expose persons to excessive vibration and noise?							
Biological Resources and Natural Resources							
Occur in legally protected/nature reserve or Environmentally Sensitive Areas or a legally defined buffer zone; (forest reserves, national parks, Ramsar sites and wetlands, wildlife habitat areas, steep slopes, riparian							

areas, upland forests, vulnerable aquifers, biosphere reserves, World Heritage Sites, prime agricultural lands?							
Be located within 100m from a protected/nature reserve or Environmentally Sensitive Areas?							
Have effect on neighbouring protected/nature reserve or Environmentally Sensitive Areas (forest reserves, national parks, Ramsar sites and wetlands, wildlife habitat areas, steep slopes, riparian areas, upland forests, vulnerable aquifers and prime agricultural lands?							
Have effect on flora (vegetation or plants)?							
Have effect on fauna (animals, wildlife)?							
Interfere with the movement of any wildlife species or organisms?							
Lead to the clearing of forestlands and woodlands?							
Cause disturbance in natural habitats?							
Lead to modification of natural habitats?							
Drain wetlands, or be sited on floodplains?							
Lead to enhanced soil erosion due to repeated disturbance?							
Lead to road construction or rehabilitation, or otherwise facilitate access to fragile areas (natural woodlands, wetlands, erosion-prone areas)?							
Harvest wetland plant materials or utilize sediments of bodies of water?							
Involve the harvesting of timber resources?							
Involve the harvesting of non-timber resources?							
Promote in-forest bee keeping?							
Lead to increased hunting or the collection of animals or plant materials?							
Increase the risks to endangered or threatened species?							
Accelerate erosion by water or wind?							

Reduce soil fertility and/or permeability?							
Involve removing renewable natural resources such as forest products?							
Involve the extraction of non-renewable natural resources?							
Water Quality and Hydrology							
Occur within 100m distance from the nearest water body or drainage channel?							
Involve water extraction or abstraction from rivers, lakes, groundwater							
Have effect on potable water supplies to communities?							
Potentially contaminate surface water and groundwater supplies? <ul style="list-style-type: none"> • by generating liquid waste? • by generating liquid with human or animal waste? • by generating liquid with pH outside 6-9 range? • by generating liquid with an oily substance? • by generating liquid with a chemical substance? • by generating liquid with odor/smell? 							
Lead to increase in surface run-off, which could result in flooding on or off-site?							
Potentially pollute or contaminate surface water?							
Potentially pollute or contaminate groundwater resources?							
Affect existing stream flow, reduce seasonal availability of water resources or cause changes in local natural water cycles?							
Agricultural and Forestry Production							
Affect existing or traditional agricultural production systems by reducing seed availability or reallocating land for other purposes?							
Lead to forest plantation harvesting without replanting, the burning of pastureland, or a reduction in fallow periods?							

Affect domestic livestock by reducing grazing areas or creating conditions where livestock disease problems could be exacerbated?							
Involve the use of insecticides, herbicides, and/or other pesticides?							
Hazardous Waste and Materials - Will the activity							
Lead to the generation of hazardous waste such as: <ul style="list-style-type: none"> Pesticides, weedicides and other garden chemicals 							
Lead to the transportation of hazardous waste?							
Lead to the recycling of hazardous waste?							
Lead to the storage and disposal of hazardous waste?							
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement							
Require changes to existing land tenure system?							
Require acquisition of land (public or private, temporarily, or permanently) for its development?							
Potentially cause or aggravate land-use conflicts?							
Restrict land rights or land use rights?							
Restrict access to natural resources that cause a community or groups within a community to lose access to resource usage where they have traditional or customary tenure, or recognizable usage rights?							
Lead to the physical displacement? <i>Physical displacement occurs when individuals or communities are fully or partially no longer able to occupy an area and must relocate to a new location due to project activity.</i>							
Lead to economic displacement? <i>Economic displacement occurs when individuals or communities are fully or partially restricted in their access to land or resources that are important to their livelihoods and economic well-being</i>							
Cause a disruption on Power or other utility supply?							

Affect livelihood opportunities of people?							
Involve the use of direct workers? <i>Direct workers are people employed or engaged directly by the Borrower (including the project proponent and the project implementing agencies) to work specifically in relation to the project.</i>							
Involve the use of community workers? <i>Community workers are people employed or engaged in providing community labor.</i>							
Involve the use of contracted workers? <i>contracted workers are people employed or engaged through third parties to perform work related to core functions of the project, regardless of the location.</i>							
Involve the use of primary supply workers? <i>Primary supply workers are people employed or engaged by the suppliers.</i>							
Involve the use of Children?							
Social Inclusion							
Cause the exclusion of migrants, poor, persons with disabilities, youth, women, men from discussions related to the project?							
Are women and youth (vulnerable groups) considered in project implementation (decision making, farming activities, etc)?							
Are women and youth (vulnerable groups) benefiting from project implementation (access to tools, fertilizers, etc for farming activities)?							
Prioritize one demographic over the other in terms of labor?							
Unfairly allocate more benefits to a particular demographic?							
Give more opportunities to a particular demographic in the formation of governance structures?							
Cultural Heritage							

Involve excavations, demolition, movement of earth, flooding or other changes in the physical environment?							
Be located in, or in the vicinity of, a recognized cultural heritage site?							
Affect culturally important sites in the community such as sacred areas, burial grounds or cemeteries?							
Affect religious sites shrines, temples, mosques, churches?							
Affect any archeological or historical site?							
Community Health and Safety							
Lead to labour influx? <i>Labor influx consists of the rapid migration to and settlement of workers in the project area, typically in circumstances where labor/skills and goods and services required for a project are not available locally. Projects also stimulate speculative influx ("followers"), including those seeking employment or enterprises hoping to sell goods and services to the temporary project workforce, as well as "associates" who often follow the first two groups to exploit opportunities for criminal or illicit behavior (e.g., prostitution and crime).</i>							
Create conditions that can lead to community health problems such as community exposure to health risks and vector-borne diseases, communicable diseases, injuries, nutritional disorders, HIV/AIDS and infectious Diseases?							
Lead to increase road traffic, vehicles or fleets of vehicles for the purposes of the activity?							
Involve the use of Security personnel?							
Other Areas							
Production or use in any product or activity deemed illegal under Ghanaian laws or regulations or international conventions and							

agreements, or subject to international bans, such as pharmaceuticals, pesticides/herbicides, ozone depleting substances, PCB's, wildlife or products regulated under CITES.							
Does the proposed REDD+ intervention risk displacing emissions to another part of Ghana?							
Is there a risk that stakeholders who have grievances linked to the proposed REDD+ intervention may not have an easily accessible, culturally appropriate avenue to address these grievances?							
Does the REDD+ intervention have, or increase the risk of negative impacts on gender (exclusion, discrimination, abuse etc.)							

Risks/Impact classification:

When considering the location of a subproject, rate the sensitivity of the proposed site in the following table according to the given criteria. Higher ratings do not necessarily mean that a site is unsuitable. They indicate a real risk of causing undesirable adverse environmental and social effects, and that more substantial environmental and/or social planning may be required to adequately avoid, mitigate or manage potential effects.

Risk areas	Site Sensitivity (severity)			Rating (L,M,H)
	Low (Risk that can impact on a small scale)	Moderate (Risk that can cause an impact but not a serious one)	High (Risks that can cause result in huge impact)	
Natural habitats (Biological Resources and Natural Resources)				
Air Quality and Noise				
Water quality and water resource availability and use (hydrology)				
Agricultural and Forestry Production				

Land and Farming Tenure (Land Acquisition, Restrictions on Land Use and Involuntary Resettlement)				
Socio-economic, Livelihood and Labour				
Hazardous Waste and Materials				
Social Inclusion				
Community Health and Safety				

Overall proposed subproject/activity risk classification:

E & S assessment comments based on site visit

Determination of environmental category based on findings of the screening: A ____ B ____ C ____

Recommendations for Instruments to be prepared		
Recommendation:	Tick as appropriate	Justification
No further instrument required		
<i>Requires the preparation of:</i>		
Environmental Impact Assessment (EIA)		
Environmental and Social Impact Assessment (ESIA)		
Environmental and Social Management Plan (ESMP)		
Resettlement Action plan (RAP or ARAP)		
Environmental and Social Audit		

Hazard or Risk Assessment		
Social and Conflict Analysis		
Cultural Heritage Management Plan		
Biodiversity Management Plan		

Prepared by:

Date:

Potential Environmental and Social Issues That Require Referral to EPA or Using EA1 Form

	Benchmark and Issues	Impact description	Yes	No	Remark
1.	Statutory provisions	Is the proposed plantation area less than 40ha?			
2.	Statutory provisions (see <i>Natural Habitat Issues in Checklist</i>)	Are there any ecologically sensitive/ critical areas within the proposed project area (refer to Annex 3)			
3.	Protected areas and wildlife	Will project activities potentially impact natural habitats or critical wildlife species			
4.	Biodiversity loss	Will land use change or vegetation clearance lead to loss of exceptional flora/ fauna			
5.	Water pollution	1. Is there a local stream close to the project site? 2. Does it flow all year round? 3. How long does it take to walk to this stream 4. Do you think any project activity will affect this stream			
6.	Soil erosion	Are there steep slopes in the project area? Can you easily walk on the slopes without falling			

National Requirements			
If implemented, would the activity require permit or approval from the following national regulatory agencies?	Yes	No	Justification
Environmental Protection Agency			
Forestry Commission			
Water Resources Commission			
Ghana Standards Authority			
Food and Drugs Authority			
Minerals Commission			
Plant Protection & Regulatory Services			

Ghana Health Service			
District Assembly			

Clearance	
Name	
Designation	
Signature	
Date	

ANNEX ENVIRONMENTALLY SENSITIVE/ CRITICAL AREAS

NB: *Projects sited in these areas could have significant effects on the environment and the EPA could require a more stringent environmental assessment*

All areas declared by law as national parks, watershed reserves, forest reserves, wildlife reserves and sanctuaries including sacred groves

Areas with potential tourist value

Areas that constitute the habitat of any endangered or threatened species of indigenous wildlife (flora and fauna)

Areas of unique historic, religious, cultural, archaeological, scientific or educational interest

Areas that provide space, food, and materials for people practising a traditional style of life

Areas prone to disaster (geological hazards, floods, rainstorms, earthquakes, landslides, volcanic activity etc.)

Areas prone to bushfires

Areas classified as prime agricultural areas

Recharge areas of aquifers

Water bodies characterized by one or any combination of the following conditions:

Tapped for domestic purposes

Within controlled/ protected areas

Which support wildlife and fishery activities

Mangrove areas characterized by one or any combination of the following conditions:

With primary pristine and dense growth

Adjoining mouth of major river system

Near or adjacent to traditional fishing grounds

Which acts as natural buffers against shore erosion, strong winds and storm floods

Estuaries and lagoons

Other coastal areas of ecological, fisheries or tourism importance or which are subject to dynamic change

Wetlands

Rivers

Areas of high population density