SAFEGUARDS IMPLEMENTATION AND MONITORING REPORT

JUABOSO – BIA HIA

CLIMATE CHANGE DIRECTORATE

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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

INTRODUCTION

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 Partnership for Productivity Protection and Resilience in Cocoa Landscapes (3PRCL), Enrichment Planting, Modified Taungya System, Trees-On-Farm and Climate Smart Cocoa.

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 GCFRP. 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 GCFRP

World Bank Safeguard Policy	**Potential to be Triggered under REDD+ in Ghana**
OP 4.01: Environmental Assessment	GCFRP will engage in a number of 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 an ESMF has been 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 ESMF 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 ESMF includes guidance on managing forestry issues.
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 ESMF.
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.

GENERAL DESCRIPTION OF JUABOSO - BIA HIA

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.

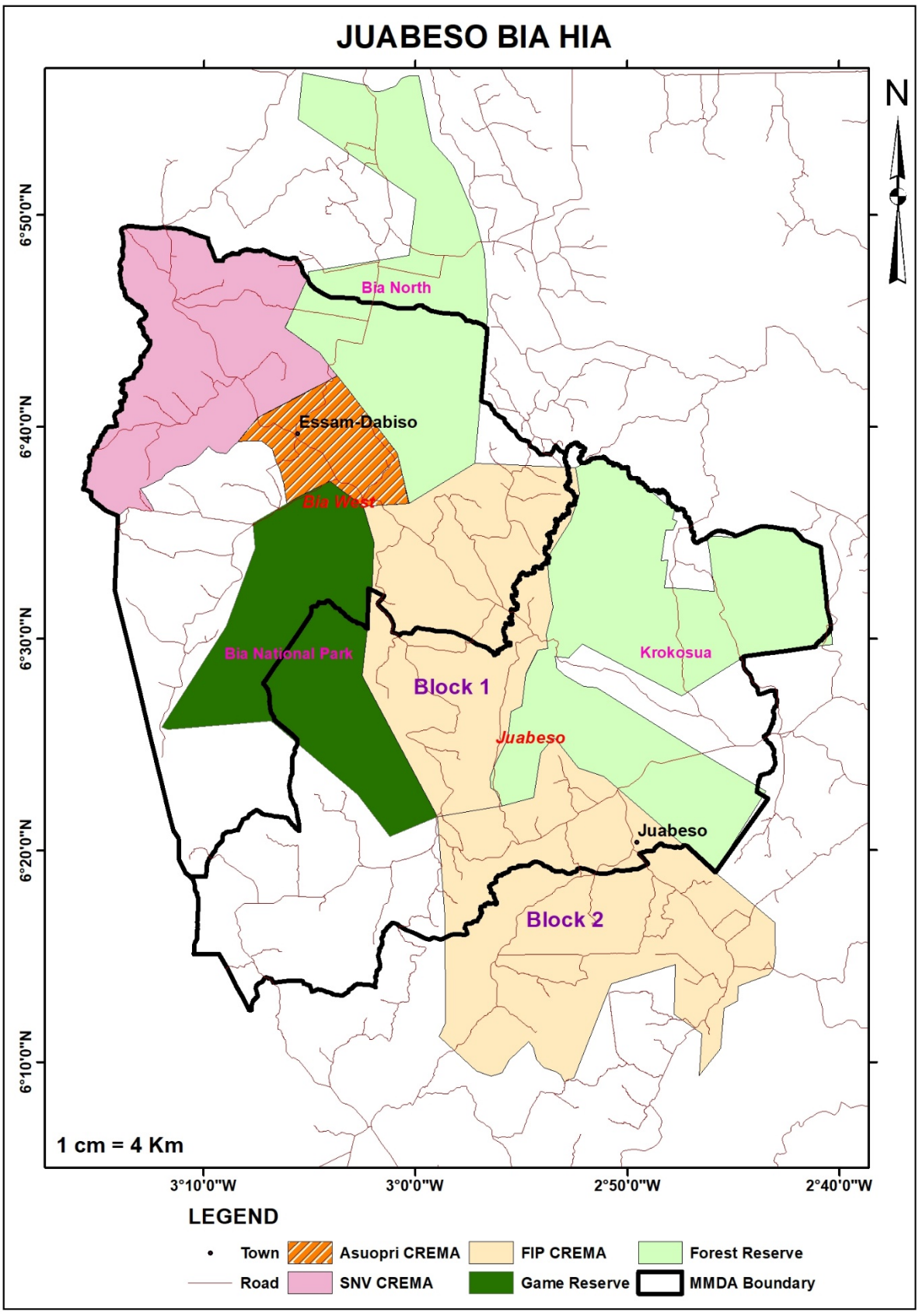


Figure 1: Map of Juaboso - Bia HIA

Socio-economic, geographic and environmental profile

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[1].

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 Debiso[2]. Table 2 summarizes the socioeconomic and environmental conditions within the landscape.

[2] 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	Electricity (33.8%), flashlight/torch (53.2%) and kerosene lamp (11.7%) are main lighting sources;

	main source of cooking fuel (77.4%); four water sources including wells, river stream, boreholes and protected wells.	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.

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. Katakyi 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).

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.

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, *Afromomum melegueta*) and mushrooms.

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 appropriate[3]. 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 production[4].

On average, farmers in the area cultivate 2-4 cocoa farms[5], with the average farm covering approximately 2.7 acres (1.2 ha)[6]. 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-

[3]Anim-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.
[4] Laederach (2016)
[5] Hainmueller (2011); Asante (2016)
[6] Hainmueller (2011)

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 years[7]. 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 pesticides[8]. The biggest challenge for farmers with respect to following recommended management practices is access to cocoa extension personnel, trainings, and appropriate material and inputs.

Reports on average yields for the area vary, ranging from 389 kg/ha[9] to 700-800 kg/ha[10]. 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.

[7] Asante (2016)
[8] Hainmueller (2011); Asante (2016)
[9] Hainmueller, 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
[10] Asare et al.

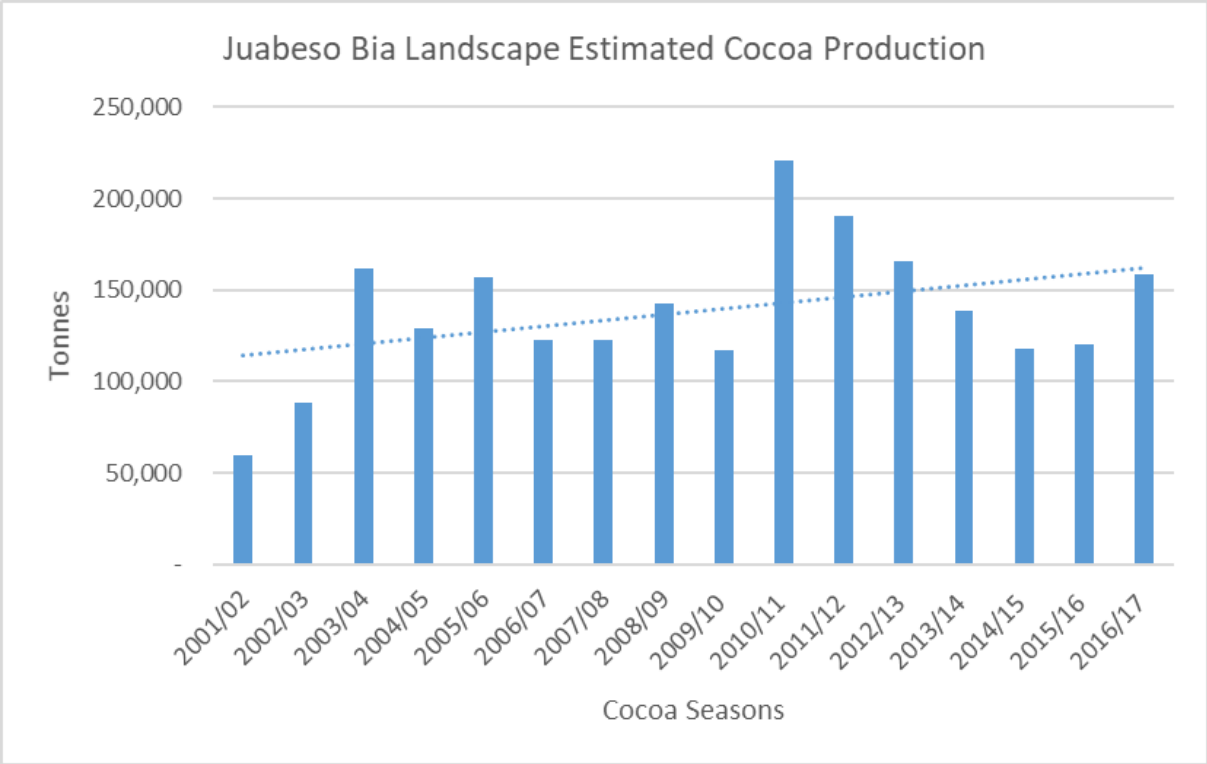


Figure 2: Juaboso-Bia HIA Landscape Cocoa Production Estimates Based Upon COCOBOD District Purchases Data

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

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 3: 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

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 km^2). 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 481km^2. 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 4: 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 nature[11]. 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

[11] IUCN, 2010. Parks and nature reserves of Ghana.

as *Non-Forest* (Condition 6)[12], 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 national park, though very well protected has become an island within the broader cocoa landscape.

Activities/Interventions in Juaboso – Bia HIA

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.

Restoration Activities

[12] Hawthorne and Abu-Juam, 1995. Forest Protection in Ghana: With particular reference to vegetation…

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.

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.

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.

Some project outputs are:

I. Development of the Juaboso-Bia landscape governance structure and systems leading to MoU & Partnership formation.
II. Developed National Climate Smart Cocoa standard with government of Ghana, Civil Society and Cocoa Companies.
III. 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.

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 5: 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+ 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 Committeeto 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.
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 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)	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. 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.
SNV Netherlands Organization (SNV)	SNV leadthe 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 practicesand 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: • 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. SNV's approach supports local cocoa livelihoods and incomes to improve resilience towards climate change and enhance eco-system adaptation.
Agro Eco	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. 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	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. • 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 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 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.

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, land owners 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 is achieved through durbars, local FM radio announcements and other media.

Hotspot Intervention Area (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 provides 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.

HIA functional units

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.

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.

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.

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.

INSTITUTIONAL SETUP AND RESPONSIBILITY FOR ENVIRONMENTAL AND SOCIAL SAFEGUARDS REPORTING

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

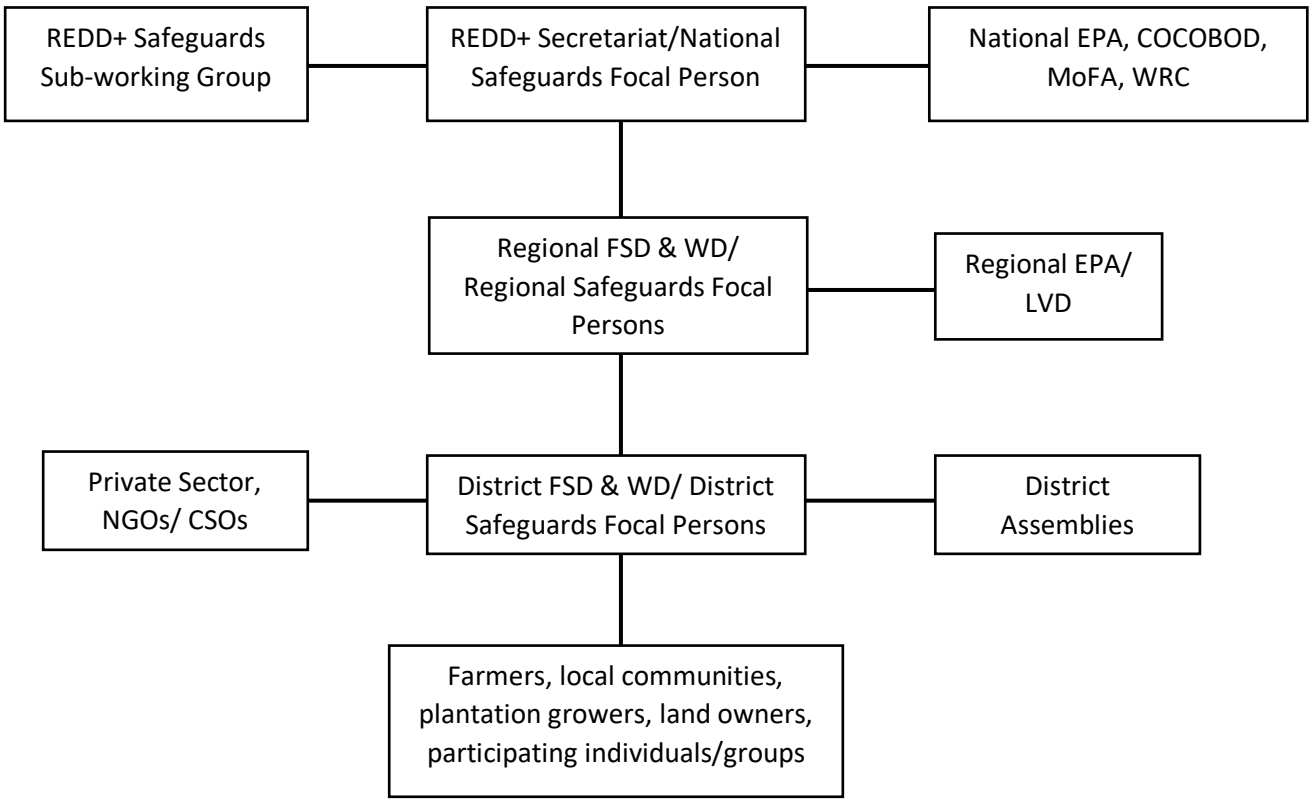
- Coordination of environmental and social safeguards across the HIAs
- Provision of Leadership across the regional and district levels for the implementation of safeguards
- Providing guidance and project level info and tools on safeguards for all stakeholders
- Managing the environmental and social 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:



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.

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.

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: Incentive creation and Income diversification

- Train and promote economically viable and environmentally sound on-farm income diversification options, (e.g., promotion of natural regeneration, vegetables, spices, food crops, bee-keeping, small ruminants, etc.) with a focus on women and youth groups,
- Training of women on vegetable production
- Vegetable production, Start-up kits and Demo plots

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.

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.

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.

Mitigation measures- Under the Forestry Component of the Natural Resources and Environmental Governance Technical Assistance (NREG TA), the Ministry of Lands and Natural Resources (MNLR) 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.

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.

Gender

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, that 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 grassroot 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 liaise 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

Table 6: 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	• 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	• Site observation • Records of PPEs provided • FGRM operationalized	
	Exposure of workers/communities to smoke generated during land preparation		• 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	• Site observation • Records of PPEs provided • FGRM operationalized	
	Reverse gains from carbon sequestration – adding carbon into the atmosphere		• Minimized burning of biomass as much as possible • Fire was used only in situations where this was effective and least environmentally damaging	• Site observation	
	Lead to modification of natural habitat		• Environmentally sensitive sites and unnecessary exposure or access to sensitive habitats were avoided	• Site observation • Training report	

			• 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 • 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		• 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 fertilizers and herbicides that are major contributors to soil and surface water quality deterioration • Measures to correct low soil pH were implemented as much as possible:	• Site observation • Training report	

			- 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		• 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	• Site observation	
	Planting single tree species		• 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	• Site observation • Records of seedlings supplied	
	Alterations in local natural water cycles/ hydrology		• 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.	• Site observation	
	Potentially pollute/contaminate		• The use of agrochemicals including inorganic fertilizers, weedicides and pesticides was reduced as	• Site observation	

	water bodies (herbicides, pesticides, insecticides, weedicides, ash, dust)		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) • 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	• Number of farmers trained • Training report	
	Poor site selection		• Ensured good site selection taking into consideration condition score, natural regeneration potential and basal area	• Site observation	
	Improper disposal of chemical containers		• The use of agrochemicals including inorganic fertilizers, weedicides and pesticides was reduced as much as possible. Where possible, mechanical weed	• Training report • Awareness creation materials displayed	

			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 • Education and sensitization on the proper disposal of hazardous waste and material	• List of approved and unapproved agrochemicals shared	
	Improper disposal of polybags		• Education and sensitization on the proper disposal of polybags	• Training report	
	Land allocation conflicts		• 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	• Forest Management plan • FGRM operationalized • On-site verification with farmers	
	Engagement of local communities in its development process		• 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 • Equal opportunity was given to all abled bodied persons who wanted to participate	• Engagement report • Forest Management plan	
	Poor records of primary supply and contract workers		• Proper records of workers are kept and updated as appropriate	• Records of workers	
	Unfair allocation of more lands to families/persons/groups		• Equal opportunity was given to all abled bodied persons who wanted to participate	• On-site verification with farmers • Field report	

			• 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	• FGRM operationalized	
	Failure to honour MTS benefit arrangement		• Ensured the payment of MTS beneficiaries with the right percentages	• Records of MTS payments	
	Low percentage of women accessing lands		• Equal opportunity was given to all women who wanted to participate	• Records of farmers	
	Unavailability and no/limited use of personal protective equipment		• 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	• Records of PPE supply • Training report	
	Limited awareness creation programs on health and safety including chemical handling.		• 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.	• Training report • On-site verification with farmers	
Enrichment Planting	Improper disposal of polybags	4.01 Environmental Assessment 4.04 Habitats 4.36 Forests	• Education and sensitization on the proper disposal of polybags • Waste bins were provided	• Training report	
	Poor records keeping of primary supply workers		• Employment and other opportunities were given to local communities as much as possible. • Proper records of workers are kept and updated as appropriate	• Records of workers	
	Poor records keeping of contract workers				

	Unavailability and no/limited use of personal protective equipment		• 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	• Records of PPE supply • Training report	
	Limited awareness creation programs on health and safety		• 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.	• Training report • On-site verification with farmers	
	Delay in payment of contract workers		• Ensured workers were paid on time	• Records of payments	
Trees on Farms	Disturbance of flora and fauna	4.01 Environmental Assessment 4.04 Habitats 4.09 Pest Management 4.36 Forests	• 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 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.	• Site observation • Training report	
	Planting single tree species		• 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	• 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				
	Planting more trees than required leading to over-shadowing of cocoa farms.		• 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.		• Education/ adequate trainings were provided to farmers	• Training report	
	Destruction from harvesting of timber resources on farm		• 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	• FGRM operationalized • Reports	
	Failure to register farmers		• Records of farmers are kept	• Records of farmers	
	Limited awareness creation on health and safety including tools and equipment handling		• 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	• Training report • On-site verification with farmers	
	Unavailability and no/limited use of		• Workers were required to wear suitable Personal Protective Equipment (PPE) as appropriate.	• Records of PPE supply	

	personal protective equipment		• Education and sensitization were done on the need for and proper usage of PPEs	• 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 4.09 Pest Management 4.36 Forests	• 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 control was considered instead of the use of weedicides.	• Records of PPE supply • Training report	
	Generation of fumes during cutting down of diseased or over-aged cocoa trees.		• 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.	• Site observation • Records of PPEs provided • Training report	
	Disturbance of flora and fauna		• 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 fertilizers and herbicides that are major contributors to soil and surface water quality deterioration	• Site observation • Training report	

			• Labour-intensive approach using simple farm tools like hoes and cutlasses was employed.		
	Land clearing and vegetation loss at rehab farms		• 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	• Site observation • Training report	
	May accelerate erosion by water		• 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	• Site observation • Training report	
	Potentially pollute/contaminate water bodies with (herbicides, pesticides, insecticides, weedicides, ash, dust)		• 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.	• Site observation • Training report	

			• 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 • 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		• 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	• FGRM operationalized • Reports	
	Cultivating cocoa without adherence to the buffer zone policy		• 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.	• Training report • Site observation	

			• Technical officers and farm inspectors sampled and visited farms to check compliance		
	Increase in pests and disease due to too much shade and undesirable shade trees		• 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.	• Site observation • Training report	
	Involve the use of unapproved/ not recommended agrochemicals (weedicides, pesticides, insecticides etc.)		• Raised awareness on the list of approved agro-inputs and the list shared/pasted at vantage points for public viewing	• Training report • List of approved and unapproved agrochemicals shared	
	Over-use of agro-inputs such as fertilizers and agro-chemicals.		• 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	• Training report • List of approved and unapproved agrochemicals shared	
	Use of fire during land preparation		• 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.	• Site observation • Records of PPEs provided	
	Limited and/or untimely supply of cocoa seedlings		• Seedlings were supplied on time to meet onset of reliable rainfall • Seedlings were sourced within close proximity/catchment area	• Records of seedlings supply	

	Establishing new farms cocoa farms within forest reserves.		• 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.	• Engagement/training Reports • Records of admitted farms • DA by-laws	
	Generation of hazardous waste such as aboricides, herbicides, weedicides, and pesticides.		• Mass sprayers who spray agro-chemicals for farmers have been cautioned and educated on proper disposal of chemical containers after use • 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.	• Training report • Awareness creation materials displayed • List of approved and unapproved agrochemicals shared • FGRM operationalized	
	Lead to the transportation of hazardous chemicals (aboricides, herbicides, weedicides, and pesticides)				
	Improper disposal of hazardous waste				
	Poor storage of hazardous chemicals				
	Recycle of hazardous chemicals				
	Improper or poor records keeping of direct workers		• Employment and other opportunities were given to local communities as much as possible.	• Records of workers	

	Improper or poor records keeping of contracted workers		• Proper records of workers are kept and updated as appropriate		
	Improper or poor records of primary supply workers				
	Potentially could cause or aggravate land-use conflicts		• 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 • District Assembly by-laws used to support the conservation of dedicated forests and to sanction encroachment	• FGRM operationalized • Forest Management plan • Engagement/training Reports • Records of admitted farms • DA by-laws	
	Unavailability and no/limited use of personal protective equipment		• 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	• Training report	
	Limited awareness creation of programs on health and safety		• Design and implementation of awareness creation programs to educate persons on protecting workers' health and safety including paying attention to chemical handling was done	• Training report • On-site verification with farmers	

	including chemical handling		• Workers were required to wear suitable Personal Protective Equipment (PPE) as appropriate		
Incentive creation and income diversification (livelihood improvement activities)	Generation of smoke from burning of biomass (debris and logs) during land preparation for vegetable farming	4.01 Environmental Assessment 4.04 Habitats 4.09 Pest Management 4.36 Forests	• 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	• Site observation • Records of PPEs provided • Training report • FGRM operationalized	
	Exposure of workers/communities to smoke generated during land preparation for vegetable farming		• 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	• Site observation • Records of PPEs provided • Training report • FGRM operationalized	
	Potentially pollute/contaminate water bodies (herbicides, pesticides, insecticides, weedicides, ash etc.)		• 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	• Site observation • Training report	

			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 • 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		• 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	• Site observation • Training report	

			vegetation cover as a buffer zone along the water bodies. • Technical officers and farm inspectors sampled and visited farms to check compliance		
	Use of fire during land preparation		• 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	• Site observation • Records of PPEs provided • Training report • FGRM operationalized	
	Over-use of agro-inputs such fertilizers and agro-chemicals		• 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	• Training report • List of approved and unapproved agrochemicals shared	
	Limited and/or untimely supply of cocoa seedlings		• Seedlings were supplied on time to meet onset of reliable rainfall • Seedlings were sourced within close proximity/catchment area	• Records of seedlings supply	
	Lead to the transportation of hazardous chemicals			• Training report	

	(herbicides, weedicides, and pesticides)		• Mass sprayers who spray agro chemicals for farmers have been cautioned and educated on proper disposal of chemical containers after use • Famers have been encouraged to report hazardous activities of neighbours 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.	• Awareness creation materials displayed • List of approved and unapproved agrochemicals shared • FGRM operationalized	
	Generation of hazardous waste such as herbicides, weedicides, and pesticides.				
	Improper disposal of hazardous waste				
	Improper storage of hazardous waste				
	Improper or poor records keeping of workers		• Employment and other opportunities were given to local communities as much as possible. • Proper records of workers are kept and updated as appropriate	• Records of workers	
	Potentially could cause or aggravate land-use conflicts		• 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 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	• FGRM operationalized • Forest Management plan • Engagement/training Reports • Records of admitted farms • DA by-laws	

			• Admitted farmers that expanded beyond allowed limits and were made to return to the permitted areas only		
	Low percentage of women in livelihood improvement activities		• 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	• Records of farmers	
	Prioritization of a few demographic in terms of labour				
	Unfair selection of beneficiaries				
	Limited awareness creation of programs on health and safety issues		• 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	• Training report • On-site verification with farmers	

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 imply that information on the implementation of the safeguards associated with REDD+ activities at sub-national and site levels should be 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. Namely, 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, who 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 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 boost accountability, improve livelihoods and enhance 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.

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:

REDD+ Safeguards Training- Juaboso Forest District

To prepare stakeholders for effective implementation of the REDD+ programme safeguards, the National REDD+ Secretariat (NRS) initiated capacity building activities on REDD+ safeguards for key stakeholders in some selected districts. One of such was safeguards training for stakeholders in the Juaboso Forest District in the Western region. The purpose was to share and imbue stakeholders with lessons on processes for REDD+ implementation with focus on safeguard measures and grievance redress mechanisms. Stakeholders targeted for the training on day 1 included twenty (20) representatives from MDAs. Day 2 targeted fifty-three (53) participants who were Traditional Authorities, Farmers, CSOs, local community members, etc.

Safeguards 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. 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. Juaboso-Bia HIA was engaged on 13th March 2019.

Safeguards Training Workshop for the 3PRCL

As part of the efforts to implement the actions/interventions under the GCFRP, the NRS in collaboration with Touton under the project dubbed Partnership for Productivity, Protection and Resilience in Cocoa Landscapes (3PRCL) organized a three-day capacity building workshop on REDD+ Safeguards at Kofikrom/Proso and Juaboso. The training was from 21st to 23rd May,

2019. The first day training workshop focused on the 3PRCL consortium members (Forestry Commission, COCOBOD, Touton, NCRC, Agro-Eco, SNV and Tropenbos Ghana). The second and third day's trainings focused on the 42 sub-HIA Executive Committee members and HIA Governance Board members as well as representatives of MMDAs. There was a total of 82 participants present on each day of the trainings[13].

Lists of stakeholders consulted/engaged during project implementation are presented in annex 1.

[13] https://reddsis.fcghana.org/admin/controller/publications/3PRCL%20FC%20Report%20on%20Safeguards%20Training%20Juaboso-Bia-10.06.19.pdf

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 FGRM, feedback to be precise, are presented in annex 2.

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 and provide updates on activities within the HIA and GCFRP as a whole.

Table 7: List of some Institutional strengthening and capacity building events

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

RECOMMENDATIONS AND NEXT STEPS

- 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
5. Seedi Mohammed	Touton	m.seedi@yahoo.co.uk
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7. Prince Gyasi Appiah	Touton	p.appiah-gyasi@touton.com
8. Samuel Aihoon	Touton	s.aihoon@touton.com
9. Emmanuel Otchere Darko	Touton	e.otcheredarko@touton.com
10. Dennis Otonsu	Agro-Eco	d.owusu@agroeco.net

11. Maxwell Oduro	Agro-Eco	oduromaxwell65@gmail.com
12. Richard Gyamfi Boakye	WD-FC	rgboakye@yahoo.co.uk 0205540277
13. Rhoda Donkor	CCD -FC	rhoda.donkor@outlook.com 0542546427
14. Abena Dwumfour	CCD -FC	akinyi1995@gmail.com 0201542773
15. Raymond Sakyi	CCD - FC	rksakyi@yahoo.com 0201424410
16. Michael Marboah	Touton	m.marboah@3prcocoalandscapes.com 0506639894

Name	Organization/ Community	Email/ Contact
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Prince Adu	Touton	p.adu@touton.com
Samuel Agyemang Tutu	Touton	s.tutu@touton.com 0501366218
Samuel Aihoon	Touton	s.aihoon@touton.com 0246101847
Sylvester Gyapong	Ghana Education Service (GES)	gyapong.sly200@gmail.com 0246555769
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Ben Kofi Anthony	Krokosue	0559998143
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Nana Affum Panyi	Sub HIA/ HMB	0244208828
Owusu Christiana	HMB	0555525470
Agnes Pokua	Sub HIA	0240827119
Christiana Adusei	HMB	0542823628
DSP Mr. I. Kumnipah	Ghana Police	0241525107
Imoako Bonsu Christopher	Man2G sub HIA	0244950320
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Nana Adjei Douglas	Manzan	0242034954
Yeboah Daniel	Manzan	0544179514
Stella Addoboa	Manzan	0245299126
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		0242615048
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Hartford Owusu	Juaboso sub-HIA	0542865091 0204300576
Hawa Asraa	Juaboso sub-HIA	0556509596
Philip Gyedu	Juaboso sub-HIA	0542974049
John Bismark Okyere	Kokosue	0546840919
Hon. Paul Gyabeng	Juaboso sub-HIA	0249106619
Owusu Ansah Stephen	Juaboso	0242726909
Danquah Faustina	Juaboso	0245905499
Charles Ntiamoah	Elluokrom	0207097783
Philip Quesie	Asuosri	0278130578
Nallic Afrakomah Adjei	Suku Torya	0549983118
Asare Francis	Kantankrubo	0208037472
Nana P.K. Acheampong	River Asuopini	0541548441 0502540669
John Kyei	River Asuopini	02497842
Vivian Donkor	Sukusuku	0206543595
Owusu Benjamin	Sukusuku	0205671844
George Nsiah	Benchiena	0249203985
Osei Jane	River Asuopini	0541799429
Mary Arthur	River Asuopini	0245490244
Raymond Sakyi	Climate Change Department (CCD) - FC	rksakyi@yahoo.com 0201424410
Evans Sampene Mensah	SNV	emensah@snv.org

		0242376702
Richard Gyamfi Boakye	Wildlife Division (WD)-FC	rgboakye@yahoo.co.uk 0205540277
Boakye Twumasi-Ankra	Tropenbos Ghana	twumank@yahoo.co.uk 0543979944
Anunu-Yeng Dorcas	NCRC	0200918099
Barnabas A. Akanlise	D.P.O. District Assembly	akanlise62@yahoo.com 0541215688
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Osei Akwah Tumtuo	Sukusuku	0249310231
Musah Abraham	Debe	0507774777
Felix Owusu Afriyie	Sukusuku	0248944859
Nsiah Ebenezer	Juaboso	0548174390
Obu Jonas K	Asuo-Bia	0248832845
Kate Maintah	Asuo-Bia	0240580622
Lawer Kweku Francis	Asuo-Bia	0244284217
Oppong Daniel	Asuo-Bia	0248334432
Diana Abeka	River Asuopini	0556211757
Rhoda Donkor	CCD -FC	0542546427
Abena Dwumfour	CCD -FC	0201542773
Alex Tweneboa Kodun	Juaboso	atkodua65@gmail.com 0248590510
Joseph Bempah	FSD, Takoradi	akorabempah@yahoo.com 0244804624
Thomas Okyere	FSD, Takoradi	okyetom@yahoo.com 0244739359
Florence Benewaa	Yawmatwa	0248600811

Saulih Husain	Yawmatwa	0240748031
Asamwah Collins	Yawmatwa	0547710603

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

	DAY 1 (19/11/2020)		
NAME	**DESIGNATION**	**CONTACT**	**EMAIL**
Okyere J Bismark	S/Asempaneye	0546840919	
Christiana Adusei	New Agogo	0542823628	
Monica Agyapong	Farmer Juaboso Nkwanta	0249234660	
Paul Gyabeng	HMB Chair Danyame	0249106619	
Fuseini Dawuda	S/ Juaboso Nkwanta		
Emmanuel Miah	Fire Commander	0205952114	miahkwaw@gmail.com
Philip K Acheampong	Board Member SHEC Sec	0541548441	
Mary Arthur	Board Member SHEC	0245490244	
Owusu Christiana	Board Member SHEC	0555525470	
Michael Poku Marboah	Project Manager	0506639894	m.morboah@touton.com
John Atta Andoh	MOFA	0243823714	attaandohjohn@gmail.com
Samuel Agyemang Tutu	CCD, FC	0501366218	agyemangsamueltutu@yahoo.com
Stephen Ofori Amo	CCD, FC	0272869072	stephenofori027@gmail.com
Aidoo Mark	DM, FSD	0244617888	mcaido65@yahoo.com
Kelvin Nartey	Snr. Ass. Rainforest	0246779834	anartey@ra.org
Samuel Dankwah	Farmer (MTS)	0244387421	
Mensah Gladys	Farmer (MTS)	0541141016	
Alex T Kodua	ADM FSD	0248590510	atkodu@gmail.com
Kingsley Asamoah	CHED	0246984391	
Johnson Adjei Frimpong	Env. Health Officer, Juaboso	0244077945	kwadjei54@gmail.com

Dickson Rockson	Accra	0244216578	
Joseph Asante	Tropenbos	0543852742	jasante@tropenbosgh.org
Anarbzua Emmanuel	Police Inspector	0248580272	
Dennis Owusu	Agro Eco Field Liaison Officer	0246094408	d.owusu@agroeco.net
Rhoda Donkor	Gender Officer	0542546427	rhodadonkor@outlook.com
Atta Kwaku Joseph	Youth Group Bonsu Nkwanta	0240142929	
Charles Sarpong Duah	Accra	0546419884	
Aikins Nyamekye	Essam	0542946627	
Richard Peprah	Accra	0502135153	
Yaw Adu	Bepoase		
Dominic Awuhuri	Bia		

	DAY 2 (20/11/2020)		
NAME	**DESIGNATION**	**CONTACT**	**EMAIL**
John Atta Andoh	Agric Officer	0243823714	attaandohjohn@gmail.com
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Kelvin Nartey	Snr. Ass. Rainforest	0246779834	anartey@ra.org
Johnson Adjei Frimpong	Env. Health Officer, Juaboso	0244077945	kwadjei54@gmail.com
Stephen Ofori Amo	CCD, FC	0272869072	stephenofori027@gmail.com
Joseph Asante	Tropenbos	0543852742	jasante@tropenbosgh.org
Kingsley Asamoah	CHED	0246984391	
Alex T Kodua	ADM FSD	0248590510	atkodu@gmail.com
Anarbzua Emmanuel	Police Inspector	0248580272	
Dennis Owusu	Agro Eco Field Liaison Officer	0246094408	d.owusu@agroeco.net
Philip K Acheampong	Board Member SHEC Sec	0541548441	
Fuseini Dawuda	Farmer (MTS)	0259291024	

Samuel Dankwah	Farmer (MTS)	0244387421	
Monica Agyapong	Farmer Juaboso Nkwanta	0249234660	
Mensah Gladys	Farmer (MTS)	0541141016	
Okyere J Bismark	Sub HIA	0546840919	
Mary Arthur	Sub HIA/HMB	0245490244	
Christiana Adusei	HMB	0542823628	
Owusu Christiana	HMB	0555525470	

REDD+ Safeguards Training- Juaboso Forest District

Name	**Institution**	**Position**
Tano Alex Nelson	Farmer	Farmer
Martha Mensah	Farmer	Farmer
Nsiah Ebenezer	Hope Alive 360	Member
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
Gladys Ataa	Nursery	Operator
Daniel Nkuah Asante	Nursery	Operator
Nana Affum Panyie II	Boinzain	Chief
Nana Aboyaa	Mantukwa	Chief
Seth Nkrumah	Farmer	Farmer
Gordan Gyasi	Farmer	Farmer
Timothy	De-beat FM	Reporter
Ofosuhene Apenteng	Forestry	R/S
Desmond Evans	Watershed	Director

John Bismark Okyere		Chairman
Paulina Armah	Farmer	Farmer
Johnson Mensah	Farmer	
John Mensah	De-beat FM	Reporter
Nana Nketiah	Farmer	Chief
Nana Gyabeng	Farmer	Chief
Stephen A. Duah	FSD	ADM
Baafi Frimpong	FSD	ADM
Kwame Bomassoh	GBC	
Hanson Asamoah	FSD	
Nana Twumasi		
Kingford Amoako		
Nana Yeboah	Abrakofe	Chief
Nana Adu Yaw II		Chief
Nana kwasi Bennie II		Chief
Afukaah Kwaku Timbers		Chief
Yaw Twum	FSD	Chief ranger
Ahmed Ibrahim	Farmer	Rep
Kusi Cletus	FSD	R/S
Boah Augustine	Rainbow FM	Reporter
Ransford Nkurmah	FSD	R/S
Patrick A. Adjare	FSD	FRM
Baawaah J. Augustine	FSD	Carto
Abugri Daniel	Akwaa	Reporter
Stephen Appiah		
Baba Musa Iddinsu	FSD	ADM
Yaw Baafi	Tropenbos	Driver
Abdallah Seidu Ali	FSD	DM
Yaw Mensah		Chief
Nana Kofi Adinkra	Carpenter	Leader
Nana Yaw Gyabeng	T.A	Chief

Bright Abegko	FSD	NSP
Mensah Richmond	FSD	NSP

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 stack 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: List of approved and banned agro chemicals

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

ACATI POWER	*Thiamethoxam*	21 DAYS	48 HRS	20ML/11L of water
PRIDAPOD	*IMIDACLOPRID*	21 DAYS	48 HRS	20ML/11L of water
VIPER SUPER	*INDOXACARB ANDACETAMIPRID*	21 DAYS	48 HRS	105ML/11L of water
GALIL 300	*IMIDACLOPRID AND BIFENTRIN*	21 DAYS	48 HRS	13ML/11L of water
AF CONFIDENCE	*CAPSAICIN*	21 DAYS	48 HRS	200ML/11L of water
SIVANTO	*FLUPYRADIFURONE*	21 DAYS	48 HRS	40ML/11L OF WATER
NORMAX 150	*ALPHA-CYPERMETHRIN TEFLUBENZURON*	21 DAYS	48 HRS	52 ML/11L WATER
BUFFALO SUPER	*ACETAPRIMID*	21 DAYS	48 HRS	98ML/11L WATER
THODAN SUPER	*LAMBDACYHALOTHRIN+ACETAMIPRID*	21 DAYS	48 HRS	110ML/11L WATER
A1	*IMIDACLOPRID*	21 DAYS	48 HRS	20ML/11L WATER
CALLIFAN SUPER	*BIFENTHRIN+ACETAMIPRID*	21 DAYS	48 HRS	20ML/11L WATER
AKATE GLOBAL	*THIAMETHOXAM*	21 DAYS	48 HRS	20ML/11L WATER
RAGENT 200	*FIPRONIL*	21 DAYS	48 HRS	17ML/11L WATER

FUNGICIDES

TRADE NAME	ACTIVE INGREDIENT	PRE-HARVEST INTERVAL	RE-ENTRY INTERVAL	DOSAGE
RidomilGold	*CuprousOxide&Mefonoxam*	21 DAYS	24 HRS (1 DAY)	1 Sachet/ 16L of water
Funguran-OH	*CupricHydroxide*	21 DAYS	24 HRS (1 DAY)	1 Sachet/ 16L of water
Metalm72WP	*Metalxyl*	21 DAYS	12 HRS (0.5 DAY)	1 Sachet/ 16L of water
Fungiki l 50WP	*Metalxyl*	21 DAYS	12 HRS (0.5 DAY)	1 Sachet/ 16L of water
Kocide2000	*CupricHydroxide*	21 DAYS	24 HRS (1 DAY)	1 Sachet/ 16L of water
CopperNordox75WG	*CuprousOxide*	21 DAYS	24 HRS (1 DAY)	1 Sachet/ 16L of water
Champion	*CupricHydroxide*	21 DAYS	24 HRS (1 DAY)	1 Sachet/ 16L of water
SidalcoDefender	*DicopperChroride trihydroxide,SC*	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 +18	3 Bags/ acre
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+6SO3+6MGO +0.5ZN+0.5B	3 Bags/ acre
Adehye Cocoa Fertiliz	NPK2-23- 18+8 eCaO+6SO3+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. Dichlorodiphenyitrichloroethane(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)

I2. 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 Iquid formulations of the substance that exceed 600 g active ingredient/I)

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 suspendions (CS))

24. Mosphamidon (Soluble liquid formulations of the substance that exceed 1000 1 active ingredient/I)